Iowa State Rail Plan Final

October
2022

IOWA DOT

U.S. Department
of Transportation

**Federal Railroad
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

February 4, 2017

Amanda Martin, Freight and Passenger Policy Coordinator
Iowa Department of Transportation
Office of Rail Transportation
800 Lincoln Way
Ames, IA 50010

Dear Ms. Martin,

The Federal Railroad Administration (FRA) has completed its review of the state of Iowa's State Rail Plan (SRP), which was submitted to FRA on October 20, 2016.

FRA's review of the SRP found that it contained the required elements in accordance with 49 U.S.C. 22705 and FRA's 2013 State Rail Plan Guidance. This letter serves as notice that FRA formally accepts the SRP.

While FRA finds that the SRP meets the minimum requirements, FRA recommends addressing the following points in future updates to the SRP:

- Chapter 2 – Section 2.1.3 should contain additional summary information on passenger rail service objectives, including service frequency, capacity, and projected ridership at the route level.
- Chapters 3 and 4 – Provide more information on the listing of projects, including the proposed year of implementation with a summary of capital needs by year. Provide more information on how projects would address service gaps.
- Chapter 5 – Provide more information on the effects of state's rail service and investment program including public and private benefits at the 4-year and 20-years phases, capacity and congestion by corridor, and environmental, economic, and employment conditions.
- Chapter 6 – Provide more information on outreach and coordination of this SRP. Also discuss coordination with the State's Long Range Transportation Plan as required by FHWA and FTA.

Section 11315(a)(1) of the Fixing America's Surface Transportation Act (P.L. 114-94, December 4, 2015) revised the requirement for State-approved plans to be resubmitted to FRA no less frequently than once every 4 years (previously every 5 years). As such, FRA looks forward to working with you on the next iteration of Iowa's State Rail Plan, due in 2021.

FRA looks forward to a continued partnership with the state of Iowa to build and maintain a safe, reliable, and efficient U.S. rail network.

Sincerely,

Will Dyer
Division Chief, National Rail Planning
Office of Railroad Policy and Development

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Executive Summary

Introduction

The Iowa Department of Transportation (Iowa DOT) has developed this Iowa State Rail Plan (SRP) for the purpose of guiding the state's short- and long-term rail freight and passenger transportation planning activities and project development plans through the year 2040. Iowa DOT serves as the State Rail Transportation Authority (SRTA) and the State Rail Plan Approval Authority (SRPAA), and has the responsibility to review and approve the State Rail Plan.

This SRP describes the state's existing rail network and rail-related economic and socioeconomic impacts. It also describes the State Rail Plan process, Iowa's rail vision and supporting goals, proposed short- and long-range capital improvements, studies, and recommended next steps to address the issues identified. This SRP is intended to meet the requirements established under Section 303 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) which provides for enhanced State involvement in rail policy, planning, and development efforts, including requiring States to develop FRA-accepted SRPs in order to be eligible for the capital grants authorized in PRIIA and the subsequent FAST Act. This SRP has also been developed in compliance with the Final State Rail Plan Guidance as specified by the Federal Railroad Administration (FRA) in September 2013.

Iowa's Rail System

Iowa's rail system plays an essential role in linking Iowa shippers and receivers with markets throughout North America and the world. Chief among high volume rail shippers and receivers in the state is the agricultural, food and biofuel production industries. Historically, Iowa has been a major nexus for rail traffic traveling on Class I or large railroads between the West Coast, Midwest, and the East, and between the Midwest and the Gulf. Iowa's regional and short line railroads extend freight rail service into all areas of the state. Although Amtrak's long-distance passenger rail services in the state are limited, Amtrak provides essential transportation services for Iowans.

The sections below provide a brief description of Iowa's rail network.

Freight Rail System

The Iowa freight rail system is operated by five Class I, or large railroads (a sixth Class I railroad has access to Iowa via operating rights); one Class II, or regional railroad; 11 Class III, or short line railroads; and two non-operating railroad owners (these owners have agreements with other railroads to provide rail service).

The Iowa rail network consists of approximately 3,851 route miles, excluding leases, trackage rights, haulage rights, and other operating agreements.

The majority of rail mileage in Iowa is owned by the Class I carriers: BNSF Railway (BNSF), Canadian National Railway (CN), Canadian Pacific Railway (CP), Norfolk Southern Railway (NS), and Union Pacific Railroad (UP). These railroads own approximately 3,225 route miles. Regional and short line railroads and non-operating railroad owners own the remaining approximately 626 route miles in the state.

Iowa's freight railroads carried over 290 million tons of freight or nearly 4.5 million rail cars of various commodities which originated or terminated within Iowa, or traveled through the state in 2013. The leading commodities, comprising approximately 83 percent of rail borne tons, are: Coal (134.4 million tons); Food or Kindred Products (38.0 million tons); Chemicals and Allied Products (31.2 million tons); Farm Products (20.0 million tons); and Nonmetallic Minerals (17.4 million tons).

Forecasts indicate total rail freight flows in the state will increase from approximately 290 million tons of freight in 2013 to approximately 442 million tons of freight in 2040, for an increase of about 52 percent over the 26-year period. An anticipated downturn in future coal shipments may negatively impact the projected growth rate.

Passenger Rail Service

Iowa has access to two long-distance Amtrak passenger rail services. There currently is no intercity corridor service or commuter rail service provided in the state, either by Amtrak or by other operators. There are two tourist or heritage railroads offering excursion trips in the state.

Amtrak operates entirely over the trackage of Class I freight railroad BNSF in Iowa. Amtrak's frequency of train service through Iowa has been consistent for at least the last 20 years. The two long-distance services serving Iowa are: the California Zephyr operating between Chicago, Omaha, Denver, Salt Lake City, and the San Francisco Bay Area, and the Southwest Chief operating between Chicago, Kansas City, Albuquerque, Flagstaff, and Los Angeles. Just over 57,000 passengers boarded and alighted at the six Iowa Amtrak stations in 2014. Of these, approximately 14,000 boardings and alightings were at the Osceola Station (located south of Des Moines) and approximately 12,000 boardings and alightings were at the Mount Pleasant Station (located south of Iowa City).

Projections indicate boarding and alightings at existing Amtrak stations in Iowa will rise to approximately 62,000 in 2040, an increase of just above 8 percent over the 26-year period.

Rail Impacts

Rail service is essential to Iowa's economy. The basic provision of rail service, freight and passenger, generates 3,520 direct jobs. However, when the rail freight shipper and rail passenger visitor user impact activities and multiplier impacts are included, rail-related employment in Iowa totals 219,380 jobs, which represents nearly 11 percent of the 2 million jobs statewide. The jobs resulted in $13.8 billion earned by these total impacted employees, representing nearly 14 percent of Iowa's total labor income. A combined value-added impact of $24.2 billion associated with rail services and users represent nearly 15 percent of the state's Gross State Product (GSP).

In addition to the direct employment benefits, the availability of rail transport provides cost and logistical advantages to Iowa firms that enable the state to compete effectively in the global marketplace. Access to rail service is especially important in rural areas to cost effectively connect agriculture, manufacturing, and local industries to the national and global marketplace.

Railroads are also up to three times more fuel efficient than trucks on the basis of ton-miles transported, and as greenhouse gas emissions directly relate to fuel consumption, every ton-mile of freight moved by rail instead of truck reduces environmental damages and costs by 84 percent. The diversion of freight traffic to rail also increases the safety of state's highway system by reducing truck traffic.

Amtrak long-distance passenger rail service connects the state and connects the state to major urban areas in the Midwestern region and in the U.S. West, which is important to supplement air service in the state. Passenger train travelers generate income not only for the rail operations, but also for restaurants, hotels, and other visitor service establishments. Furthermore, passenger stations have the potential to increase economic development around the station areas.

Rail Plan Development Process

This State Rail Plan was developed under the authority and guidance of Iowa DOT's Planning, Programming, and Modal Division. With regards to this State Rail Plan, Iowa DOT is the primary rail regulator in the state; however, it has limited regulatory authority. The Office of Rail Transportation has the primary responsibility for rail planning in Iowa DOT, and led the development of the State Rail Plan. It is responsible for rail planning in the state, engages in rail policy and legislation development and advocacy and communications, and administers various programs that provide funding for rail safety and improvement projects, including highway/rail at-grade crossing improvements, and inspects track on the state's rail network. The Office of Rail Transportation coordinated with the Office of Systems Planning during development of the State Rail Plan and a companion State Freight Plan. The Office of Systems Planning is responsible for preparing comprehensive intermodal and modal transportation system plans for the state, and led the development of the State Freight Plan.

To provide a medium for public review, Iowa DOT posted the Draft Iowa State Rail Plan to the Iowa DOT website (http:// engagefreightrailplans.com and http://engagefreightrailplans.iowadot.gov) prior to finalization of the Plan. The State Rail Plan integrates with and expands upon past Iowa transportation plans, including the state's Iowa in Motion — Planning Ahead 2040 State Transportation Plan from 2012. Iowa DOT developed the State Rail Plan concurrently with a companion State Freight Plan.

Iowa DOT contacted all railroads operating in the state to solicit information as to their operations, projects or other needs, and their opinions as to what the public sector could do to assist or improve the efficiency and expansion of rail in the state. Iowa DOT conducted similar interviews for rail shippers located on both the Class I and the regional and short line railroad network within the state. These results are included in the State Rail Plan.

In August 2015, Iowa DOT publicized in notices and at its public outreach meetings the availability of a State Rail Plan webpage. Within the webpage, Iowa DOT invited rail stakeholders and the public to respond to a survey which measured their interest in what the state's rail network and freight system should look like in the future. The survey was organized into five topics: economic and workforce development, multimodal networks, multimodal links, passenger rail, and rail safety and security. Visitors to the site were able to take an online survey until November 11, 2015.

Iowa DOT held one public outreach meeting in Des Moines to educate stakeholders and the public regarding the State Rail Plan process; obtain input for development of a rail vision; solicit comments on proposed policies, programs, and projects recommended for inclusion in the State Rail Plan; and to provide a forum for discussion of specific rail issues. Thirty-three people attended the June 8, 2016, public meeting. Participants included staff representatives of the Iowa General Assembly, U.S. House of Representatives, and U.S. Senate; local government officials; Metropolitan Planning Organization staff; local economic development organizations; Class I railroads; rail contractors; rail passenger advocacy organizations; rail-served industries; local media; and private citizens.

Throughout the Plan's development, High Leverage Stakeholder Committee (HLSC) meetings hosted by Iowa DOT provided input and guidance. The Committee met three times during the development of the State Rail Plan and the companion State Freight Plan — in November 2015, to review and provide comments on the State Rail Plan draft vision and goals, provide updates on what was discussed at an earlier Issues Based Workshop (held in September 2015), and review the vision and goals for the State Freight Plan; in February 2016, to focus on reviewing the performance metrics of the State Rail Plan and State Freight Plan and to identify potential future rail projects and studies for consideration; and in June 2016, to provide comments on the Draft State Rail Plan and Draft State Freight Plan. The participating Committee members included representatives from the state's Class I, II, and III railroads; Amtrak; Metropolitan Planning Organizations (MPOs) and Regional Planning Affiliations (RFAs); cities; economic development organizations; rail shipper and receiver community; logistics providers; Iowa Motor Truck Association; Office of Motor Vehicle Enforcement; Environmental Law and Policy Center; and Iowa DOT staff.

Lastly, the Draft Iowa State Rail Plan was provided to the state rail planning contacts of neighboring state departments of transportation to ensure coordination with neighboring states with respect to rail facilities, services, and future rail planning which cross state boundaries.

Key Stakeholder Input on Rail Issues, Challenges, and Opportunities

Various themes arose during the outreach process regarding existing rail issues at the local, regional, or state levels and the direction or actions that should be taken in the future. The themes described include:

- **General Rail Benefits, Opportunities, and Threats** — Iowa's citizens and businesses understand the importance of rail transportation, both for its impact on economic development and personal mobility. The issues that most critically impacted rail operations in Iowa, included passenger rail, safety and security of freight operations, economic workforce development, multimodal freight networks, and multimodal freight connectors.

- **Rail Freight** — Issues identified for freight in the state include enhanced rail system access, enhanced or new transload and intermodal facilities, and enhanced rail network capacity and efficiency.
- **Intercity Passenger Rail Service** — Stakeholders expressed a significant level of interest in new intercity passenger rail service for Iowa. They also indicated that existing passenger rail services in the state could be enhanced. Issues identified for passenger rail in the state include the potential for improvements to existing Amtrak passenger rail services and facilities and the potential future expansion of passenger rail services on existing and new corridors.
- **Commuter Rail Service** — Iowa does not presently have commuter rail service. The potential for future implementation of commuter rail lines in the Des Moines Metropolitan Area and between Iowa City and Cedar Rapids on the CRANDIC Corridor were mentioned during outreach.
- **Rail Safety and Security** — Overall, stakeholders considered rail a safe and secure mode of transportation. Rail safety and security issues discussed during the stakeholder outreach process centered on at-grade crossing safety, trespassing on railroads, the movement of hazardous materials, and the general condition of rail lines and yards. Priorities identified during outreach included grade crossing closures, separations, and improvements and public education programs.
- **Rail-related Economic Development** — Issues identified for economic and workforce development include how necessary transportation is, Iowa's aging infrastructure, the need for connections to rural communities, efficient transportation, additional funding, and worker availability. Stakeholders indicated transload/intermodal facilities as one of the top capital investment projects that would support economic development.
- **Environmental Issues** — Participants from outreach meetings discussed environmental protection. While discussing modes of transportation and their respective connections to environmental protection participants indicated that rail transportation could be a way to protect the environment, when it is promoted as an efficient mode of transportation with low emissions. Some initiatives to promote sustainability of the rail mode could include the operations of additional low-emissions locomotives on the state's railroads. Participants discussed that through education and potentially through incentives, the state's current and future rail shippers and receivers could re-evaluate their transportation choices, and potentially select a mode that may have less impact on the environment.
- **Rail Financing** — Priorities identified during outreach included additional funding sources for Iowa rail projects in the state. Participants voted on the top potential capital investments and projects within the following categories: capacity and mitigation of operational chokepoints, safety, economic development, and modal connectivity.
- **The Role of Public Agencies Regarding Rail** — The general sentiment from the public outreach effort was that Iowa DOT should implement policies to make passenger rail service a priority, preserve existing rail lines at a statewide level, support and facilitate the movement toward containerization of rail-borne freight, and to educate the public about the value of addressing passenger and freight rail needs and opportunities.

Iowa's Rail Vision, Goals, and Initiatives

Based on suggestions obtained through the outreach effort, Iowa DOT developed the following vision statement for rail transportation.

Iowa's Rail Vision

"A safe, secure, and efficient Iowa rail system that ensures Iowa's economic competitiveness and development by maintaining the rail infrastructure and providing rail access and connectivity for people and goods in an environmentally sustainable manner."

Rail service goals aligned with the vision were developed based on the rail-related benefits, issues, and challenges that had been identified. These goals are as follows:

- **Enhance Safety and Security of the Rail System** — Typical initiatives could include minimizing grade crossing accidents, monitoring hazmat rail routes for safety, reducing track-caused accidents, and providing public education programs.

- **Maintain the Rail Infrastructure** — Typical initiatives could include projects to accommodate the higher maximum loaded car weights on Iowa railroads (i.e., 286,000 pounds) and upgrading track and bridges to improve operating efficiency and capacity, upgrading existing passenger rail stations, and leveraging public-private partnerships for funding rail improvements.
- **Provide Access and Connectivity** — Typical initiatives for passenger rail could include developing projects that would improve access to and multimodal integration with existing stations and continuing study of implementation of enhanced service on existing corridors and new intercity service on intercity corridors. Typical initiatives for freight rail could include developing projects promoting enhanced rail access for shippers and receivers through the study and development of enhanced or new industrial spurs, transloads, and intermodal facilities.
- **Improve Efficiency** — Typical initiatives could include investing in capacity improvements especially for regional and short line railroads and promoting improvements to rail yards and interchanges.
- **Ensure Economic Competitiveness and Development** — Typical initiatives could include encouraging development of enhanced or new industrial spurs and industrial parks, encouraging investment in the rail system, and supporting efforts that attract and sustain business in Iowa.
- **Sustain the Environment** — Typical initiatives could include reducing transportation-related congestion and air pollution through investments in rail infrastructure and promotion of emission-reduction technologies.

Proposed Capital Investment Programs and Future Studies

Based on identified needs and available funding sources, Iowa DOT developed short- and long-range proposed rail investment programs. The short-range projects are limited to those for which funding is available or could potentially be available during the four-year short-range period (2016 to 2019, inclusive). Long-range projects, implemented between 5 and 21 years from today, (2020 to 2040, inclusive) were proposed during the outreach process or from other sources and will be further evaluated as to their feasibility, their merit on the basis of public benefits versus costs, and the potential for available funding.

The program of potential projects and studies represents investments that would improve both passenger and freight rail in the state. Passenger rail investments emphasize enhanced and new intercity passenger rail services to enhance mobility and multimodal connectivity for Iowans in all regions of the state. Freight rail investments emphasize improvements in rail line capacity and infrastructure to ensure system fluidity and competitive access for rail shippers. The investments support the rail vision and goals articulated above.

The short- and long-range projects and studies recommended appear by category (passenger rail and freight rail) in the table below.

Iowa Rail Service and Investment Plan Summary

RAIL CATEGORY	ESTIMATED CAPITAL COST IN 2016 DOLLARS
PASSENGER RAIL	
Short-Range Passenger Rail Studies (Years 1-4; 2016-2019)	$5.45 Million
Short-Range Passenger Rail Projects (Years 1-4; 2016-2019)	$192.85 Million
Long-Range Passenger Rail Studies (Years 5-21; 2020-2040)	$5.50 Million
Long-Range Passenger Rail Projects (Years 5-21; 2020-2040)	$675.70 Million
TOTAL (PASSENGER RAIL)	$879.50 Million
FREIGHT RAIL	
Short-Range Freight Rail Studies (Years 1-4; 2016-2019)	$1.59 Million
Short-Range Freight Rail Projects (Years 1-4; 2016-2019)	$103.17 Million
Long-Range Freight Rail Studies (Years 5-21; 2020-2040)	$0.00 Million
Long-Range Freight Rail Projects (Years 5-21; 2020-2040)	$125.80 Million
TOTAL (FREIGHT RAIL)	$230.56 Million
RAIL SERVICE AND INVESTMENT PLAN TOTAL	**$1,110.06 Million**

Note: The summary table above represents by category known capital costs for 15 studies and 25 projects identified during development of the SRP. An additional 9 studies and 55 projects identified during the development of the SRP, and for which capital costs are not presently known, are not included in the table above.

State Rail Plan Recommendations

Based on suggestions received from stakeholders and the public during the preparation of the Iowa State Rail Plan, Iowa DOT could consider the following actions:

- Increase the movement of goods by rail and emphasize rail-related intermodal, transloading, and other rail improvements to ensure a diverse and robust rail network and multimodal connectivity, while maintaining economic competitiveness and community and environmental stewardship.
- Continue efforts to preserve strategic rail rights-of-way and support the development of rail spurs, intermodal and transload facilities, and other infrastructure projects required to maintain a state of good repair, enhance efficiency, and bolster economic development through support for the establishment of additional federal and state public rail assistance programs.
- Continue to promote and enhance rail safety through continued safety education programs, additional coordination with the state's railroads, and enhancements to the public grade crossing improvement programs and state track inspection program.
- Expand rail-related data collection efforts including data on hazardous material movements, grade crossing hazards, rail volume and commodity flows, and rail freight originating/terminating data.
- Preserve, protect, improve, and expand, as necessary, intercity passenger rail service through station facility and access improvements; and continue to study implementation of additional intercity passenger services and commuter rail services where transportation and other public benefits merit.
- Enable strategic and prioritized investments in passenger / freight rail to optimize positive economic impacts.
- Further collaborate with neighboring states on regional issues and solutions to freight and passenger rail needs through regional multi-state coordination.

Summary

Iowa has undertaken a comprehensive study of its passenger and freight rail network and has identified key issues and opportunities through a wide-ranging rail stakeholder and public outreach process in conjunction with various technical analyses. This Iowa State Rail Plan serves to document this information and set a direction for rail planning and project development into the future while meeting the federal requirements to qualify the state for any future federal rail funding.

The chapters that follow describe Iowa's rail planning processes, the existing conditions of Iowa's railroads, proposed concepts for freight and passenger improvements, and a state program of rail investments.

- **Chapter 1** discusses the role of rail in Iowa's multimodal transportation system and the state's organization to provide political, legal, and financial support to rail development.
- **Chapter 2** discusses the existing state rail system, trends and forecasts of freight and passenger rail traffic, and needs and opportunities facing Iowa's railroads and rail stakeholders.
- **Chapter 3** identifies various passenger rail projects and improvements previously investigated and those that are under study.
- **Chapter 4** notes the specific rail improvements planned by the state's Class I railroads, the needs of the state's regional and short line railroads, and the state's grade crossing improvement program.
- **Chapter 5** outlines a proposed program of short-range and long-range rail improvement projects and studies.
- **Chapter 6** describes the stakeholder and public outreach process conducted in support of the Iowa State Rail Plan.

The development of the Iowa State Rail Plan was possible because of the participation of many rail stakeholders, interested agencies, and others. The Iowa Department of Transportation expresses its appreciation to those individuals and parties who participated in this effort.

Iowa State Rail Plan Final

Chapter 1

Role of Rail in Statewide Transportation

IOWADOT

Contents

1.1 Introduction

This document was developed by the Iowa Department of Transportation (Iowa DOT) to serve as Iowa's State Rail Plan (SRP). The Iowa SRP is compliant with the federal Passenger Rail Investment and Improvement Act of 2008 (PRIIA), as amended by the Fixing America's Surface Transportation Act of 2015 (FAST Act). In addition to meeting federal requirements, the SRP is intended to formulate a state vision for railroad transportation in the long-range horizon, to the year 2040, and strategies to achieve that vision. With this purpose in mind, the SRP was developed with extensive public participation and involvement by the state's railroads and rail users.

In 2008, the U.S. Congress passed the Passenger Rail Investment and Improvement Act (PRIIA) with the expressed intent of improving passenger rail service in the United States. One of the features of the legislation is the requirement that any state seeking federal assistance for either passenger or freight improvements have an updated state rail plan. The legislation further stipulated the minimum content of the rail plans, which was codified in Public Law 110-432.

This State Rail Plan meets the requirements set forth in that legislation and public law, as well as the final *State Rail Plan Guidance*[1] provided by the Federal Railroad Administration (FRA) in September 2013.

This chapter serves to illustrate the current and proposed future role of rail in Iowa's multimodal transportation system and describes how the state is organized to provide governmental, legal, and financial support to Iowa's rail transportation system to support economic development and safety improvements.

1.2 Iowa's Goals for its Multimodal Transportation System

Iowa's vision and goals for its multimodal transportation system are outlined in a number of recently published documents which are updated periodically.

1.2.1 Iowa State Freight Plan

Iowa's State Freight Plan will be completed concurrently with the Iowa State Rail Plan. The primary purpose of the State Freight Plan is to serve as a statewide long-range freight planning document, fully integrated with other state planning initiatives. The State Freight Plan will align with the National Freight Goals to:

- Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness.
- Reduce congestion on the freight transportation system.
- Improve the safety, security, and resilience of the freight transportation system.
- Improve the state of good repair of the freight transportation system.
- Use advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system.
- Reduce adverse environmental and community impacts of the freight system.

1.2.2 Iowa State Transportation Plan

Iowa in Motion — Planning Ahead 2040 (State Transportation Plan) (STP)[2] builds on Iowa's success with a previous long-range transportation plan and provides direction for all transportation modes in the state, including rail and public transit. The document was adopted and approved in 2012. The STP projects the demand for transportation infrastructure and services to the year 2040 and takes into account the social and economic changes that are expected to occur in the state between 2010 and 2040. The STP underscores the idea that Iowa's economy, quality of life, and competitiveness will require a transportation system that is developed with these changes in mind.

Iowa's adopted guiding principle for transportation is "safely moving people and goods through investments that strengthen our economic vitality." Iowa's associated transportation goals , which support the guiding

1 *https://www.fra.dot.gov/eLib/Details/L04760*
2 *http://www.iowadot.gov/iowainmotion/files/IowaInMotion_final.pdf*

principle and are the basis for decision making and investment actions covering all transportation modes, are[3]:

- Safety — to make Iowa a safer place to travel
- Efficiency — to make the best use of resources
- Quality of Life — to make Iowa a better place to live, work, and travel

1.2.3 Iowa Statewide Transportation Improvement Program

The Statewide Transportation Improvement Program 2016-2019 Draft (STIP)[4] is a federally required systematic listing of projects for which federal-aid funding is proposed. This document grows out of the STP and outlines Iowa DOT's funding objectives to maintain a globally competitive and attractive climate for businesses and people, and to ensure that the transportation system contributes to a productive and efficient economy. Iowa's rail network is a key asset in attaining these objectives. The draft STIP identifies projects funded by the Federal Highway Administration (FHWA), including highway-railroad grade crossing safety projects, and the Federal Transit Administration (FTA) programs. These projects may have a potential intersection with the Iowa railroad network. Rail projects in the state have also been added to the STIP in the past for illustrative purposes to support applications for federal grant funding.

1.3 Rail Transportation's Role within the Iowa Transportation System

From the operation of the first railroad in the state 160 years ago to the present day, Iowa's rail network has proven to be a major contributor to the development and economic success of the state.

Iowa achieved statehood in 1846 and rail service appeared in the state almost immediately afterward. Construction of the first railroad in Iowa — the fledgling Mississippi and Missouri Rail Road (a predecessor of trunk line Chicago, Rock Island & Pacific Railroad, described later) — began in 1853, and it opened for service over a short segment from the Mississippi River at Davenport west to Walcott in 1855[5].

Other railroad ventures soon appeared, and Iowa had approximately 655 miles of railroad in 1860, just before the Civil War began. Railroad expansion in Iowa was rife after the Civil War. The first trans-Iowa railroad — the Chicago, Iowa & Nebraska Railroad (a predecessor of trunk line Chicago & North Western Railway) — was completed between Clinton and Council Bluffs in 1867. Several other trunk lines were similarly built from Chicago through Iowa to Council Bluffs to make a connection with the Union Pacific Railroad for a share of transcontinental rail traffic. By 1890, a wide-ranging 8,366-mile rail network covered the state and linked all of Iowa's urban population centers and rural county seats[6]. Within its first 50 years of statehood, Iowa became a major rail transportation crossroads. Iowa attracted an impressive array of trunk lines, and it was well positioned on several principal transcontinental corridors between Chicago, Denver, and the West Coast, as well as on regional rail corridors to principal Midwestern gateways and rail hubs in neighboring states.

Railroad consolidations occurred with great frequency and created trunk lines with larger networks in Iowa and neighboring states. Primary trunk lines in Iowa in 1910 included the Atchison, Topeka & Santa Fe Railway (AT&SF); Chicago & North Western Railway (C&NW); Chicago, Burlington & Quincy Railroad (CB&Q); Chicago Great Western Railway (CGW); Chicago, Milwaukee, St. Paul & Pacific Railroad (CMStP&P); Chicago, Rock Island & Pacific Railroad (CRI&P); Great Northern Railway (GN); Illinois Central Railroad (IC); Minneapolis & St. Louis Railway (M&StL); and Wabash Railroad (WAB)[7].

Railroads assisted in transforming Iowa's dependence on agriculture to a more balanced economy that included economic contributions from industrial and energy development. Rail mileage in Iowa peaked at 10,566 miles circa 1915. In that year, Iowa's rail network included a comprehensive array of trunk lines, short

3 http://www.iowadot.gov/iowainmotion/files/IowaInMotion_final.pdf
4 http://www.iowadot.gov/program_management/stip/20150731STIPDraft.pdf
5 Grant, H. Roger and Hofsommer, Donovan L.: Iowa's Railroads: An Album, Indiana University Press, 2009
6 Ibid
7 The Official Guide to the Railways, July 1910

line railroads, and electric interurban railroads offering passenger and freight rail services to every one of the state's 99 counties.

Railroad passenger service in Iowa began to decline with the improvement of roadways and the affordability of automobiles, starting in the 1920s. Beginning in the 1960s, hundreds of miles of rail line were abandoned due to the poor financial condition of railroads and an increased dependence on the highway mode. A wave of railroad bankruptcies, rail line abandonments, and regulatory changes since 1975 had a large and lasting impact on the Iowa railroad network. Particularly notable are three events that occurred in Iowa during 1980:

- The bankruptcy of the Chicago, Rock Island & Pacific Railroad
- A major retrenchment from the state by the Chicago, Milwaukee, St. Paul & Pacific Railroad
- Passage of the Staggers Rail Act of 1980, which deregulated the railroad industry

The deregulation of the railroad industry in particular proved to be the beginning of a gradual improvement in the financial condition of the freight railroad industry, spurred largely by shedding poorly performing rail lines and taking advantage of rate flexibility. The Iowa rail network has been pruned considerably since 1975, and today the network consists of approximately 3,851 route miles.

Today's major Iowa rail carriers have been created from the consolidation of several smaller predecessor trunk lines that served the state for over a century. These carriers have strong national and international networks and are financially sound. Iowa's major rail carriers include:

- BNSF Railway (BNSF)
- Canadian National Railway (CN)
- Canadian Pacific Railway (CP)
- Kansas City Southern Railway (KCS)[8]
- Norfolk Southern Railway (NS)
- Union Pacific Railroad (UP)

In addition there are 12 operating short line and regional railroads in Iowa. One regional railroad and a number of short line railroads have been established largely from rail lines spun off by the major rail carriers since 1980, and these carriers continue to provide freight rail service to Iowa at the local level.

Today, the rail system in Iowa plays an essential freight transportation role both within the state and nationally. Iowa's location and position on principal rail corridors provides rail access to every region of the U.S., as well as to Canada and Mexico.

Iowa ranks in the top 15 among states in all of the following categories[9]:

- Total miles of rail (11th)
- Rail tons originated (12th)
- Rail carloads originated (15th)
- Rail tons carried (7th)
- Rail carloads carried (7th)

Iowa also ranks highly among all states for rail movements of many individual commodities. For commodities originating by state, Iowa ranks highly in[10]:

- Food products (1st)
- Chemicals (4th)
- Farm products (7th)

8 Serves Iowa by haulage rights over BNSF Railway and Union Pacific Railroad and does not own any track in the state.
9 Based on 2012 Association of American Railroads statistics for the U.S. and Iowa
10 Based on 2012 Association of American Railroads statistics for the U.S. and Iowa

For commodities terminating in the state, Iowa ranks tenth (10th) in food products[11].

Rail intercity passenger service in Iowa includes Amtrak long-distance services between Chicago and both the San Francisco Bay Area and Los Angeles in California which pass through portions of the state. However, as several of the metropolitan areas in Iowa continue to grow, the need to invest in a diverse network of passenger transportation options that will accommodate this population growth has been recognized. This growth could be accommodated via improved rail corridors providing new intercity passenger services.

In terms of potential future passenger rail service implementation, Iowa is not located on any federally designated high-speed rail corridors, but it is located on the regional intercity network proposed by the Midwest Regional Rail Initiative (MWRRI) in 1996. The proposed Iowa route connects the MWRRI hub city of Chicago with the Quad Cities of Iowa and Illinois, Iowa City, Des Moines, Council Bluffs and Omaha, Nebraska.

Iowa received federal funding to develop service plans and environmental studies for the Chicago-Iowa City segment of the MWRRI corridor in 2010 and for the full Chicago-Omaha corridor in 2013. Building on these feasibility study efforts, Iowa is using federal funds to further study the Quad Cities-Iowa City segment of the Chicago-Omaha corridor. The study is anticipated to be completed in 2016. These passenger rail planning efforts undertaken by the state will lay the groundwork for future rail passenger service in Iowa and the region.

1.4 Institutional Structure of Iowa's State Rail Program

1.4.1 Iowa Department of Transportation Rail Functions

The Iowa Department of Transportation is responsible for coordinating the overall state transportation improvement strategy. The department is primarily responsible for rail planning and project development activities, including development of this State Rail Plan. Iowa DOT's headquarters is located in Ames, Iowa.

Iowa DOT is Iowa's State Rail Transportation Authority (SRTAA) and State Rail Plan Approval Authority (SRPAA). Furthermore, Iowa is in compliance with the requirements of 49 U.S.C. §22102, which stipulates eligibility requirements for long-established FRA rail freight grant assistance program pertaining to state planning and administration.

Iowa DOT is the primary rail regulator within the state of Iowa. However, the Iowa DOT has limited regulatory authority. It participates in the railroad abandonment process and offers comment on federal rail legislation and rulemaking. When applicable, the Iowa DOT can facilitate service disputes between shippers and carriers through the Iowa Department of Inspections and Appeals.

Other areas of Iowa DOT rail involvement include long-range rail planning, including development of this State Rail Plan, and financing. Financing involves loans and grants for construction and maintenance of track, maintenance and safety improvements at grade highway-rail crossings, and developing new spur tracks to support economic development.

The following are those divisions under the jurisdiction of Iowa DOT which have existing or potential rail-related responsi bilities.

Office of Rail Transportation

The Office of Rail Transportation has the primary responsibility for rail planning in Iowa DOT. The office administers various rail-related programs, including:

- Rail policy and legislation development
- Advocacy and communications
- Railroad Revolving Loan and Grant Program

11 *Ibid.*

- Linking Iowa's Freight Transportation System Program (LIFTS)
- Highway/railroad crossing agreements
- Crossing safety
- Surface repair
- Passenger and freight rail planning
- Track inspection

Office of Systems Planning
The mission of the Office of Systems Planning is to prepare comprehensive, intermodal and modal transportation system plans for the state. These plans are used to direct transportation investments and administer statewide grant programs. The Office also maintains data and mapping related to railroads in the state. The Iowa State Rail Plan is being developed under the cooperative supervision of the offices of Systems Planning and Rail Transportation.

Office of Public Transit
The Office of Public Transit administers federal and state transit grants and provides technical assistance to Iowa's 19 urban public transit systems and 16 regional public transit systems. More than 27.5 million rides are provided annually by Iowa's transit systems. Every county in Iowa is served by a regional system to ensure Iowans have transportation to work, medical facilities, meal sites, and leisure activities. This office will have a role ensuring that future intercity passenger rail services, sponsored by Iowa DOT, are coordinated with local transit.

Office of Right-of-Way
The Office of Right-of-Way would have a role in the state's acquisition of right of way needed for the implementation of new intercity passenger rail services sponsored by the state of Iowa. The office has five sections related to right-of-way (ROW) design and acquisition for state transportation projects.

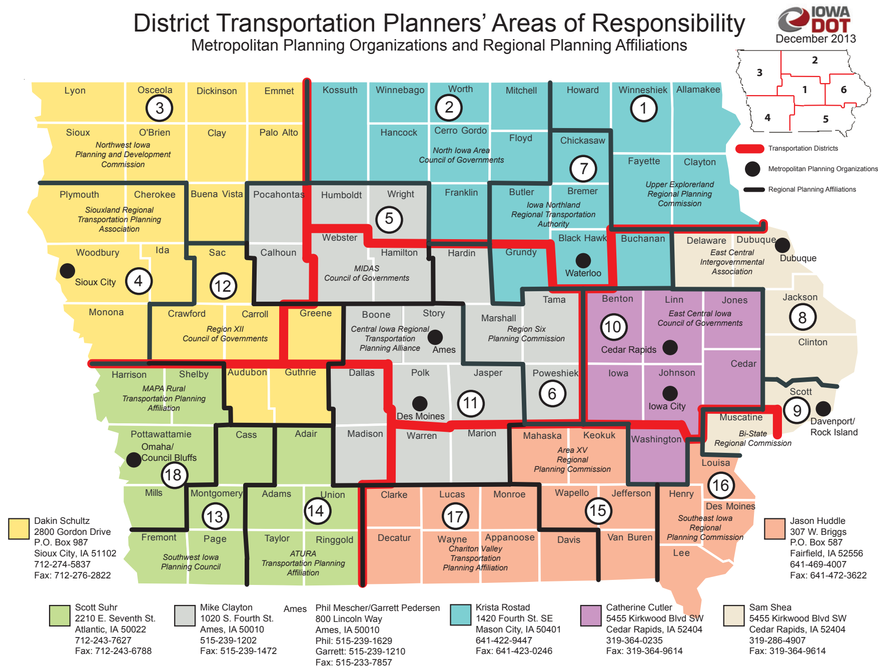
District Transportation Planners
Each Iowa DOT district has a District Transportation Planner, who is involved in multimodal transportation planning at the local level. There are six Iowa DOT districts statewide, which are identified below along with the location of each district office[12]:

- District 1 — Ames
- District 2 — Mason City
- District 3 — Sioux City
- District 4 — Atlantic
- District 5 — Fairfield
- District 6 — Cedar Rapids

The six districts, along with the nine Metropolitan Planning Organizations (MPOs) and 18 Regional Planning Affiliations (RPAs) noted later in this section appear in Figure 1.1 below.

12 *http://www.iowadot.gov/systems_planning/pdf/DistrictPlannersMap.pdf*

Figure 1.1: Iowa DOT Districts, Iowa Metropolitan Planning Organizations, and Iowa Regional Planning Affiliations



Source: Iowa Department of Transportation

1.4.2 Other State Agencies or Initiatives Related to Rail

Iowa Transportation Commission

The Iowa Transportation Commission (ITC) was created for the purpose of developing comprehensive transportation policy and planning within the state of Iowa. The ITC has final approval authority on funding allocations, including the Railroad Revolving Loan and Grant Program (RRLG), federally funded highway-railroad grade crossing safety projects, and highway-railroad grade crossing surface repair projects in Iowa.

ITC membership is comprised of seven transportation commissioners, who are appointed by the Iowa Governor and confirmed by the Iowa Senate. The ITC hosts monthly meetings, with eight held in Ames and four held in various other locations around the state annually.

Iowa Economic Development Authority

The Iowa Economic Development Authority (IEDA) was created in 2011 to replace the Iowa Department of Economic Development as part of the complete overhaul of Iowa's economic development delivery model.

IEDA's mission is to strengthen economic and community vitality by building partnerships and leveraging resources to make Iowa the choice for people and business. Through its two main divisions — business development and community development — IEDA administers several state and federal programs to meet its goals of assisting individuals, communities, and businesses.

These agencies also provide financial assistance programs that have been utilized to assist in the attraction of new industries on the state's rail lines through a number of initiatives including tax credits and in some instances have provided financial assistance for projects such as track rehabilitation and the construction of spur tracks to industries.

1.4.3 Regional and Local Organizations

Iowa's transportation agencies, besides the Iowa DOT, include Metropolitan Planning Organizations (MPOs) and Regional Planning Affiliations (RFAs). Iowa's MPOs and RFAs are identified and described in this section.

Metropolitan Planning Organizations

Metropolitan Planning Organizations (MPOs) are federally mandated and funded transportation policy-making organizations comprised of local government and transportation officials. The formation of an MPO is required for any urbanized area with a population greater than 50,000.

MPOs are required to maintain and continually update a Long-Range Transportation Plan (LRTP) as well as a Transportation Improvement Program (TIP), which is a multi-year program of transportation projects to be funded with federal and other transportation funding sources. As MPO planning activities have evolved to address the movement of freight as well as passengers, they have included consideration of multimodal solutions, improved intermodal connections, and more specific rail and rail-related project solutions. MPOs must work cooperatively with area transportation stakeholders to understand and anticipate the area's travel needs and to develop the aforementioned documents.

There are nine MPOs within Iowa. These MPOs are described below.[13]

- Ames Area MPO (AAMPO) — Ames, Iowa
  - Serves the Ames metropolitan area in Story and Boone counties in Iowa.
- Bi-State Regional Commission — Rock Island, Illinois
  - Serves the Quad Cities metropolitan area of Iowa and Illinois, including Scott and Muscatine counties in Iowa. Major Iowa cities served include Davenport, Muscatine, and Bettendorf.
- Black Hawk Metropolitan Area Transportation Policy Board — Waterloo, Iowa
  - Serves the Waterloo / Cedar Falls metropolitan area in Black Hawk County, Iowa.
- Corridor Metropolitan Planning Organization — Cedar Rapids, Iowa
  - Serves the Cedar Rapids metropolitan area in Linn County, Iowa.
- Des Moines Area Metropolitan Planning Organization (DMAMPO) — Des Moines, Iowa
  - Serves the Des Moines metropolitan area in Polk, Dallas, and Warren counties in Iowa.
- East Central Intergovernmental Association (ECIA) — Dubuque, Iowa
  - Includes local governmental bodies in Cedar, Clinton, Delaware, Dubuque, and Jackson counties in eastern Iowa. Major cities served include Dubuque and Clinton.
- Metropolitan Planning Organization of Johnson County (MPOJC) — Iowa City, Iowa
  - Serves Johnson County, Iowa, including the cities of Iowa City and Coralville.
- Siouxland Interstate Metropolitan Planning Council (SIMPCO) — Sioux City, Iowa
  - Includes the Sioux City metropolitan area of Iowa, Nebraska, and South Dakota, including Sioux City and surrounding cities in Woodbury County, Iowa.
- Omaha-Council Bluffs Metropolitan Area Planning Agency (MAPA) — Omaha, Nebraska
  - Includes the Omaha-Council Bluffs metropolitan area of Iowa and Nebraska, including Council Bluffs in Pottawattamie County, Iowa.

The nine MPOs noted above appear earlier in this chapter, in Figure 1.1.

Regional Planning Affiliations

Regional Planning Affiliations (RFAs) are responsible for transportation planning in regions of Iowa outside the metropolitan areas represented by MPOs. Iowa has 18 RPAs[14], which are identified below:

- RPA 1: Upper Explorerland Regional Planning Commission
  - Serves Howard, Winneshiek, Allamakee, Fayette, and Clayton counties.
- RPA 2: North Iowa Area Council of Governments

13 *https://planning.dot.gov/mpo.asp*
14 *http://www.iowadot.gov/systems_planning/pdf/DistrictPlannersMap.pdf*

- Serves Kossuth, Winnebago, Worth, Mitchell, Hancock, Cerro Gordo, Floyd, and Franklin counties.
- RPA 3: Northwest Iowa Planning and Development Commission
  - Serves Lyon, Osceola, Dickinson, Emmet, Sioux, O'Brien, Clay, Palo Alto, and Buena Vista counties.
- RPA 4: Siouxland Regional Transportation Planning Association
  - Serves Plymouth, Cherokee, Woodbury, Ida, and Monona counties.
- RPA 5: MIDAS Council of Governments
  - Serves Pocahontas, Humboldt, Wright, Calhoun, Webster, and Hamilton counties.
- RPA 6: Region Six Planning Commission
  - Serves Hardin, Marshall, Tama, and Poweshiek counties.
- RPA 7: Iowa Northland Regional Transportation Authority
  - Serves Chickasaw, Butler, Bremer, Grundy, Black Hawk, and Buchanan counties.
- RPA 8: East Central Intergovernmental Association
  - Serves Delaware, Dubuque, Jackson, and Clinton counties.
- RPA 9: Bi-State Regional Planning Commission
  - Serves Scott and Muscatine counties.
- RPA 10: East Central Iowa Council of Governments
  - Benton, Linn, Jones, Iowa, Johnson, Cedar, and Washington counties.
- RPA 11: Central Iowa Regional Transportation Planning Alliance
  - Serves Boone, Story, Dallas, Polk, Jasper, Madison, Warren, and Marion counties.
- RPA 12: Region XII Council of Governments
  - Serves Sac, Crawford, Carroll, Greene, Audubon, and Guthrie counties.
- RPA 13: Southwest Iowa Planning Council
  - Serves Cass, Montgomery, Fremont, and Page counties.
- RPA 14: ATURA Transportation Planning Affiliation
  - Serves Adair, Adams, Union, Taylor, and Ringgold counties.
- RPA 15: Area XV Regional Planning Commission
  - Serves Mahaska, Keokuk, Wapello, Jefferson, and Van Buren counties.
- RPA 16: Southeast Iowa Regional Planning Commission
  - Serves Louisa, Henry, Des Moines, and Lee counties.
- RPA: 17: Chariton Valley Planning and Development
  - Serves Clarke, Lucas, Monroe, Decatur, Wayne, Appanoose, and Davis counties.
- RPA 18: MAPA Rural Transportation Planning Affiliation
  - Serves Harrison, Shelby, Pottawattamie, and Mills counties.

The 18 RPAs noted above appear earlier in this chapter, in Figure 1.1.

Local Economic Development Agencies

Iowa has a number of local public and private economic development agencies which recruit industries and businesses on the basis of their location, available labor force, room for growth, and access to rail and other transportation assets.

The Iowa Directory of Economic Development Organizations lists 61 entities around the state, including economic development agencies and authorities, chambers of commerce, alliances, development councils, corporations, associations, and marketing coalitions at the regional, county or local level of government.[15] Many of these agencies offer incentives such as tax exemptions and credits and other means of assistance to attract business interests.

Although these agencies do not generally work directly with freight railroad operators, they do have a vested interest in the level of rail services and rail assistance programs available to supplement their incentives.

15 *http://www.gdi-solutions.com/directory/edo/iowa.htm*

1.5 Iowa's Authority to Conduct Rail Planning and Investment

1.5.1 State Authority for Rail Planning

The Iowa Code, Title VIII (Transportation) Chapter 307 assigns powers to Iowa DOT to plan and implement transportation system improvements. Iowa DOT's rail-related responsibilities per the Iowa Code are detailed in Iowa Code §307.26. These include the following:

1. Conducting research on basic railroad problems and identification of present capability of railroads to provide acceptable levels of service.
2. Development of rail transportation systems for expansion of passenger and freight services.
3. Development of programs in anticipation of railroad abandonment.
4. Development and maintenance of a federal-state relationship of programs relating to railroad safety enforcement, track standards, rail equipment, operating rules, and transportation of hazardous materials.
5. Conducting research on railroad-highway grade crossings and development of a safety program in order to reduce injuries or fatalities.
6. Applying for, accepting, and expending federal, state, or private funds for the improvement of rail transportation.
7. Studies for coordination of railway service with that of other transportation modes.
8. Studies of regulatory changes deemed necessary to effectuate economical and efficient railroad service.
9. Provision of advice and assistance regarding agreements with railroads for the restoration, conservation, or improvement of railroads.
10. Administration of various responsibilities including: supervision and regulation of rail carriers, railway corporations — powers, construction and operations of railways, railroad rights-of-way, crossings, tracks and fencing, and railway assistance, per Title VIII §327C through H.
11. Performing other duties and responsibilities as may be assigned by the Iowa DOT Director and the Iowa Transportation Commission (ITC).
12. Advising and assisting in the establishment and development of railroad districts upon request.
13. Conducting innovative experimental programs relating to rail transportation problems within the state.
14. Performance of the role of "applicant" pursuant to the Railroad Revitalization and Regulatory Reform Act of 1976.
15. Identification of those segments of railroad trackage, which, if improved, may provide increased transportation services for Iowans.

1.5.2 State Authority for Grant, Loan, and Other Rail Financing

Iowa has utilized both federal and state transportation funding programs when rail infrastructure improvements were eligible and appropriate. State-sponsored rail investment in Iowa has been provided through Iowa DOT and other state economic development agencies.

Title VIII Chapter 327H of the Iowa Code allows Iowa DOT to administer a Railroad Revolving Loan and Grant Program (RRLG) for the following purposes:

- To provide assistance for the restoration, conservation, improvement, and construction of railroad main lines, branch lines, switching yards, sidings, rail connections, intermodal yards, highway grade separations, and other rail-related improvements.
- For rail economic development projects that improve rail facilities, including the construction of branch lines, sidings, rail connections, intermodal yards, and other rail-related improvements that spur economic development and job growth.

Title VIII Chapter 327J of the Iowa Code created a Passenger Rail Service Revolving Fund to be used to pay the costs associated with the initiation, operation, and maintenance of passenger rail service.

Other state-sponsored rail investment programs include:

- Highway-Railroad Grade Crossing Safety Program — This federally funded program provides financial assistance to states for safety improvements at highway-railroad crossings.
- Grade Crossing Safety Program — This state-funded program assists railroads with funding to defray a portion of the signal maintenance costs at signals installed under the Highway-Railroad Grade Crossing Safety Program since 1973.
- Highway-Railroad Grade Crossing Surface Repair Program — This state-funded program is designed to assist city and county highway authorities and railroads with surface improvements at highway-railroad crossings.
- Primary Road Highway-Railroad Grade Crossing Repair Program — This state-funded program is designed to assist with surface improvements at highway-railroad crossings on the Primary Road System.

In addition, Iowa DOT has begun a new grant funding opportunity to improve Iowa's freight transportation. The Linking Iowa's Freight Transportation System Program (LIFTS) seeks to address gaps in multimodal funding to assist in bolstering the freight transportation system. LIFTS grant funding is not limited to a particular mode of transportation, but is designed to assist projects that contribute to effective and efficient freight transportation in the state. Examples of projects could include rail-served transload facilities and increasing a facility's capacity or access to rail service.

Additional details on these rail and rail safety related funding programs appear in Chapter 2 of the State Rail Plan.

1.5.3 State Funding for Rail Projects in the Last Five Years

Recent year funding totals under the four aforementioned state rail improvement programs are as follows:

- Between 2009 and 2013, under the Railroad Revolving Loan and Grant Program, Iowa has awarded $12.4 million in loans and $14.3 million in grants for rail projects involving job creation and/or rail network improvement, and for planning studies.
- Between 2013 and 2014, under the Highway-Railroad Grade Crossing Safety Program, Iowa awarded $10.2 million in improvements. According to the DOT, the annual federal appropriation for the program is about $4.9 million per year.
- Between 2014 and 2015, under the Highway-Railroad Grade Crossing Surface Repair Program, Iowa awarded $2,162,000 in improvements, or about $1 million per year.
- The Primary Road Highway-Railroad Grade Crossing Repair Program has an annual funding level ranging between $300,000 and $600,000, depending on needs.

1.6 Summary of Freight and Passenger Rail Services in Iowa

1.6.1 Existing Rail System

The rail system in Iowa is comprised of approximately 3,851 route miles owned by freight railroads and non-operating railroad owners. There are 18 freight railroads in the state. Six of these railroads — BNSF Railway (BNSF), Canadian National Railway (CN), Canadian Pacific Railway (CP), Kansas City Southern Railway (KCS), Norfolk Southern Railway (NS), and Union Pacific Railroad (UP) — are categorized as Class I or major railroads. These carriers own a total of approximately 3,225 route miles, or about 83.74 percent of the total rail mileage in the state. Twelve of these railroads are categorized as a Class II railroad (known also as a regional railroad) or a Class III railroad (known also as a short line railroad). Regional and short line railroads own a total of 563 route miles, or about 14.62 percent of the total rail mileage in the state. Two non-operating railroad owners own 63 route miles, or about 1.64 percent of the total rail mileage in the state. Non-operating railroad owners have agreements with other rail carriers to operate the trackage they own. In 2013, the state's freight railroads carried 290.3 million tons of freight, or 4.5 million rail carloads of various commodities, to, from, within and through Iowa[16]. The state's freight railroads and non-operating railroad owners and their respective networks in Iowa will be identified and described in detail in Chapter 2 of the Iowa State Rail Plan.

16 *Surface Transportation Board 2013 Waybill Sample for Iowa*

Two Amtrak long-distance intercity rail passenger routes operate within the state. Amtrak's *California Zephyr* and *Southwest Chief* routes' eastern terminus is Chicago with termini in the San Francisco Bay Area and Los Angeles, respectively. Both of the services operate over BNSF Railway in Iowa. During Amtrak's 2014 Fiscal Year, a total of 57,238 passengers boarded or alighted at the six Amtrak stations in Iowa. Boardings and alightings at individual stations ranged from 4,300 to 14,000 in the year, and the busiest station was Osceola, just south of Des Moines.

In addition to the state's freight and intercity passenger rail services, two tourist railroads operate in the state: the Boone & Scenic Valley Railroad in Boone and the Midwest Central Railroad in Mount Pleasant. The Union Pacific Railroad Museum in Council Bluffs houses one of the oldest and largest corporate collections of railroad artifacts, photographs, and documents in the U.S. Some other railroad museums in Iowa include the James H. Andrew Railroad Museum and History Center in Boone, Siouxland Historic Railroad Association Railroad Shops in Sioux City, Manly Junction Railroad Museum in Manly, and the Hub City Heritage Corporation Museum in Oelwein.

Iowa's rail network, as well as its contributions and impacts on the state, are described in greater detail in Chapter 2 of the State Rail Plan.

1.6.2 Rail Initiatives and Plans

Freight Rail Initiatives

There are various freight rail initiatives Iowa DOT has considered. Iowa DOT has studied the potential for optimizing the state's freight rail network and to identify investments in the state's rail infrastructure that improve the capacity, efficiency, and safety of the state's rail network, promote railroad access and economic development, and bolster connectivity with other transportation modes. Some of these initiatives include:

- Enhancing coordination between Iowa DOT and the state's freight railroads
- Increasing maximum allowable gross weights to 286,000 lbs. per car
- Advancing at-grade highway/rail crossing surface and signal improvements
- Expanding rail access and development of industrial spur tracks
- Promoting rail safety
- Leading freight rail studies

These and other freight rail initiatives are discussed in greater detail in Chapter 4 of the State Rail Plan.

Passenger Rail Initiatives

There are various passenger rail initiatives under consideration by Iowa DOT. Planned intercity services include new passenger trains between Chicago and Iowa City, using the Iowa Interstate Railroad in Iowa, and between Chicago and Dubuque, using the Canadian National Railway in Iowa. Furthermore, Iowa DOT is studying the extension of the Chicago-Iowa City service from Iowa City west to Des Moines and Council Bluffs/Omaha. Other routes that may be studied include the extension of a Chicago-Dubuque service west to Waterloo/Cedar Falls, Fort Dodge, Cherokee, and Sioux City, as well as a north-south service between the Minneapolis, Des Moines, and Kansas City on the Union Pacific Railroad. These future intercity passenger rail routes, as well as existing passenger rail routes, are noted in Figure 2.2 below.

Figure 2.2: Existing and Potential Passenger Rail Routes Serving Iowa

Source: Iowa Department of Transportation

In addition, two potential commuter rail services have been studied in the recent past or are currently under study. These pertain to the Iowa City-Cedar Rapids area and to the Des Moines area.

These and other intercity and commuter rail service concepts are discussed in greater detail in Chapter 3 of the State Rail Plan.

Iowa State Rail Plan Final

Chapter 2

Iowa's Existing Rail System

IOWA DOT

Contents

2.1 Existing Iowa Rail System: Description and Inventory

This chapter provides an overview and inventory of Iowa's existing rail system as a baseline for planning and decision making in the state. Discussed below are three major aspects of the state's existing freight rail and passenger rail systems: a description of the services and physical characteristics of the state's railroad network as they are today; rail service trends and forecasts; and needs and opportunities.

2.1.1 Iowa's Existing Rail Network

Railroads have served Iowa continuously since 1855. In 1914, when main line railroad mileage in Iowa peaked at 10,018 miles, it was widely held that no community in any of the state's 99 counties was more than 13 miles from a railroad[1]. Railroads spurred development, most noticeably in Iowa's largest cities, some of which became principal regional and national rail hubs. Railroad development in Iowa continued into the 1910s, but the system has decreased since then, as the state's railroads faced increasing competition to both their freight and passenger businesses from improved roadways, new air routes, and the development of interstate highways. Today, Iowa is served by 18 freight railroads, two Amtrak intercity passenger routes, and two tourist or heritage railroads. There are presently no commuter rail services in Iowa.

Iowa's operating freight railroads are divided into three categories, including Class I railroads which are large, primarily long-haul national rail systems; Class II railroads which are medium sized railroads that operate regional rail systems; and Class III railroads which are commonly referred to as short line and switching or terminal railroads, which operate at the local level. Iowa also has non-operating railroad owners, which own short segments of the Iowa rail network and have agreements with Class II and Class III railroads to provide rail service.

The passenger rail system is comprised of Amtrak National Network, or long-distance intercity services, and privately owned tourist railroads.

Rail lines which have been abandoned or rail banked since 2004 are discussed later in this chapter.

Iowa's rail system consists of 3,851 railroad route miles owned by 18 railroads and two non-operating railroad owners.

Table 2.1 below identifies by railroad entity — railroad class (if applicable), standard alpha carrier code (an industry standard two- to four-letter abbreviation), total miles of freight railroad owned and operated in Iowa (including lines leased, operated under contract, trackage rights, and haulage rights, as applicable), and the percentage of the total Iowa rail network that each railroad owns. Note that miles leased and/or operated under contract, miles operated under trackage rights, and miles operated under haulage rights are included in the total miles operated figures, allowing total miles operated to exceed total miles owned.

Industrial railroads and private track ownership provide transportation service at industrial installations in Iowa, but, due to their classification, the mileage of privately owned industrial track is not included in calculations of the state's rail network. Similarly, the industrial track (including designated industrial leads and spurs) of Class I, II, and III rail carriers is also not included in the route-mile calculations. Iowa has two tourist railroads, but entities of this classification are also not included in route-mile calculations. The tourist railroads are discussed in Section 2.1.1.3.

1 *Grant, H. Roger and Hofsommer, Donovan L.: Iowa's Railroads: An Album, Indiana University Press, 2009*

Table 2.1: Iowa Route Mileage by Railroad and Non-Operating Railroad Owner

RAILROAD	STANDARD CARRIER ALPHA CODE	RAILROAD CLASS	TOTAL MILES OWNED	PERCENT OF TOTAL IOWA RAIL NETWORK OWNED	MILES LEASED/ OPERATED UNDER CONTRACT	MILES OPERATED UNDER TRACKAGE RIGHTS	MILES OPERATED UNDER HAULAGE RIGHTS	TOTAL MILES OPERATED
BNSF Railway	BNSF	Class I	631	16.39%	33	42	0	706
Canadian National Railway (operates in Iowa via subsidiaries Chicago Central & Pacific [CCP] and Cedar River Railroad [CEDR])	CN	Class I	605	15.71%	0	3	0	608
Canadian Pacific Railway (operates in Iowa via subsidiary Dakota, Minnesota & Eastern Railroad [DME])	CP	Class I	654	16.98%	0	12	0	666
Kansas City Southern Railway	KCS	Class I	0	0.00%	0	0	55	55
Norfolk Southern Railway	NS	Class I	44	1.14%	4	0	386	395 See Note (a) below
Union Pacific Railroad	UP	Class I	1,291	33.52%	0	95	126	1,512
SUBTOTAL (CLASS I)			**3,225**	**83.74%**				
Iowa Interstate Railroad	IAIS	Class II	298	7.73%	6 See Note (b) below	21	0	325
SUBTOTAL (CLASS II)			**298**	**7.73%**				
Appanoose County Community Railroad	APNC	Class III	35	0.90%	0	0	0	35
Boone & Scenic Valley Railroad	BSV	Class III	2	0.05%	0	0	0	2
Burlington Junction Railway	BJRY	Class III	6	0.16%	0	0	0	6
CBEC Railway (CBEC operated by IAIS)	CBEC	Class III	6	0.16%	0	0	0	6
Cedar Rapids & Iowa City Railway	CIC	Class III	57	1.48%	0	0	0	57
D&I Railroad	DAIR	Class III	0	0.00%	35 See Note (c) below	7	0	42
D&W Railroad (DWRV operated by IANR)	DWRV	Class III	22	0.57%	0	6	0	28
Iowa Northern Railway	IANR	Class III	117	3.04%	50	60	0	227
Iowa River Railroad	IARR	Class III	9	0.24%	0	0	0	9
Iowa Traction Railway	IATR	Class III	10	0.26%	0	0	0	10
Keokuk Junction Railway	KJRY	Class III	1	0.03%	0	3	0	4
SUBTOTAL (CLASS III)			**265**	**6.89%**				
North Central Iowa Rail Corridor (NCIRC trackage operated by IANR)	N/A	Non-Operating Railroad Owner	28	0.73%	0	0	0	28
State of South Dakota (SD trackage operated by DAIR)	N/A	Non-Operating Railroad Owner	35	0.91%	0	0	0	35
SUBTOTAL (NON-OPERATING RAILROAD OWNERS)			**63**	**1.64%**				
Iowa Rail Network Total			**3,851**	**100.0%**	**128**	**249**	***567***	***4,756***

Source: Iowa DOT; Class I Railroad Annual Reports R-1 (2014); Iowa Class I, II, and III railroads

Notes:

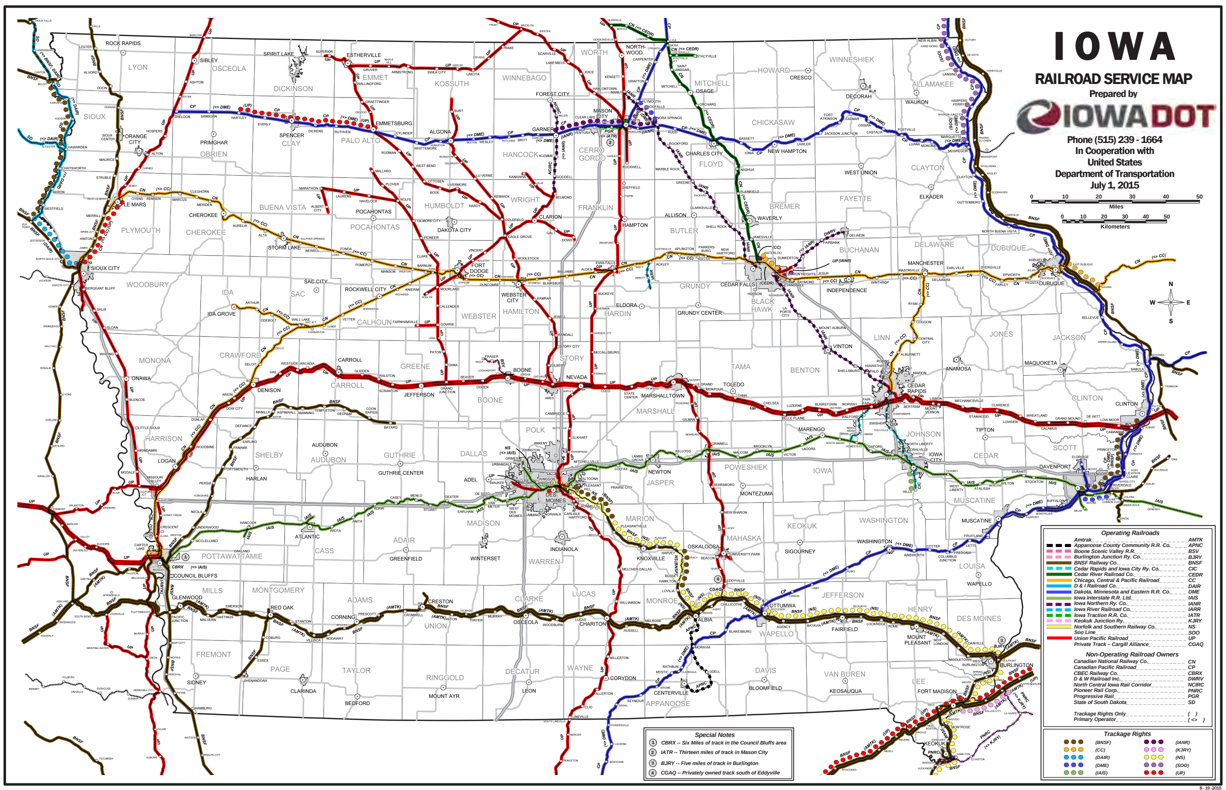
a. NS presently operates on 9 miles in Iowa — 5 miles of NS trackage at Des Moines and 4 miles of BNSF trackage at Des Moines operated under contract. The remainder of the NS-owned trackage in Iowa has been leased to BNSF and IAIS for operations. Total Miles Operated figure represents miles in Iowa over which NS operates through ownership, under contract, and via haulage rights only.

b. IAIS also leases or operates under contract the 6-mile CBEC Railway at Council Bluffs, a 12-mile segment from NS between Des Moines and Grimes, and an 8-mile segment from CIC between Iowa City and Hills, totaling 24 miles. These miles are not included in IAIS route-mile calculations in the table above, as IAIS designates these segments as industrial leads, which are not included in route-mile calculations. IAIS operates over the 18 miles of CIC between Yocum Connection (near South Amana), Iowa, and Cedar Rapids, Iowa, via a marketing agreement with CIC.

c. State of South Dakota owned trackage in Iowa is leased to the Sioux Valley Regional Railroad Authority (SVRRA); DAIR provides service for SVRRA via an operating contract.

Figure 2.1 below identifies the routes of Iowa's railroads in the context of the state's rail network.

Figure 2.1: Iowa Railroad Service Map, 2015



Source: Iowa DOT

2.1.1.1 FREIGHT RAIL NETWORK

2.1.1.1.1 Class I Railroads

Class I railroads are defined as those national railroads that typically operate over thousands of route miles, employ thousands of people, and have revenues and capital budgets in the billions of dollars collectively[2]. There are seven Class I railroads in the United States and Canada; some have transportation linkages to Mexico.

2 See Federal Register, Volume 79, No. 111, June 10, 2014, p. 33257. The STB defines class of railroad based on revenue thresholds adjusted for inflation. For 2013, the most recent available, Class I carriers had revenues of $467.0 million or more. Class II carriers have revenues ranging from $37.4 million to under $467.0 million. Class III carriers have revenues under $37.4 million. All switching and terminal carriers regardless of revenues are Class III carriers. (See 49 CFR 1201.1-1)

Iowa is served directly by five Class I railroads: BNSF Railway (BNSF), Canadian National Railway (CN), Canadian Pacific Railway (CP), Norfolk Southern Railway (NS), and Union Pacific Railroad (UP). A sixth Class I railroad — Kansas City Southern Railway (KCS) — has access to Council Bluffs, Iowa, via haulage rights over BNSF and UP from Kansas City, Missouri. A brief description of each railroad appears in the following sections. Details of the railroads' physical plant and operations appear in Appendix A.

BNSF Railway (BNSF)
BNSF Railway (BNSF), a wholly owned subsidiary of Berkshire Hathaway, is a Fort Worth, Texas-based Class I railroad with a network of approximately 32,500 miles in the U.S. and Canada. BNSF owns approximately 631 miles in Iowa. BNSF serves the U.S. Midwest, West, and South; Gulf Coast and West Coast ports; and Canada. Interchanges are locations where railroads intersect and exchange railcars. BNSF has the ability to interchange freight rail traffic with four Class I carriers (CN, CP, NS, UP), one Class II carrier (IAIS), and four Class III carriers (APNC, BJRY, DAIR, KJRY) in Iowa.

Canadian National Railway (CN)
Canadian National Railway (CN) is a publicly traded Montreal, Quebec (Canada) based Class I railroad with a network of approximately 20,500 miles in the U.S. and Canada, of which approximately 605 miles is in Iowa. CN serves the U.S. Midwest and South; Gulf, West Coast, and East Coast ports; and Canada. CN operates in Iowa through its subsidiaries Chicago Central and Pacific Railroad (CC&P) and Cedar River Railroad (CEDR). CN has the ability to interchange freight rail traffic with three Class I carriers (BNSF, CP, UP), one Class II carrier (IAIS), and four Class III carriers (CIC, DAIR, IANR, IARR) in Iowa.

Canadian Pacific Railway (CP)
Canadian Pacific Railway (CN) is a publicly traded Calgary, Alberta (Canada) based Class I railroad with a network of approximately 13,700 miles in the U.S. and Canada. CP owns approximately 654 miles in Iowa. CP serves the U.S. Midwest and East Coast, West Coast and East Coast ports, and Canada. CP operates in Iowa through its subsidiary Dakota, Minnesota and Eastern Railroad (DM&E). CP has the ability to interchange freight rail traffic with three Class I carriers (BNSF, CN, UP), one Class II carrier (IAIS), and three Class III carriers (APNC, IANR, IATR) in Iowa.

Kansas City Southern Railway (KCS)
Kansas City Southern Railway (KCS), a wholly owned subsidiary of Kansas City Southern Industries, is a Kansas City, Missouri-based Class I railroad with a network of approximately 3,500 miles in 10 U.S. states. KCS has approximately 55 miles of haulage rights over BNSF and UP in Iowa, but does not own any trackage in Iowa. KCS serves the U.S. Midwest and South; Gulf Coast ports; and has connections to Mexico.

Norfolk Southern Railway (NS)
Norfolk Southern Railway (NS), owned by Norfolk Southern Corporation, is a publicly traded Norfolk, Virginia-based Class I railroad with a network of approximately 20,000 miles in 22 U.S. states. NS owns approximately 44 miles in Iowa. NS operations are centered on Des Moines and much of the NS trackage in Iowa is leased to other railroads. NS also has haulage rights over BNSF between Des Moines, Iowa, and St Louis, Missouri, and haulage rights over IAIS between Des Moines, Iowa, and Peoria, Illinois, to connect with the rest of the NS network; most of these rights are within Iowa. NS serves the U.S. Midwest, East, and South, and Gulf and East Coast ports. NS has the ability to interchange freight rail traffic with two Class I carriers (BNSF, UP), one Class II carrier (IAIS), and one Class III carrier (APNC) in Iowa.

Union Pacific Railroad (UP)
Union Pacific Railroad (UP), a wholly owned subsidiary of the Union Pacific Corporation, is a publicly traded Omaha, Nebraska-based Class I railroad with a network of approximately 32,000 miles in 23 U.S. states. UP owns approximately 1,291 miles in Iowa, which represents one-third of the total Iowa rail network and the largest single ownership of railroad lines in Iowa. UP serves the U.S. Midwest, West, and South; Gulf and West Coast ports; and maintains direct connections within the rail network of Mexico. UP has the ability to interchange freight rail traffic with five Class I carriers (BNSF, CN, CP, KCS, NS), one Class II carrier (IAIS), and six Class III carriers (BSV, CIC, DAIR, IANR, IATR, KJRY) in Iowa.

2.1.1.1.2 Class II Railroads

Freight railroads are generally divided into three categories. In addition to the Class I railroads discussed above, smaller railroads include Class II or regional railroads, and Class III or short line railroads[3].

One Class II or regional railroad currently operates in Iowa: the Iowa Interstate Railroad (IAIS). A brief summary of the railroad appears below. Details on its physical plant and operations appear in Appendix A.

Iowa Interstate Railroad (IAIS)

Iowa Interstate Railroad (IAIS) is a Class II railroad based in Cedar Rapids, Iowa, and is owned by Railroad Development Corporation (RDC) of Pittsburgh, Pennsylvania. IAIS was established in 1984 to preserve rail service over a former principal route of the Chicago, Rock Island & Pacific Railroad line between Bureau, Illinois (west of Chicago) and Council Bluffs, Iowa. The initial network included trackage rights from Bureau to Joliet, Illinois, on CSX Transportation and from Joliet to Blue Island (near Chicago), Illinois, on Metra, for access to Chicago. The initial network also included branch lines extending from Altoona to Pella, Iowa (this segment was cut back from Pella in stages in 1998, 2000, and 2014 and now ends at South Mitchellville, Iowa); Hancock Junction to Hancock and Oakland, Iowa (this segment was largely abandoned between Hancock Junction and Oakland in 2014); Atlantic to Audubon, Iowa (this segment was largely abandoned in 1995); and Rock Island to Milan, Illinois.

Subsequent network expansions included operation of NS-owned trackage between Des Moines and Grimes, Iowa; acquisition of the former CRI&P line between Henry (south of Bureau) and Peoria, Illinois (previously leased from Lincoln & Southern Railroad since 1987) and Class III railroad Great Western Railway of Iowa (CBGR) at Council Bluffs, Iowa, in 2006; operation by agreement over CIC trackage between Yocum Connection (South Amana) and Cedar Rapids, Iowa, and between Iowa City and Hills, Iowa; and lease of former CRI&P trackage from CSX Transportation between Henry, Bureau, and Utica, Illinois, in 2006[4].

IAIS also operates and maintains the CBEC Railway in Council Bluffs, Iowa. Today, IAIS operates a regional network of approximately 550 miles, reaching from Chicago and Peoria, Illinois, to Davenport, Iowa City, Des Moines, and Council Bluffs, Iowa. IAIS operates over approximately 325 miles in Iowa. IAIS connects with all U.S. Class I railroads, either in Iowa or Illinois.

2.1.1.1.3 Class III Railroads

There are 11 Class III or short line railroads in Iowa. Short line railroads are local railroads that primarily engage in freight haulage or line haul services or terminal switching services.

In recent years there has been a trend toward consolidation of railroads within the short line and regional railroad industry with many lines coming under the control of railroad holding companies. In Iowa, the state's one regional railroad and two of the state's 11 short line railroads are operated by railroad holding companies, including Railroad Development Corporation (owner of IAIS), Pioneer Railcorp (owner of KJRY), and Progressive Rail (owner of IATR). Iowa's other Class III railroads are generally independently owned.

A brief description of each operating Class III operating railroad in Iowa is included below. Details on the railroads physical plant and operations appear in Appendix A of the Iowa State Rail Plan.

Appanoose County Community Railroad (APNC)

The Appanoose County Community Railroad (APNC) is a Class III railroad headquartered in Centerville, Iowa. The APNC was established by the town of Centerville, Iowa, in 1983 to preserve rail service in Appanoose County. Today, APNC owns and operates segments of former Chicago, Burlington & Quincy Railroad; Chicago, Rock Island & Pacific Railroad; and Wabash Railroad trackage that form a continuous, J-shaped route from Centerville to Moravia and Albia, Iowa. APNC operates 35 miles of railroad.

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3 See Federal Register, Volume 79, No. 111, June 10, 2014, p. 33257. The STB defines class of railroad based on revenue thresholds adjusted for inflation. For 2013, the most recent available, Class I carriers had revenues of $467.0 million or more. Class II carriers have revenues ranging from $37.4 million to under $467.0 million. Class III carriers have revenues under $37.4 million. All switching and terminal carriers regardless of revenues are Class III carriers. (See 49 CFR 1201.1-1)

4 Iowa Interstate Railroad, Ltd. — Growing and Glowing at Age 25; Iowa Interstate Railroad, 2009

Boone & Scenic Valley Railroad (BSV)

The Boone & Scenic Valley Railroad (BSV) is a Class III railroad based in Boone, Iowa. B&SV passenger rail operations began in 1983 when it acquired 12 miles of former Fort Dodge, Des Moines & Southern Railroad (FDDM&S) trackage between Boone and Wolf, Iowa, from the Chicago & North Western Railway (C&NW). In 2001, B&SV acquired an additional 2 miles of former FDDM&S and C&NW trackage in Boone, Iowa, from UP, and began offering freight service only on that segment to serve an industrial park. Today, the Boone-Wolf segment is for passenger service of the Boone & Scenic Valley Railroad and Museum only.

Burlington Junction Railway (BJRY)

The Burlington Junction Railway (BJRY) is a Class III railroad headquartered in Burlington, Iowa. The BJRY was established in 1985 to provide rail service over former Chicago, Rock Island & Pacific Railroad trackage in Burlington, Iowa, and commodity transloading services. BJRY subsequently expanded its rail switching and commodity transloading services to additional locations in Mount Pleasant, Ottumwa, and Le Mars, Iowa, as well as at other locations in Illinois and Missouri. BJRY operates approximately 6 miles of railroad in Iowa.

CBEC Railway (CBEC)

The CBEC Railway (CBEC) was established in 1992 as a wholly owned subsidiary of MidAmerican Energy in Council Bluffs, Iowa. The CBEC network was built in 1997 and consists of 6 miles of trackage in the Council Bluffs area and is used primarily to provide coal to a utility plant at the Council Bluffs Energy Center. IAIS operates and maintains the CBEC and BNSF and UP have operating rights over CBEC. Today, CBEC is owned by Corn Belt Power Cooperative and the Central Iowa Power Cooperative[5]. Details about the operating and physical characteristics of the CBEC network in Iowa can be found in the IAIS section presented in Appendix A.

Cedar Rapids & Iowa City Railway (CIC)

The Cedar Rapids & Iowa City Railway (CIC) — more commonly referred to as the CRANDIC — is a Class III railroad owned by Alliant Energy and is based in Cedar Rapids, Iowa. The CIC was established as an electric railroad and began providing service between Cedar Rapids and Iowa City, Iowa, in 1904. The railroad subsequently dieselized its operations in the 1950s and later expanded its freight railroad network in the area considerably, mostly via the acquisitions of former Chicago, Rock Island & Pacific Railroad trackage between Iowa City and Hills, Iowa, and former Chicago, Milwaukee, St. Paul & Pacific Railroad trackage between Cedar Rapids and near Yocum Connection (South Amana), Iowa, during 1980-1982. CIC owns 57 miles of railroad in Iowa.

D&I Railroad (DAIR)

The D&I Railroad (DAIR) is a Class III railroad based in Sioux Falls, South Dakota, and is owned by aggregate producer L.G. Everist. DAIR was established in 1981, and its principal route is from Sioux City, Iowa, to Hawarden, Iowa, and Sioux Falls and Dell Rapids, South Dakota. The segments of DAIR's network in Iowa consist almost entirely of operating or trackage rights over former lines of the Chicago, Milwaukee, St. Paul & Pacific Railroad (CMStP&P), which retrenched from much of Iowa and South Dakota in 1980, and was acquired by other entities as a means of preserving rail service to the region.

D&W Railroad (DWRV)

The D&W Railroad (DWRV) was established by TRANSCO Railway Products in 2002 to acquire from UP 19 miles of former Chicago Great Western Railway trackage between Dewar and Oelwein, Iowa, in order to preserve rail service in three Iowa counties. DWRV is based in Chicago, Illinois. DWRV later added 3 miles to its network at Oelwein. TRANSCO remains the parent company of DWRV. IANR operates the 22-mile railroad through an agreement with DWRV and the line between Dewar and Oelwein is designated the IANR Oelwein Subdivision. Details about the operating and physical characteristics of the DWRV network in Iowa can be found in the IANR section presented below.

Iowa Northern Railway (IANR)

Iowa Northern Railway (IANR), based in Cedar Rapids and Manly, Iowa, is the state's largest Class III railroad and

5 *http://www.cbpower.coop/aspx/News.aspx?NewsID=1945*

it operates a regional network consisting of approximately 167 miles of railroad it owns, leases, and operates under contract, all in Iowa. IANR was established in 1984 to provide operations over former Chicago, Rock Island & Pacific Railroad trackage and to preserve rail service in seven Iowa counties. That included a principal route of the former CRI&P from Manly, Iowa, to Waterloo and Cedar Rapids, Iowa, and a branch line from Vinton to Dysart, Iowa (this segment was mostly abandoned in 1994). The present IANR management team assumed control of the railroad in 1994. Today, in addition to the principal line segment between Manly and Cedar Rapids (consisting of the Manly and Cedar Rapids subdivisions), IANR has trackage rights over CP and UP to access isolated lines between Belmond and Forest City, Iowa (owned by the North Central Iowa Rail Corridor and operated by IANR as its Garner Subdivision), and between Dewar (Waterloo) and Oelwein, Iowa (owned by DWRV and operated by IANR as its Oelwein Subdivision), respectively.

Iowa River Railroad (IARR)

The Iowa River Railroad (IARR) is a Class III railroad based in Steamboat Rock, Iowa. IARR was established in 2006 to operate former Minneapolis & St. Louis Railway trackage acquired from UP between Marshalltown and Steamboat Rock, Iowa, and from the North Central Railway Association (NCRA) between Steamboat Rock and Ackley, Iowa. IARR abandoned the Marshalltown-Steamboat Rock segment in 2012. Today, IARR operates over the 9-mile segment between Steamboat Rock and Ackley and is used primarily to serve an ethanol plant near Steamboat Rock.

Iowa Traction Railway (IATR)

The Iowa Traction Railway (IATR) is a Class III railroad based in Mason City, Iowa, and one of seven railroads owned and operated by short line railroad conglomerate Progressive Rail of Lakeville, Minnesota. IATR traces its history back to the founding of the Mason City & Clear Lake Railway (MC&CL) in 1896, was acquired by Progressive Rail in 2012, and is the only remaining electrified common carrier freight railroad in Iowa. IATR operates over approximately 10.4 miles of mostly former MC&CL trackage between Mason City and Clear Lake, Iowa.

Keokuk Junction Railway (KJRY)

The Keokuk Junction Railway (KJRY) is a Class III railroad based in Peoria, Illinois, and one of several railroads owned and operated by short line conglomerate Pioneer Railcorp. of Peoria, Illinois. KJRY was established in 1981 to operate former Chicago, Rock Island & Pacific Railroad trackage at Keokuk, Iowa, and later expanded with the 1986 acquisition from the Atchison, Topeka & Santa Fe Railway of the former Toledo, Peoria & Western Railroad between Keokuk, Iowa, and La Harpe, Illinois (east of Keokuk, Iowa). Subsequent expansions included trackage acquisition from La Harpe to Peoria and Lomax, Illinois, and trackage rights over the BNSF Railway Chillicothe Subdivision between Lomax, Illinois, and Fort Madison, Iowa. KJRY operates 1 mile in Iowa (a segment of the KJRY Iowa Subdivision at Keokuk) and has 3 miles of trackage rights in Iowa.

2.1.1.1.4 Non-Operating Railroad Owners

A non-operating railroad owner is typically an entity that owns a railroad, but has an agreement with an operating railroad to provide service. There are two non-operating railroad owners in Iowa. These are identified, along with the operator of each, in Table 2.2 below.

The state of Iowa does not presently own any rail lines. There is one instance of public ownership of non-operating railroad lines in Iowa. This is identified, along with the designated operator of the lines, in the table.

A principal privately owned rail line exists in Iowa to preserve rail service over a short corridor. This is identified, along with the designated operator, in the table.

Table 2.2: Non-Operating Railroad Owners

RAILROAD OR OWNER OF RAIL LINE	STANDARD CARRIER ALPHA CODE	RAILROAD TYPE
North Central Iowa Rail Corridor	Not applicable (abbreviated as NCIRC in the State Rail Plan)	Principal privately owned railroad corridor (operated by Class III railroad IANR)

State of South Dakota	Not applicable (abbreviated as SD in the State Rail Plan)	Publicly owned railroad (operated by Class III railroad DAIR)

Source: Iowa Class III railroads; Iowa DOT Annual Reports 2014

A brief description of each non-operating railroad owner and associated rail line segments in the Iowa rail network is included in Appendix A of the Iowa State Rail Plan. The descriptions include such details as ownership; miles owned; designated operator; physical characteristics of rail lines; improvement needs identified by each entity, if known; and more.

2.1.1.1.5 Industrial Railroads

Industrial railroads exist in Iowa and typically provide intraplant and interplant rail switching service to industrial and manufacturing customers and to coordinate and facilitate carload interchange with operating Class I, II, or III railroads. These small privately owned switching railroads operate over private track on private property, and exist at many grain elevators and ethanol plants in Iowa. These operations can be owned and operated by the company they serve or can be operated under a contract agreement with an outside party. The mileage of privately owned industrial track is not included in route-mile calculations of the Iowa rail network. Specific industrial railroad applications in Iowa are not identified in the State Rail Plan.

2.1.1.2 PASSENGER RAIL NETWORK

This section summarizes the history of Iowa passenger rail service and also provides an overview of the current service provided by the National Railroad Passenger Corporation, which is otherwise known as Amtrak.

2.1.1.2.1 Historical Rail Intercity Passenger Perspective

Iowa has hosted passenger trains for 160 years and the state was once served by a comprehensive array of local, intercity, and long-distance trains operated by the main line railroads. Through the 1950s, Iowa was still well served by intercity and long-distance passenger trains. Some of the named trains of the main line railroads at that time, and their routings in Iowa, included the following:

- Chicago & North Western Railway (C&NW) via Clinton, Cedar Rapids, Marshalltown, Ames, Boone, Carroll, and Council Bluffs, Iowa, and later the Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P)[6] via Marion (Cedar Rapids), Perry, and Council Bluffs, Iowa:
  - *City of Los Angeles* (Chicago — Los Angeles)[7]
  - *City of San Francisco* (Chicago — San Francisco Bay Area)
  - *City of Portland* (Chicago — Portland)
  - *City of Denver* (Chicago — Denver)
  - *Challenger* (Chicago — Los Angeles)
- Chicago, Burlington and Quincy Railroad (CB&Q) via Burlington, Mount Pleasant, Fairfield, Ottumwa, Albia, Chariton, Osceola, and Creston, Iowa:
  - *California Zephyr* (Chicago — Oakland)
  - *Nebraska Zephyr* (Chicago — Lincoln)
  - *Denver Zephyr* (Chicago — Denver)
- Chicago, Rock Island and Pacific Railroad (CRI&P) via Davenport, West Liberty, Iowa City, Grinnell, Newton, Des Moines, Atlantic, and Council Bluffs, Iowa:
  - *Rocky Mountain Rocket* (Chicago — Denver and Colorado Springs)
  - *Corn Belt Rocket* (Chicago — Omaha)
- Chicago, Rock Island and Pacific Railroad (CRI&P) via Davenport, Muscatine, and Fairfield, Iowa:
  - *Golden State* (Chicago — Kansas City — Los Angeles)
- Chicago, Rock Island and Pacific Railroad (CRI&P) via Manly, Mason City, Iowa Falls, Nevada, Des Moines, and Chariton, Iowa:

6 *In 1955, Union Pacific Railroad shifted its streamliners from the C&NW route to the CMStP&P route east of Council Bluffs.*
7 *In 1960, this train was combined with the City of San Francisco east of Ogden, Utah.*

- *Twin Star Rocket* (Minneapolis — Kansas City — Houston)
- Chicago, Rock Island and Pacific Railroad (CRI&P) via Manly, Cedar Falls, Waterloo, Cedar Rapids, West Liberty, and Burlington, Iowa:
  - *Zephyr Rocket* (Joint with CB&Q[8]) (Minneapolis — St. Louis)
- Illinois Central Railroad (IC) via Dubuque, Manchester, Waterloo, Iowa Falls, Fort Dodge, Storm Lake, and Cherokee, Iowa:
  - *Hawkeye* (Chicago — Sioux City)
  - *Land O'Corn* (Chicago — Waterloo only)
- Atchison, Topeka and Santa Fe (AT&SF)[9] via Fort Madison, Iowa:
  - *Chief* (Chicago — Los Angeles)
  - *Super Chief* (Chicago — Los Angeles)
  - *Texas Chief* (Chicago — Houston)
  - *San Francisco Chief* (Chicago — San Francisco Bay Area)
  - *El Capitan* (Chicago — Los Angeles)

Since that time, passenger train service gradually declined as the interstate highway system expanded and jet air travel became more common. Loss of ridership resulted in declining revenues and eventually mounting financial losses. To save costs, railroads began combining or eliminating train services. For example, of the joint UP and CMStP&P passenger services operating across Iowa, the *City of Los Angeles* and the *Challenger* were combined in 1956, and the *City of San Francisco* and the *City of Los Angeles* were combined in 1960. On the CRI&P, the last run of the *Twin Star Rocket* was in 1969 and passenger service across Iowa from Council Bluffs, Des Moines, Iowa City, and Davenport to Chicago — a remnant of the *Corn Belt Rocket* and *Rocky Mountain Rocket* services — was truncated to a Rock Island-Chicago operation within Illinois only in 1970. On the CB&Q, the *California Zephyr* ceased operations in 1970.

In 1970 Congress created Amtrak to relieve freight railroads of their intercity passenger train operations. Amtrak assumed operation of most intercity trains in 1971[10]. By 1972, there were only five long-distance Amtrak trains serving Iowa, plus two other intercity trains operated by the CRI&P, which did not join Amtrak.

- Amtrak trains:
  - *Denver Zephyr* (Chicago — Denver)
  - *Super Chief* (Chicago — Los Angeles)
  - *El Capitan* (Chicago — Los Angeles)
  - *Texas Chief* (Chicago — Houston)
  - *City of San Francisco* (Chicago — San Francisco Bay Area)
- Chicago, Rock Island & Pacific Railroad (CRI&P)
  - *Quad City Rocket* (Chicago — Rock Island)
  - *Peoria Rocket* (Chicago — Peoria)

While the latter two trains did not reach Iowa, they were accessible to residents in the eastern part of the state. Both CRI&P trains were discontinued altogether in 1978.

Starting in 1974, another Amtrak intercity train, the *Black Hawk*, operated between Chicago and Dubuque over the Illinois Central Gulf Railroad (ICG). That Amtrak train was dropped in 1981. The *Denver Zephyr* was combined with the *City of San Francisco,* which eventually became the *San Francisco Zephyr* and later the *California Zephyr*. The *Texas Chief* also had a name change to the *Lone Star*, which was eliminated due to budget cuts in 1979. The Chicago — Los Angeles service was combined into what ultimately became the *Southwest Chief*.

8 Transitioned to the CB&Q at Burlington.

9 Only made one stop in Iowa, at Fort Madison.

10 Amtrak was created pursuant to the National Passenger Service Act of 1970; Amtrak's first day of operations was May 1, 1971.

2.1.1.2.2 Current Amtrak Routes

Today, Iowa is directly served by two long-distance Amtrak trains. There currently is no intercity corridor or commuter service provided in the state, either by Amtrak or by other operators. Amtrak operates entirely over the trackage of BNSF Railway in Iowa. The state of Iowa is also served by Amtrak Thruway Bus Connections to the two intercity trains.

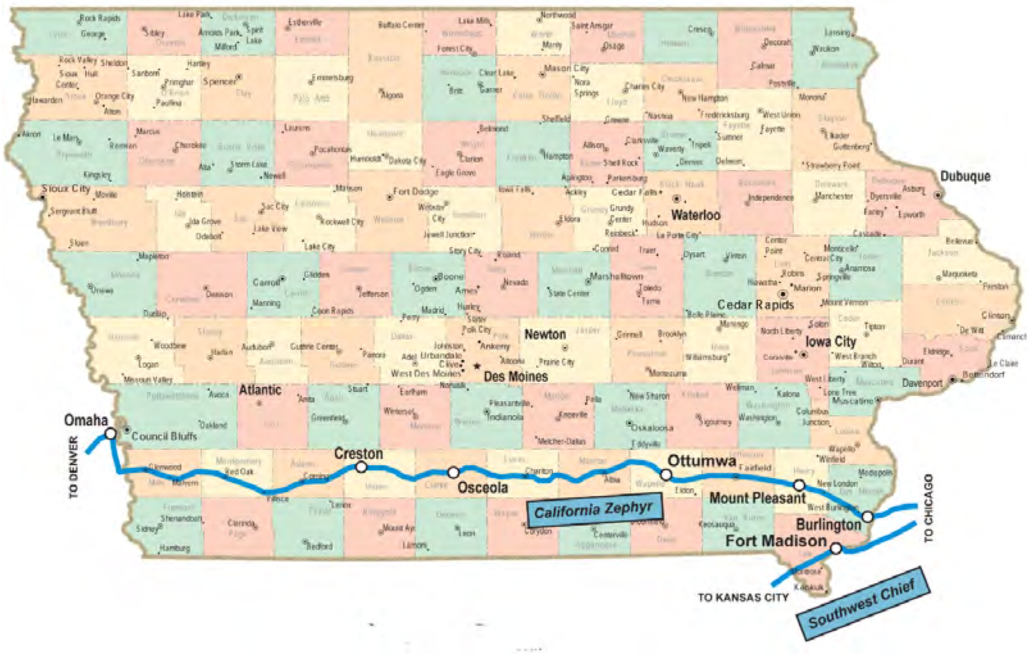
The *California Zephyr* and the *Southwest Chief* operate with bi-level train car equipment. Each train is equipped with coaches, sleeping cars, a diner, and a lounge car. Current Amtrak services in the U.S. Midwest and West appear in Figure 2.2 below, and their routes through Iowa appear in Figure 2.3 below.

Figure 2.2: Amtrak Western Routes, Including the *California Zephyr* and *Southwest Chief*

Source: Amtrak

California Zephyr — The *California Zephyr* operates between Chicago and Emeryville, which is in the San Francisco Bay Area (route shown in Figure 2.2 above). The service consists of one daily round-trip, stopping at Burlington, Mount Pleasant, Ottumwa, Osceola and Creston. Intermediate stops outside Iowa include Omaha, Denver, Salt Lake City, and Reno. In the westbound direction Amtrak Train 5 leaves Chicago at 2:00 PM (CT) and arrives in Emeryville at 4:10 PM (PT) two days later. Eastbound Train 6 leaves Emeryville at 9:10 AM (PT) and reaches Chicago at 2:50 PM (CT) two days later. In the westbound direction the *California Zephyr* stops at Iowa stations between 5:25 PM and 8:41 PM while eastbound the train stops at Iowa stations between 7:04 AM and 10:36 AM. The *California Zephyr's* schedule offers early to mid-morning service through the southern tier of the state eastbound, while westbound service through Iowa is in the early evening. The *California Zephyr's* route on BNSF through Iowa is 274 miles long.

Figure 2.3: Existing Amtrak Routes in Iowa



Source: Amtrak

Southwest Chief — The *Southwest Chief* operates between Chicago and Los Angeles (route shown in Figure 2.3 above). The service consists of one daily round-trip, stopping at Fort Madison. Intermediate stops outside Iowa include Kansas City, Albuquerque, and Flagstaff. In the westbound direction Amtrak Train 3 leaves Chicago at 3:00 PM (CT) and arrives in Los Angeles at 8:15 PM (PT) two days later. Eastbound Train 4 leaves Los Angeles at 6:15 PM (PT) and reaches Chicago at 3:15 PM (CT) two days later. In the westbound direction the *Southwest Chief* stops at Fort Madison at 6:42 PM, while eastbound the train stops at Ft. Madison at 11:09 AM. The *Southwest Chief's* route on BNSF through Iowa is 20 miles long.

Thruway Bus Connections — Amtrak offers its Thruway bus service to and from Davenport connecting with the *California Zephyr* and the *Southwest Chief* at Galesburg, Illinois. The most convenient connections are from Davenport to westbound Train 3 and to Davenport from westbound Train 5. Davenport is the only Iowa stop for the Thruway buses.

2.1.1.3 TOURIST TRAIN NETWORK

2.1.1.3.1 Tourist Train Overview

Iowa's tourist railways and museums offer tourists and visitors several hour-long trips that showcase scenic or historic areas of the state with bucolic rides between small towns. These rail trips offer a glimpse of an activity that was once part of daily life. The railroads also serve to preserve equipment, buildings, artifacts, and industrial skills from earlier eras.

In addition to preserving railroad history, heritage railways, museums, and other venues also attract visitors, generating income not only for these businesses but also for restaurants, hotels and other visitor service establishments. Heritage railways can also provide an opportunity to introduce the general public to the contemporary rail industry and its key role in the state's economy.

The following summaries provide an overview of the tourist railroads and some railroad museums in Iowa.

2.1.1.3.2 Boone and Scenic Valley Railroad and Museum

This tourist railroad offers various rides on a 15-mile, 1-hour 45-minute round trip between the Boone depot (13 miles west of Ames) and Fraser on a former interurban line of the Fort Dodge, Des Moines & Southern Railway. Trains run between Memorial Day and the end of October. The route follows the Des Moines River west of Boone for five miles to Frasier. There are two large bridges on the route: heading north, trains cross a ravine east of the Des Moines River and then cross the Des Moines River just east of Fraser.

Offered to the public are four trips:

- 1-hour and 45-minute excursion trains (daily)
- 2-hour and 15-minute dinner train trips (Fridays and Saturday)
- 2-hour and 45-minute desert trains (Sundays)
- 2-hour and 45-minute picnic trains (Sundays)

Holiday themed and special excursions are also available.

Trains are pulled by diesel electric locomotives daily and steam locomotives on Saturday. Locomotives pull a mix of passenger equipment, including vintage coaches, open air cars, cabooses, and vintage Union Pacific Railroad streamliner equipment from the historic *City of San Francisco* and *City of Los Angeles* trains. A *City of San Francisco* car has an open-air rear observation deck.

Also offered is a 30-minute ride in a restored 1920's era electric trolley running between the depot and downtown Boone, making it one of the few tourist railroads offering rides on all three basic historic technologies — steam, diesel ,and electric locomotives

Located at the Boone depot is the James H. Andrew Railroad Museum and History Center, a new 9,000-square-foot facility that includes displays and memorabilia about railroading in Iowa. The museum is open Monday through Sunday.

A weekday departure from Boone is seen in Figure 2.4 below.

Figure 2.4: Boone and Scenic Valley Tourist Train Preparing to Depart Boone

Source: CDM Smith

The railroad hauls about 49,000 to 55,000 passengers a year, of which 60 to 65 percent are from out of state. Volunteers operate the trains.

2.1.1.3.3 Midwest Central Railroad and Midwest Electric Railway

Located in Mount Pleasant, the Midwest Central Railroad has six narrow gauge steam locomotives (not all operating), a diesel electric switcher, a Model T motor car, and six open-air passenger cars, among other rolling stock. There is also standard gauge electric trolley equipment at the site.

Rides on steam trains and trolleys are offered to the public at four events:

- Independence Day Celebration (July 4)
- Old Threshers Reunion (five days ending on Labor Day)
- Haunted Rails (in October)
- North Pole Express (late November through mid-December)

The station facility, which is a restored CB&Q depot, is shown in Figure 2.5 below.

Figure 2.5: Midwest Central Railroad Station Facility

Source: CDM Smith

Steam trains operate clockwise on a loop track through McMillan Park. The train crews are all volunteers.

The trains carry about 14,000 passengers a year, most during the Old Threshers Reunion. About 50 percent come from out of state.

On a loop track around a campground just to the south of McMillan Park, antique standard gauge trolleys run counter-clockwise. The trolley operation, dubbed the Midwest Electric Railway, brings people staying in the campground to the Old Threshers Reunion at McMillan Park. The trolleys are also active for the Haunted Rails event in October and during Christmas. Special event runs and school tours are also available.

The trolleys haul about 25,000 riders a year, with the largest concentration during the Old Threshers Reunion. About half of the riders are from out of state.

The trolleys are operated by volunteers. The operation is owned by the Midwest Old Settlers and Threshers Association, which sponsors the Old Threshers Reunion event.

2.1.1.3.4 Union Pacific Railroad Museum

The Union Pacific Railroad Museum is located in downtown Council Bluffs in a Beaux Arts style building that formerly housed the Council Bluffs Carnegie Free Public Library. Its mission is to educate the public about the past, present, and future of the UP specifically and the railroad industry in general. To this end, the museum maintains a large collection of photographs, archives, and artifacts relating to UP and to the railroad industry. The museum is open Thursdays through Saturdays from 10 AM to 4 PM, and is closed on some holidays. The museum building is seen in Figure 2.6 below.

Figure 2.6: Union Pacific Railroad Museum at Council Bluffs

Source: HDR

The museum sees about 28,000 visitors a year. In 2015, 27 percent came Iowa, 29 percent came from Nebraska and Iowa, 43 percent came from outside the two-state area, and the remainder came from outside the United States.

The museum is operated by the Union Pacific Museum Association.

2.1.1.4 RAILROAD ABANDONMENTS AND RAILBANKED LINES

2.1.1.4.1 Background

This section summarizes a general background of rail line abandonments in Iowa and the identification of actual rail service discontinuances and abandonments in the state over the last decade. Railroad abandonment occurs when a rail line is no longer used for rail service. Abandonment and discontinuance of common carrier rail service on a given rail line is allowed by federal law. A railroad may abandon a rail line with the permission of the Surface Transportation Board (STB) as generally described in this section. Iowa DOT has minimal regulatory jurisdiction in matters regarding railroad operations or service in Iowa, but it does participate in the STB abandonment process when required. More information about the railroad abandonment process and Iowa DOT's roles can be found in Railroad Abandonment issued by the Iowa DOT at: http://www.iowadot.gov/iowarail/railroads/regulatory/regulatoryhome.htm.

The following events had a profound and lasting effect on the Iowa railroad network, and launched an extended period of railroad consolidation, divesture, and abandonment in Iowa, starting in the 1970s:

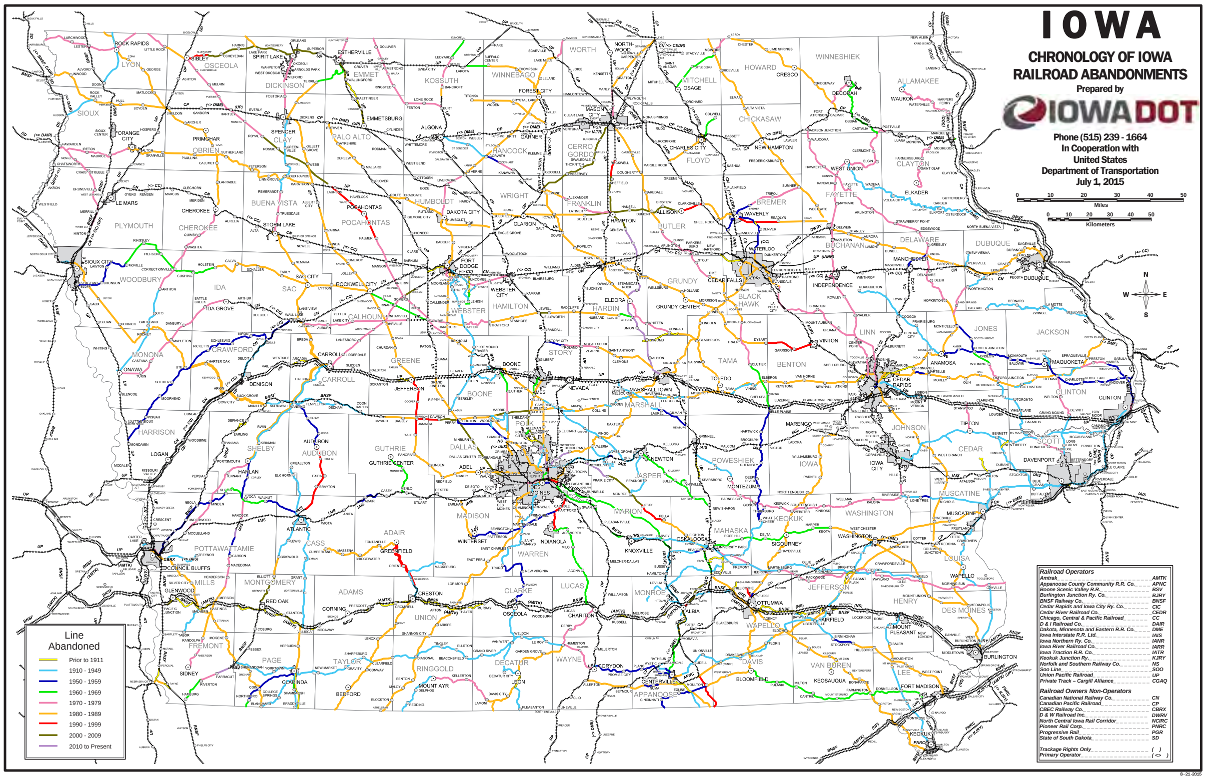
- Merger of Iowa railroads that resulted generally in excess route capacity and numerous parallel rail routes in Iowa for a single carrier. Notable was the mergers of the Minneapolis & St. Louis Railway and the Chicago Great Western Railway with the Chicago & North Western Railway during the 1960s.
- Bankruptcy of the Chicago, Rock Island & Pacific Railroad in 1980.
- Major retrenchment of the Chicago, Milwaukee, St. Paul & Pacific Railroad in Iowa (and neighboring Midwest states) during 1980.
- Passage of the 1980 Staggers Act, which deregulated railroads and was a catalyst for additional railroad mergers, and accelerated Class I railroad route abandonments and spinoffs to regional (Class II), short line (Class III) railroads, and various non-operating railroad owners in Iowa. Notable was Illinois Central Gulf Railroad's spinoff of much of its Iowa network to Class II railroad Chicago Central & Pacific Railroad in 1985; CC&P was reacquired by Class I Illinois Central Railroad (successor to ICG) in 1996, and is today a part of the CN network. Also notable was the creation of the Class II Iowa Interstate from principal lines of the CRI&P in Iowa.

Several hundred miles of railroad lines in Iowa owned historically by Class I railroads were abandoned or sold or leased to regional and short line railroads between 1980 and 2010. None of the abandoned rail lines was acquired by Iowa DOT. Some rail lines owned by the state of South Dakota include segments located in Iowa.

Rail banking is a process established under federal law that allows public entities to preserve established railroad rights-of-way for future reactivation of rail service, to protect rail transportation corridors, and to provide for recreational uses such as hiking and bicycling. Many abandoned or rail banked lines have been repurposed for interim recreational trail use in Iowa; principal rail trails in Iowa will be identified later in this section.

The map in Figure 2.7 below provides a chronology of railroad abandonments in Iowa.

Figure 2.7: Chronology of Iowa Railroad Abandonments



Source: Iowa DOT

2.1.1.4.2 Rail Abandonments and Discontinuances Since 2004

49 U.S.C. § 10903 governs the filing and procedure for common carrier application to abandon or discontinue rail operations over any part of its railroad lines as detailed in 49 CFR Part 1152. Abandonment or discontinuation requires a Surface Transportation Board (STB) finding "that the present or future public convenience and necessity require or permit the abandonment or discontinuance." 49 CFR 1152.50 provides for exemption from the requirements for abandonment and discontinuance when the STB has found approval is unnecessary to carry out rail transportation policy of 49 U.S.C. § 10101, and the actions are of limited scope not requiring shippers be protected from abuse of market power.

The principal requirements for an exempted abandonment is that the railroad certify that no local traffic has moved over the line for two years, that any overhead traffic can be routed over other lines, and that no formal complaint is filed by a rail service user. Table 2.3 below identifies Iowa railroad discontinuances and abandonments approved by the STB since 2004, as well as such cases that are still pending, as of September 2015.

Table 2.3: Iowa Railroad Abandonments: 2004-2015

OPEN/ CLOSED	RAILROAD	LINE SEGMENT & APPLICABLE COUNTIES	MILES IN IOWA	DATE OF DECISION	DATE FINAL DECISION OR ACTION	INITIAL EFFECTIVE DATE	ACQUIRED FOR RAIL USE	ACQUIRED FOR RAIL BANKING/ TRAILS USE	COMMENTS
Open	BNSF	Shenandoah to Farragut MP 20.05 to MP 26.00 Page, Fremont	5.95			7/9/2012			Trail use neg. for MP 20.05 - 21.9; Green Plains Shenadoah will purchase MP 21.9-26.0
Closed	IARR	North of Steamboat Rock to Marshalltown Hardin, Marshall	34.35		2/5/2014	1/30/2013		CITU	
Open	UP	Royal Industrial Lead near Laurens MP 475.15 to MP 477.00 Pochahontas	1.95			9/22/2012			
Open	UP	Ankeny Industrial Lead - near Des Moines S of I-80 & Broadway NW to 1st St. at end of line at Ankeny MP 4.70 to MP 10.50 Polk	5.70		3/5/2014	9/25/2012		CITU	
Open	UP	Thornton Industrial Lead near Belmond (northeast from 4th Ave. NE) MP 30.02 to MP 29.52 Wright	0.50			7/4/2013			
Closed	NCRA	Ackley to Geneva MP 201.46 to MP 191.00 Franklin, Hardin	10.46			7/5/2013			
Open	DME	Blackhawk Spur in Davenport (near Rockingham Rd. NW to Wedge of Davenport) MP 0.33 to MP 0.99 Scott	0.66			1/23/2014			
Closed	CN	Cedar Rapids - near Rockwell Dr. to near Council St. NE MP 229.75 to MP 230.24 Linn	0.49		1/30/2014	11/29/2013	no	no	
Open	UP	Bristow Sbudivision near Hampton, IA (Olive Avenue just N of 10th St. NW) MP 318.07 to 318.66 Hampton, Franklin	0.59			12/11/2013			
Open	NS	In the City of Des Moines, SE 26th Ct. 0.3 miles to Scott Avenue (eastern segment) & approx. 0.3 mi. from E 6th St. to near E. 1st St. & the Des Moines River (western segment). MP 336.80 to MP 337.10 (.30 mi.) & MP 339.30 to MP 339.60 (.30 mi.) Polk	0.60			10/19/2013			
Open	CN	Council Bluffs Across Missouri River into Omaha, NE MP 510.62 to 514.80 (MP equations where 511.35 = 513.41) Pottawattamie	2.12	2/11/2015					
Open	IAIS	Near Hancock Junction, IA to end of track near Oakland, IA MP 467.77 to 469.59 Pottawattamie	1.82			4/26/2014			
Open	IAIS	South of Mitchellville, IA to end of Track southeast of Prairie City, IA MP 145.75 to MP 135.00 Polk, Jasper	10.75			9/17/2014			

Source: Iowa DOT

Notes:
1. CITU = Certificate Of Interim Trails Use
2. The Surface Transportation Board assumed responsibility for abandonments from the Interstate Commerce Commission in 1995. Dockets dated 1996 or later are available at http://stb.dot.gov
3. Initial decision date may be extended. Final abandonment or acquisition for rail or trails use may be significantly later. Refer to docket at www.stb.dot.gov

2.1.1.4.3 Railbanked Lines and Interim Trail Use

Recognizing that abandoned rail lines are typically lost for future transportation uses, rail right-of-way has been proactively railbanked in Iowa. When a line is railbanked, the purchaser must maintain ownership of the corridor for future rail use. Some of these segments may potentially hold strategic value as future transportation corridors in the state. Iowa DOT reviews all potential rail abandonments in the state for suitability as recreational corridors under the Federal Rails to Trails legislation, though Iowa DOT does not always have a way to intercede.

Over 22,000 miles of open rails-to-trails corridors exist nationwide, with approximately 806 miles of those miles in Iowa. The state has 76 multi-use rail trails of varying lengths[11]. Several abandoned rail line segments have been converted to rail trails for interim recreational use in the state since the 1980s. Some principal rail trails in Iowa include the following facilities[12]:

- **Cedar Valley Nature Trail:** Approximately 51 miles of the former Waterloo, Cedar Falls & Northern Railroad between Evansdale and Hiawatha (Cedar Rapids), Iowa.
- **Chichaqua Valley Trail:** Approximately 28 miles of the former Chicago Great Western Railway between Bondurant and Baxter, Iowa.
- **Heart of Iowa Nature Trail:** Approximately 27 total miles of segments of the former Chicago, Milwaukee, St. Paul & Pacific Railroad between Slater and Rhodes, Iowa.
- **Heritage Trail:** Approximately 29 miles of the former Chicago Great Western Railway between Dubuque and Dyersville, Iowa.
- **High Trestle Trail:** Approximately 25 total miles of segments of the former Chicago & North Western Railway between Ankeny and Slater, Iowa, and the former Chicago, Milwaukee, St. Paul & Pacific Railroad between Slater and Woodward, Iowa.
- **Hoover Nature Trail:** Approximately 24 total miles of segments of the former Chicago, Rock Island & Pacific Railroad between Cedar Rapids and Burlington, Iowa.
- **Raccoon River Valley Trail:** Approximately 90 total miles, including the former Chicago, Milwaukee, St. Paul & Pacific Railroad between Jefferson and Waukee, Iowa, and between Herndon and Perry, Iowa; and the former Minneapolis & St. Louis Railway between Perry and Waukee, Iowa.
- **Rolling Prairie Trail:** Approximately 34 miles of the former Chicago Great Western Railway between Allison and Shell Rock, Iowa, and between Waverly and Readlyn, Iowa.
- **Sauk Rail Trail:** Approximately 35 miles of the former Chicago & North Western Railway between Carroll and Lake View, Iowa.
- **T-Bone Trail:** Approximately 21 miles of the former Chicago, Rock Island & Pacific Railroad between Atlantic and Audubon, Iowa.
- **Wabash Trace Nature Trail:** Approximately 64 miles of the former Wabash Railroad between Council Bluffs and Blanchard, Iowa.

Additional rail trails are currently under development in Iowa.

2.1.2 Major Freight and Passenger Terminals

2.1.2.1 FREIGHT RAIL YARDS AND FACILITIES IN IOWA

Iowa's operating freight railroads have multiple facilities to support railroad operations and maintenance and interface with freight shippers and receivers in the state. Major freight rail yards, terminals, and facilities of the Class I, Class II, and Class III railroads in Iowa are identified and described in Appendix A. The following freight rail facilities presently exist in Iowa:

11 *Rails to Trails Conservancy web site; October 19, 2015*
12 *http://www.iowadot.gov/iowabikes/multiusetrails.html*

- Switching yards and terminal
- Intermodal container transfer facility
- Transload facilities
- Freight car repair facilities
- Locomotive repair and servicing facilities

2.1.2.2 PASSENGER RAIL STATIONS IN IOWA

There are presently six Amtrak passenger rail stations in Iowa. Five are served by the *California Zephyr* and one by the *Southwest Chief*, as seen in Table 2.4 below. Each station sees two stops per day. Osceola generated the most passenger boardings and alightings (on's and off's) in Amtrak's fiscal year 2014 (FY2014)[13].

Table 2.4: Boardings and Alightings of Amtrak Stations in Iowa

CITY	SERVICE	DAILY TRAINS	BOARDINGS AND ALIGHTINGS IN 2014
Burlington	*California Zephyr*	2	8,813
Creston	*California Zephyr*	2	4,314
Fort Madison	*Southwest Chief*	2	6,986
Mount Pleasant	*California Zephyr*	2	12,030
Osceola	*California Zephyr*	2	13,986
Ottumwa	*California Zephyr*	2	11,109
	Total Iowa Station Usage		**57,238**

Source: Amtrak

Each passenger rail station in Iowa is identified below, along with a brief description of each station depot (structure) and its general location.

2.1.2.2.1 Burlington

Erected in 1944 by the former Chicago, Burlington and Quincy Railroad, the two-story Burlington depot replaced an earlier depot that was destroyed by fire in January 1943. The depot was also used as local offices for the railroad. Seen in Figure 2-8 below, the depot has a sleek streamlined design that became popular in the 1930s. Listed in the National Register of Historic Places, the depot is just south of downtown and just west of BNSF's rail yard and the Mississippi River.

Figure 2.8: Burlington Station

Source: CDM Smith

13 *Amtrak reports its annual data by its fiscal year which runs from October 1 through September 30.*

2.1.2.2.2 Creston

Seen in Figure 2.9 below, the Creston depot is a one-story utilitarian structure built by the former CB&Q in 1968. It is shared today with the BNSF Railway, the CB&Q's successor railroad. It is just east of the historic three-story, brick Burlington depot and railroad division offices built in 1899. The station is on the north side of the BNSF's yard facility in Creston and on the south side of downtown.

Figure 2.9: Creston Station

Source: CDM Smith

2.1.2.2.3 Fort Madison

The former Atchison, Topeka and Santa Fe Railway built the current Fort Madison station in 1968. The depot itself is a one-story utilitarian structure. The west side is used by BNSF operations personnel. The east side, shown in Figure 2.10 below, is the Amtrak station. The station is located at the east end BNSF's rail yard in Fort Madison, about 1.5 miles west of downtown, where the city's historic downtown AT&SF station complex is found. That structure is occupied by the North Lee County Historical Society and features a museum focused on regional and railroad history.

Figure 2.10: Fort Madison Station

Source: CDM Smith

2.1.2.2.4 Mount Pleasant

The former CB&Q built the station in 1912 at a location less than a half mile north of the historic downtown. The one-story Prairie style depot itself is made of pressed brick. The depot is seen in Figure 2.11 below.

Figure 2.11: Mount Pleasant Station

Source: CDM Smith

2.1.2.2.5 Osceola

The former CB&Q built the one-story, reddish brown brick Prairie Style depot in 1907. The station is located on the north edge of downtown. The Osceola depot was placed on the National Register of Historic Places in 2009. The depot is seen in Figure 2.12 below.

Figure 2.12: Osceola Station

Source: CDM Smith

2.1.2.2.6 Ottumwa

The former CB&Q built the modernistic two-story, stone depot in 1951, which was also used as local offices for the railroad. Amtrak shares the depot with the Wapello County Historical Museum. The station facility is just west of downtown and 600 feet east of the Des Moines River. The depot was placed on the National Register of Historic Places in 2008. The depot is seen in Figure 2.13 below.

Figure 2.13: Ottumwa Station

Source: CDM Smith

2.1.2.2.7 Iowa Passenger Rail Station Characteristics

Detail on the physical characteristics of the six Iowa station facilities served by Amtrak and identified in this section appears in Table 2.5 below.

Table 2.5: Characteristics of Iowa Amtrak Stations

CHARACTERISTCS	BURLINGTON	CRESTON	FORT MADISON
Ownership	City of Burlington owns the facility and parking lot; BNSF owns the platform and track	BNSF owns the facility, parking lot, platform and track	BNSF owns the facility, parking lot, platform and track
Address	300 South Main Street, Burlington	Pine and Adams Avenue, Creston	1601 20th Street, Fort Madison
Served By	*California Zephyr*	*California Zephyr*	*Southwest Chief*
Platform Type	Double	Double	Double
Platform Length	697 ft.	192 ft.	1,447 ft.
	697 ft.	372 ft.	1,560 ft.
Platform Construction	Asphalt	Concrete	Concrete
Shelter	Enclosed waiting area	Enclosed waiting area; station eaves extend over platform	Enclosed waiting area; station eaves extend over platform
Lighting	Fully lit	Lighting under eaves	Fully lit
Platform Amenities	Canopy and benches	Benches under eaves	Benches under eaves

Passenger Safety	No safety stripe	Yellow safety stripe	Yellow safety stripe
ADA	Station wheelchair accessible; not all station facilities accessible	Station wheelchair accessible; not all station facilities accessible	Station wheelchair accessible; not all station facilities accessible
Depot Hours	8:00 AM to 6:00 PM daily	No station hours	10:00 AM - 1:00 PM and 5:00 PM - 6:30 PM M-F; closed weekends and holidays; lobby open daily
Wi-Fi Available	No	No	No
Inside Seating Capacity	Seating space for 14; storage lockers	Seating space for 19	Seating space for 23
Water Fountain	No	No	Yes
Restrooms	Yes	Yes	Yes
ATM	No	No	No
Ticketing	Unstaffed station; a caretaker opens and closes the station	Unstaffed station	Staffed counter with checked baggage; help with baggage
Payphone	No	No	No
Parking	40 spaces total	19 spaces total	49 paved spaces and 20 unpaved spaces total
ADA Parking Facilities	2 spaces reserved	2 spaces reserved	2 spaces reserved
Shared Use	No	BNSF facility	BNSF facility
Intermodal	SEIBUS local fixed route bus service and SEIRPC dial-a-ride service	Southern Iowa Trolley dial-a-ride service	SEIRPC dial-a-ride service

CHARACTERISTCS	MOUNT PLEASANT	OSCEOLA	OTTUMWA
Ownership	BNSF owns the facility, parking lot, platform and track	City of Osceola owns the facility and parking lot; BNSF owns the platform and track	Wapello County owns the facility and the parking lot; BNSF owns the platform and track
Address	418 North Adams Street, Mount Pleasant	Main and East Clay Streets, Osceola	210 West Main Street, Ottumwa
Served By	*California Zephyr*	*California Zephyr*	*California Zephyr*
Platform Type	Double	Double; north platform not used presently	Double
Platform Length	600 ft.	500 ft.	1,033 ft.
	730 ft.	727 ft.	1,104 ft.
Platform Construction	Concrete / brick / asphalt	Concrete	Asphalt
Shelter	Enclosed waiting area	Enclosed waiting area	Enclosed waiting area
Lighting	Fully lit	Fully lit	Fully lit
Platform Amenities	Benches under eaves	Benches on north side in glass shelter	Topless canopy
Passenger Safety	Yellow safety stripe; yellow safety bumpy pads on concrete ADA boarding area	Yellow safety stripe; red safety bumpy pads	Yellow safety strip
ADA	Station wheelchair accessible; not all station facilities accessible	Station wheelchair accessible; not all station facilities accessible	Station wheelchair accessible; not all station facilities accessible

Depot Hours	9:30 AM - 1:30 PM and 2:30 PM - 6:15 PM MTuWF; 9:30 AM - 3:45 PM and 4:45 PM - 6:15 PM Th; closed weekends and holidays	7:00 AM - 10:00 AM and 7:00 PM - 9:00 PM daily	8:30 AM - 11:30 AM and 5:30 PM - 8:00 PM
Wi-Fi Available	No	No	No
Inside Seating Capacity	Seating space for 34	Seating space for 25-30	Seating space for 40
Water Fountain	Yes	No	Yes
Restrooms	Yes	Yes	Yes
ATM	No	No	No
Ticketing	Staffed counter with checked baggage; help with baggage; checked baggage service available on weekends	Unstaffed station; Quik-Trak self-service ticketing kiosk	Staffed counter; help with baggage
Payphone	Yes	No	No
Parking	100 long term spaces; 100 short term spaces	63 spaces total	30 long term spaces and 18 short term spaces total
ADA Parking Facilities	Yes	3 spaces reserved	3 spaces reserved
Shared Use	No	No	Wapello County Historical Museum
Intermodal	SEIRPC dial-a-ride service	Southern Iowa Trolley dial-a-ride service, Greyhound and Trailways 600 feet from station	Ottumwa transit fixed route local service, Greyhound and Trailways intercity

Source: Source: Amtrak and site visits conducted for the Iowa State Rail Plan

2.1.3 Passenger Rail Service Objectives

Current intercity passenger rail services are long-distance trains operated by Amtrak on rail lines owned by BNSF, therefore limiting Iowa's ability to directly impact specific service levels. At this point, there are no plans for changes in the frequency or routes of Amtrak services in Iowa. That noted, Iowa DOT is working on various fronts on potential new passenger rail corridor services and facilities supported at least in part by federal funding sources. These plans are discussed in Chapter 3 of the Iowa State Rail Plan — Proposed Passenger Rail Improvements.

Iowa DOT's *2009 Iowa Railroad System Plan* identified the following objectives that guide the agency as it continues its rail corridor planning efforts with Amtrak and other states. They are:

- ***Connect major cities in Iowa to each other, as well as to regional trade centers outside of Iowa.*** The present Amtrak system provides for daytime/early evening travel in the southern tier of the state, linking Iowans with West Coast and Chicago and intermediate markets. However, most of the state is without convenient rail service and rail linkages to major markets outside of Iowa. As Amtrak has no current plans to add new services, development of new rail services in new corridors will require Iowa's leadership to partner with other states and the freight railroads that will host such services. To this end, Iowa is engaged with the Midwest Regional Rail Initiative (MWRRI), involving nine Midwest states and the Federal Railroad Administration, which envisions implementing multiple multi-state corridors centered on Chicago. Iowa is investigating other new services with other states apart from the MWRRI.

- ***Maintain national long-distance routes served by Amtrak.*** The state is served by two Amtrak long distance trains accessed through six stations. These stations have improvement needs with regard to being compliant with the Americans with Disabilities Act of 1990 (ADA) as well as for maintaining a state of good repair. Amtrak services are striving to meet on-time performance goals and service quality goals. In the near term, Iowa will continue its role preserving services, monitoring service quality, and being an advocate for the improvement and expansion of its existing intercity rail passenger trains and stations.

- ***Link Iowa to other passenger rail corridors.*** While Amtrak provides linkages for Iowans via its long-distance intercity services, there are no short to medium distance passenger rail corridor services in the state. However, Iowa DOT has identified such services. These include east-west routes between Chicago and both the Quad Cities of Illinois and Iowa and Dubuque. These intercity corridor services could potentially be extended westward to Iowa City, Des Moines, Council Bluffs/Omaha, and Waterloo, Fort Dodge, and Sioux City, respectively. Additional development could potentially include two north-south routes between the Twin Cities of Minneapolis/St. Paul and Kansas City — one via Mason City and Des Moines and the other via Sioux City and Council Bluffs/Omaha.

- ***Provide transportation options to driving or flying for passengers in Iowa.*** New corridor trains could restore much of the north-south and east-west services that crossed the state through the 1950s, significantly enhancing the mobility of Iowans. Key for new passenger train development is ensuring that it is recognized as being competitive with automobile and air travel in terms of cost and journey time and thus attractive to users. The new services envisioned will all be on freight railroads. A prerequisite for gaining access to freight railroads' main lines for state-sponsored passenger trains will be public investments for capacity sufficient to ensure fluid and reliable operations for both passenger and freight trains.

- ***Serve major metropolitan areas.*** New rail corridor services will focus on Des Moines as the nexus of east-west and north-south trains. But they should also serve major markets that have been without rail service for decades, including Iowa City, Dubuque, Waterloo, and Sioux City. The envisioned passenger rail system will establish a network of trains serving intrastate markets and providing access to major metropolitan areas outside the state, including Chicago, Omaha, the Twin Cities, and Kansas City.

- ***Serve diverse constituency groups and their needs (universities, elderly, business travel, recreational travel).*** These constituencies are markets that can be well served by new passenger rail services in Iowa. Iowa will continue its outreach to these groups so that their transportation needs are understood so as to inform Iowa's development of attractive passenger rail services. The needs of each constituency vary. For example, the student market is more cost-sensitive than time-sensitive, while business travel is just the opposite. Corridor services in other regions of the country have crafted transportation products that meet these varying needs, including the California Corridor Services and the Cascades in the Pacific Northwest. Iowa is considering the lessons learned and best practices by such operations as it continues planning for its corridor services.

- ***Provide intermodal connections to transit, airports, bicycling, and walking.*** The average age of Americans is increasing, and young people are waiting longer to get their driver's licenses or are deciding not to purchase automobiles. Both trends speak to the need for people finding their ways to stations with less reliance on the automobile. Amtrak stations in Iowa have some transit connection, but most are on-demand type services rather than scheduled services that provide frequent and reliable connections to trains. Stations are in exurban environments not served by commercial airlines, with the exception of Burlington. Most stations are near downtown areas and provide relatively convenient access by cyclists and pedestrians. However, for the location of stations to serve new corridor trains, connections for scheduled transit, and to airports in larger cities, is a fundamental consideration for Iowa's rail planners, as is convenient access for bicyclists and pedestrians.

- ***Provide an opportunity for commuter rail service in Iowa's major metro areas.*** Commuter rail concepts have been researched for Des Moines and the Cedar Rapids — Iowa City area. Commuter rail service is typified by peak period, peak direction oriented trains. The service concepts were both explored in studies completed in 2000. The Cedar Rapids — Iowa City concept was revisited in 2006, and additional commuter analysis for the conceptual feasibility of passenger rail service in that corridor was completed in 2015. Both concepts envisioned operating commuter trains on existing freight railroad corridors. The proposed projects envision providing a good alternative to auto travel that promotes potential environmental benefits, including reduced air pollutants emissions, less land use, and fewer habitats and water resource impacts compared to expanding highways. Both projects envision enhanced mobility for Iowans and interconnectivity between transportation modes. These concepts are also discussed in Chapter 3.

2.1.4 Amtrak Performance Evaluation

This section provides an overview of the metrics associated with intercity rail passenger operations in Iowa. Where available it describes the ridership, operating, and financial results for these services. This section constitutes the extent of Iowa DOT's monitoring of Amtrak performance.

As noted earlier, Amtrak operates two long-distance intercity trains through Iowa. The performance characteristics for these trains are outlined below.

2.1.4.1 RIDERSHIP AND UTILIZATION

Passenger boardings and alightings at Iowa stations for both the *California Zephyr* and the *Southwest Chief* have declined in recent years, as seen in Table 2.6 below. In FY2014, the total number of passengers utilizing all six stations was 57,238. The *California Zephyr*, passing through southern tier of the state, stops at five stations and generates the majority of the ridership activity in the state. The *Southwest Chief* stops at just one station, Fort Madison.

Table 2.6: Annual Boardings and Alightings at Amtrak Stations in Iowa 2008 - 2014

CITY	2008	2009	2010	2011	2012	2013	2014
Burlington	7,283	7,487	8,744	7,285	7,646	8,811	8,813
Creston	4,444	4,831	4,803	4,229	4,531	4,621	4,314
Fort Madison	9,307	7,813	7,656	7,944	7,003	7,246	6,986
Mount Pleasant	14,422	15,176	16,063	13,034	13,634	12,613	12,030
Osceola	17,811	19,423	19,095	14,891	14,681	14,799	13,986
Ottumwa	10,993	11,556	12,383	10,497	11,674	11,735	11,109
Total Iowa Station Usage	64,260	66,286	68,744	57,880	59,169	59,825	57,238
Change Year over Year	3.1%	3.2%	3.7%	-15.8%	2.2%	1.1%	-4.3%
Total for *California Zephyr*	54,953	58,473	61,088	49,936	52,166	52,579	50,252
Change Year over Year	6.6%	6.4%	4.5%	-18.3%	4.5%	0.8%	-4.4%
Total for *Southwest Chief*	9,307	7,813	7,656	7,944	7,003	7,246	6,986
Change Year over Year	-13.8%	-16.1%	-2.0%	3.8%	-11.8%	3.5%	-3.6%

Source: Amtrak Fact Sheet, State of Iowa, Fiscal Years 2007 - 2014

Over its 2,438-mile route between Chicago and the San Francisco Bay Area, the *California Zephyr* carried 366,564 riders in FY2014, a 2.8 percent decrease over the previous year, as seen in Table 2.7 below[14]. Despite the inconsistency of annual ridership levels, the train's total ridership has risen 4 percent over the seven-year period from FY 2008. The largest single passenger rail market of the *California Zephyr* is between Denver and Chicago, accounting for 9.1 percent of total trips. Nearly three-quarters of the passengers are spread among dozens of smaller markets, each with less than 3 percent of the total ridership[15].

Over its 2,265-mile route between Chicago and Los Angeles, the *Southwest Chief* carried 352,162 riders in FY2014, a 1 percent decrease from the previous year. Again, despite the annual inconsistencies in ridership, the train's total ridership is up 6.3 percent over the seven-year period. The largest ridership markets for the *Southwest Chief* are Chicago — Los Angeles, Chicago — Kansas City and Albuquerque — Los Angeles, each accounting for 8 percent of total trips in FY2011[16].

By way of comparison, the respective 4 percent and 6.3 percent ridership increases in the above long distance

14 Ridership per train on average is 502 for the California Zephyr and 482 for the Southwest Chief.
15 Per PRIIA Section 210 FY12 Performance Improvements Plan, California Zephyr, Amtrak, September 2010.
16 Per PRIIA Section 210 FY12 Performance Improvements Plan, Auto Train, City of New Orleans, Coast Starlight, Empire Builder, Southwest Chief, Amtrak, September 2012.

services are lower than the 8.9 percent increase in Amtrak ridership for all of its long-distance trains over the period.

Table 2.7: Ridership for Amtrak Trains Serving Iowa and All Long Distance Trains 2008 - 2014

SERVICE	2008	2009	2010	2011	2012	2013	2014
California Zephyr	352,563	345,558	377,876	355,324	376,459	376,932	366,564
Change Year over Year	6.9%	-2.0%	9.4%	-6.0%	5.9%	0.1%	-2.8%
Southwest Chief	331,143	318,025	342,403	354,912	355,316	355,815	352,162
Change Year over Year	4.4%	-4.0%	7.7%	3.7%	0.1%	0.1%	-1.0%
Long Distance Trains	4,170,359	4,198,750	4,474,844	4,521,833	4,736,187	4,757,358	4,543,199
Change Year over Year	9.2%	0.7%	6.6%	1.1%	4.7%	0.4%	-4.5%

Source: Amtrak Monthly Performance Reports for September 2008 - 2014

Passenger-miles per train-mile is a measure of utilization generated by dividing service passenger-miles (moving one passenger one mile is one passenger-mile[17]) by route train-miles (moving a train one mile is one train-mile[18]). The measures for each service have changed only slightly over the periods studied, as seen in Table 2.8 below. Interestingly, the *Southwest Chief* has a greater utilization rate even though the *California Zephyr* carries more riders. This result is due to *Southwest Chief* riders taking slightly longer trips on average[19].

Table 2.8: Rolling Average, Passenger-Mile per Train-Mile for Amtrak Trains Serving Iowa

ROUTE	JULY 2011 - JUNE 2013	JULY 2012 - JUNE 2014
California Zephyr	173	172
Southwest Chief	188	187

Source: Amtrak Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations, 2014

2.1.4.2 FINANCIAL PERFORMANCE

Revenue and cost information by route is shown in Table 2.9 below. The revenue-to-cost or cost recovery ratio is calculated as follows: total ticket revenue, including ticket revenue and revenues from meals, on-board services, and other operating sources, divided by fully allocated operating costs. The ratio is a metric of the amount, by percentage, of each service's costs that are covered by revenues. Between 2009 and 2014, the cost recovery ratios for the *California Zephyr* and the *Southwest Chief* have been stable, varying in a range of from 42.5 percent to 48.2 percent. These performances, however, are noticeably lower than that of Amtrak's long distance trains overall, which generated a cost recovery in the range of 47.5 percent to 52.6 percent over the past six years.

Table 2.9: Financial Performance of Amtrak Trains Serving Iowa and All Long Distance Trains 2008 - 2014

SERVICE	2008	2009	2010	2011	2012	2013	2014
California Zephyr							
Revenue	$43.3	$43.1	$48.3	$49.8	$53.2	$55.7	$55.8
Operating Cost	n/a	$94.4	$100.8	$109.7	$121.9	$125.9	$115.8
Cost Recovery	n/a	45.7%	47.9%	45.4%	43.6%	44.2%	48.2%
Southwest Chief							
Revenue	$44.7	$41.2	$44.8	$48.0	$48.2	$49.1	$49.4
Operating Cost	n/a	$93.4	$103.2	$111.8	$113.3	$115.6	$108.9
Cost Recovery	n/a	44.1%	43.4%	42.9%	42.5%	42.5%	45.4%

17 Estimated passenger miles per trip are 418,992 for the California Zephyr and 425,820 for the Southwest Chief.

18 Train-miles per trip are the length of the routes, viz., 2,436 for the California Zephyr and 2,265 for the Southwest Chief.

19 Southwest Chief riders' average trip length calculates to 883 miles, whereas California Zephyr riders' average trip length calculates to 834 miles.

Long Distance Trains							
Revenue	$448.0	$443.0	$485.8	$518.5	$557.1	$568.8	$564.2
Operating Cost	n/a	$927.2	$1,019.2	$1,090.7	$1,132.2	$1,163.0	$1,071.7
Cost Recovery	n/a	47.8%	47.7%	47.5%	49.2%	48.9%	52.6%

Source: Amtrak Monthly Performance Reports for September 2008 - 2014

Note: Operating costs in 2008 were calculated differently from costs after 2008; cost and cost recover, therefore, are not shown for 2008.

2.1.4.3 ON-TIME PERFORMANCE AND CUSTOMER SATISFACTION

Amtrak defines on-time performance (OTP) as the total number of trains arriving on-time at a station divided by the total number of trains operated on that route. A train is considered on-time if it arrives at the final destination within an allowed number of minutes, or tolerance, of its scheduled arrival time. Tolerances vary based on how far trains travel.

OTP Annual Trend — The on-time performance of the two Amtrak services in Iowa since 2008 is shown in Table 2.10 below, along with the OTP of all Amtrak long distance trains over the seven-year period.

Table 2.10: On-Time Performance of Amtrak Trains Serving Iowa and of All Long Distance Trains 2008 - 2014

SERVICE	2008	2009	2010	2011	2012	2013	2014
California Zephyr	30.1%	59.7%	52.6%	41.5%	51.6%	57.5%	33.6%
Change Year over Year	19.9%	29.6%	-7.1%	-11.1%	10.1%	5.9%	-23.9%
Southwest Chief	65.4%	85.2%	79.1%	73.3%	75.3%	60.5%	44.8%
Change Year over Year	5.3%	19.8%	-6.1%	-5.8%	2.0%	-14.8%	-15.7%
Long Distance	54.2%	75.1%	74.6%	63.7%	70.7%	54.6%	40.0%
Change Year over Year	12.6%	20.9%	-0.5%	-10.9%	7.0%	-16.1%	-14.6%

Source: Amtrak Monthly Performance Reports for September 2008 - 2014

The on-time performance standard for long distance trains established by the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) is 80 percent. For the entire period, the *California Zephyr's* OTP performance has been significantly lower than the standard. After achieving an OTP exceeding the standard in 2009, the *Southwest Chief* has experienced a steady decline in OTP.

Cause of OTP Delays — Causes for Amtrak train delays can be attributed to a number of reasons. Table 2.11 below shows the leading causes of delay, by percentage of delay minutes, for the Iowa-serving routes as well as for all Amtrak long distance trains in September 2014. The single largest cause for delay for *California Zephyr* was train interference, as it was for all long-distance trains taken together. For the *Southwest Chief* no single cause stands out.

Table 2.11: Causes of Delay to Amtrak Trains Serving Iowa in September 2014

CAUSES OF DELAYS	ROUTES		
	CALIFORNIA ZEPHYR	*SOUTHWEST CHIEF*	LONG DISTANCE TRAINS
Train Interference	32.2%	20.5%	32.6%
Passenger Operations Related Delays	21.2%	25.7%	22.0%
Slow Orders	17.7%	26.0%	13.4%
All Other Freight Railroad Operational Delays	18.1%	18.5%	22.0%
All Other Delays	10.8%	9.4%	10.0%
Total Delays	**100.0%**	**100.0%**	**100.0%**

Source: Amtrak Monthly Performance Reports for September 2014

The following provides definitions of each type of causes of delay, as listed in the table above.

- ***Train Interference Delays*** are related to other train movements in the service area. These can be delays from freight trains as well as other Amtrak trains.
- ***Passenger Operating Delays*** are related to equipment turning and servicing, engine failures, passenger train holds for connecting trains and buses, crewing, and detours.
- ***Slow Orders*** are delays from reduced speeds to allow safe operation, generally due to track or bridge issues on routes over which the passenger trains operate.
- ***All other Freight Railroad Operational Delays*** are miscellaneous freight railroad delays and delays related to the railroad infrastructure and/or maintenance work being done on the tracks, bridges, or signaling systems.
- ***All Other Delays*** could include delays caused by the weather and non-railroad third-party factors such as customs and immigration, a bridge opening for waterway traffic, police activity, grade crossing accidents, or loss of power due to a utility company failure.

Customer Satisfaction Indicator — Amtrak's Customer Service Indicator (CSI) scores measure the satisfaction by passengers, on an 11-point scale, on particular aspects of their trip. For example, a CSI score of 80 means 80 percent of respondents rated the aspect of their trip in the top three of the 11 steps of the scale.

- ***Overall Service*** is the measure for the respondents rating for their overall trip experience.
- ***Amtrak Personnel*** is the measure for the respondents rating Amtrak reservations personnel, station personnel, train crew, and on-board service crew.
- ***Information Given*** is the measure for the respondents rating all information they received pertaining to their trip.
- ***On-Board Comfort*** is the measure for the respondents rating seat or sleeping compartment comfort, air temperature, and ride quality.
- ***On-Board Cleanliness*** is the measure for the respondents rating the cleanliness of the train and on-board restroom facilities.
- ***On-Board Food Service*** is the measure for the respondents rating the quality of the food and snacks purchased on-board the train.

Table 2.12 below shows the CSI averaged scores for the two services in Iowa for the first three quarters of FY2014 compared to Amtrak's standard. The Overall Service, Amtrak Personnel, and On-Board Comfort scores for the two services either exceeded or were close to the standard, but their remaining scores were noticeably substandard. The figures in red indicate CSI scores below standard.

Table 2.12: CSI Scores for Amtrak Trains for Three Quarters in 2014

FISCAL YEAR 2013	STANDARD	*CALIFORNIA ZEPHYR*	*SOUTHWEST CHIEF*
Overall Service	82	77	80
Amtrak Personnel	80	82	82
Information Given	80	70	72
On-Board Comfort	80	78	75
On-Board Cleanliness	80	61	61
On-Board Food Service	80	68	70

Source: Quarterly Report on the Performance and Service Quality of Intercity Passenger Train Operations, 2014

2.1.4.4 POSSIBLE IMPROVEMENTS FOR AMTRAK SERVICES

This section identifies and describes potential improvements for Amtrak services in Iowa.

2.1.4.4.1 California Zephyr

Amtrak's September 2010 report, *PRIIA Section 210 FY12 Performance Improvements Plan*, *California Zephyr*, pointed to implementation of Amtrak's Customer Service Excellence Program as a means to drive improvements to CSI scores. The program has four focus areas: personnel, equipment, food service, and stations. The program was to be implemented system wide to all routes. One key element to the program was the completion of the Customer Experience Research Program, which highlighted numerous areas for improvement, two of which were directly relevant for the *California Zephyr* improvements:

- ***Elevate customer comfort on-board the trains*** — Personal comfort is a prime reason travelers choose train travel.
- **Develop a culture of customer service** — Amtrak only performs as well as its employees. Customers want to be treated as though they are important.

Beyond the Customer Service Excellence Program, the 2010 report cited no service-specific improvements or initiatives.

However, In January 2010, the Federal Railroad Administration announced that the Iowa DOT was awarded a $17 million grant under the American Recovery and Reinvestment Act of 2009 (ARRA) for improvements to the BNSF's line that hosts the *California Zephyr*. The track improvements included installation of four high-speed crossovers in Iowa that have significantly reduced freight and passenger rail operating conflicts, congestion, and delays. Indeed, for FY 2015, the train's on-time performance at all stations increased to 42.8 percent versus 33.6 percent for the previous year.

2.1.4.4.2 Southwest Chief

Amtrak's September 2012 report, *PRIIA Section 210 FY12 Performance Improvements Plan, Auto Train, City of New Orleans, Coast Starlight, Empire Builder, Southwest Chief*, identified numerous possible improvements for the *Southwest Chief*. These potential improvements could improve connectivity and service to Iowa, and included:

- ***Newton-Wichita-Oklahoma City Thruway Bus*** — This concept would provide a link between the *Southwest Chief* in Newton, Kansas, and the *Heartland Flyer* in Oklahoma City, Oklahoma. The *Heartland Flyer* provides daily service between Oklahoma City and Fort Worth, Texas. Due to the performance reliability of the *Southwest Chief* and *Heartland Flyer*, the Thruway service is estimated to work smoothly and successfully in connecting both trains.
- ***Premium Express Contracted Pallet Service between Chicago and Los Angeles*** — This concept would provide for a small-scale shipment of six pallets per trip loaded into the train's existing baggage car between Los Angeles and Chicago. No incremental labor or capital costs are anticipated. Incremental revenue would amount to an estimated $284,000 per year.
- ***Southwest Chief Food Service Adjustments*** — Given that trains often arrive in Los Angeles an hour earlier than scheduled (8:15 AM), passengers' time for breakfast is compressed, as it is for dining car crews preparing, serving, and clearing meals. The concept of the adjustments was to switch from a conventional sit-down breakfast to a continental breakfast, which would minimize food preparation as well as free up seating, as passengers will not have to wait for their meals to be cooked and brought to them and thus remain in their table seats for longer periods.
- ***Schedule Improvements*** — Minor schedule adjustments were contemplated to help improve all stations' and overall on-time performance.

Other initiatives, common to all of the services reviewed, were:

- ***Modify the Seat Pitch on Superliner Coaches*** — The concept is to reduce seat pitch from 50-52 inches to 46-48 inches, allowing for 4 or 6 additional seats, and thus generating more revenue.
- ***Modify the Current Superliner Transition Sleeping Car*** — This concept is to add 11 additional sleeping rooms for sale. Most will be on the lower level where a largely unused lounge space will be converted into four roomettes, one Family Room, and one ADA Accessible room. Also five rooms for sale will be added on the upper level: four from the Business Travel group and one from the conversion of the Conductor Room. The Conductor's Room will be relocated to the former Chief's Room, thereby maintaining and Amtrak crew work area.
- ***Customer Service Performance Metrics Integrator Program*** — This program is a business intelligence system that tracks information on an individual crew and train level, with monthly reports that compare a route's performance by crew and crew member. The goal is to encourage positive competition between

crew couplets, build teamwork, and identify crew couplets needing additional management coaching. The ultimate goal is an improvement in the personnel-related CSI scores.

2.1.4.5 RECENT-YEAR IMPROVEMENTS AT AMTRAK STATIONS

Amtrak's 2009 *A Report on Accessibility and Compliance with the Americans with Disabilities Act of 1990* identified station ADA compliant and State-of-Good-Repair improvement needs amounting to $11.2 million for the six Iowa Amtrak stations. Of this amount, $2.3 million was for structures, $5.7 million for platforms, and $3.2 million for pathways.

Since that time, Amtrak has made some improvements, according to the annual Amtrak Fact Sheet for Iowa. In 2009 Amtrak installed a new information kiosk, providing train schedules, ticketing, safety and security information, and an enhanced level of Amtrak brand visibility at the Osceola station. Further, exterior stabilization and rehabilitation work began at the station, which was completed in 2010.

According to the Great American Station project[20], the Friends of the Depot, a volunteer group committed to restoring the Burlington station, organized work days in 2011 and 2012, during which volunteers painted the depot's exterior trim and caulked windows using funding donated by Amtrak. Local businesses either donated supplies or offered deep discounts to support the renovation effort. In addition, with monies that Amtrak received under the American Recovery and Reinvestment Act of 2009, the depot received a new wheelchair lift and enclosure in 2010. Platform signage was updated in 2011.

Furthermore, the Great American Station project reported that the Creston depot received a new wheelchair lift, enclosure, and pad in 2010. In addition, a new sidewalk and curb cut were installed from the parking area to the platform.

Using funds received under the American Recovery and Reinvestment Act of 2009, Amtrak installed a new wheelchair lift and enclosure at the Mount Pleasant station in 2010.

2.1.5 Public Financing for Rail Projects and Services

Iowa DOT, as well as a number of local public agencies in the state, has utilized federal and state transportation funding programs for rail infrastructure improvements where they were eligible. The following is a short summary of state and federal rail funding resources utilized for railroad improvements in Iowa in the recent past.

2.1.5.1 STATE-SPONSORED RAIL INVESTMENT PROGRAMS

State-sponsored rail investment in Iowa has been provided through the Iowa DOT since the mid-1970s. DOT's Office of Rail Transportation oversees the rail assistance programs described below.

2.1.5.1.1 Railroad Revolving Loan and Grant Program

The Railroad Revolving Loan and Grant (RRLG) Program provides financial assistance to improve rail facilities that will create jobs, spur economic activity, and improve the rail transportation system in Iowa. Assistance is available in the following three categories:

- ***Targeted job creation.*** These rail projects are those that provide immediate, direct job opportunities. Loans and grants are available. Grant funding is contingent on job creation and retention commitments by the applicant and loans can supplement grants if the project cost exceeds that available in grant funding. A local match is required for both grants and loans.
- ***Rail network improvement.*** These rail projects are those that support existing rail lines and service or improve industrial access when no direct job creation is involved. Only loans are available in this category. Loans will be offered at 0 percent for a ten-year term. Loan requests require a 20 percent matching contribution.

20 *http://www.greatamericanstations.com/Stations/BRL*

- ***Rail Port Planning and Development.*** Grants of up to $100,000 are available for planning studies that enable a community, county or region to make fact based decisions concerning the location, design or funding requirements for a rail port facility. The end result of a planning study should help decision makers evaluate rail development options that support industrial and business progress and economic growth in the community and region. Grant requests require a 20 percent matching contribution.

The RRLG program is funded from loan repayments and state appropriations. The amount of funding availability varies.

Projects are approved by the Iowa Transportation Commission (ITC).

In 2015, the ITC approved almost $1.3 million for five rail infrastructure and related rail development projects under RRLG. The projects are:

- Phase I of the Boone and Scenic Valley Industrial Park Line ($316,050 loan, $240,000 grant);
- The Iowa Traction Transload project ($35,792 loan, $59,653 grant);
- A to Z Rail Enhancement ($200,000 loan);
- The ADM "S" Curve project ($165,600 loan); and,
- The KJRY Yard Enhancements II project ($280,285 loan).

2.1.5.1.2 Highway-Railroad Grade Crossing Safety Program

Administered by the state, this federally funded program provides financial assistance to improve highway-railroad crossings. Approved projects are 90 percent federally funded with 10 percent provided by the railroad and/or highway authority. Funds are used to install new crossing signal devices, upgrade existing signals, improve crossing surfaces, and provide low-cost improvements such as increased sight distance, medians, widened crossings, increased signal lens sizes, or to close crossings.

Project approval and funding is determined by a cost-benefit analysis that considers costs, estimated benefits, and the severity of crash risk at the selected location. Projects must be approved by Iowa DOT and the Iowa Transportation Commission (ITC) before being placed in the Statewide Transportation Improvement Program (STIP). Annual funding is approximately $5.7 million. Projects identified for the short-range are noted in Chapter 5 of the State Rail Plan, the Rail Service and Investment Program.

2.1.5.1.3 Highway-Railroad Grade Crossing Surface Repair Program

This state-funded program assists rail operators and governmental jurisdictions in maintaining a safe and smooth crossing surface at highway-railroad grade crossings. Applications for funding must be initiated by the highway jurisdiction and approved by the railroad. The fund will support 60 percent of project costs with the remainder coming from the railroad (20 percent) and public road jurisdiction (20 percent). Projects are approved by Iowa DOT and the ITC. The annual funding level is $900,000, appropriated from the Road Use Tax Fund.

2.1.5.1.4 Primary Road Highway-Railroad Grade Crossing Repair Program

This state-funded program assists with surface improvements at highway-rail crossings on the Primary Road System. This program is unique in that railroads and Iowa DOT partner in cost, labor, and equipment to rehabilitate crossings on these higher volume highways. The program is administered by the Iowa DOT's Office of Rail Transportation.

2.1.5.1.5 Iowa Highway Grade Crossing Safety Fund

This state fund has covered a portion of maintenance costs for traffic control devices, activated by the approach or presence of a train (such as flashing light signals, flashing light signals with cantilever assemblies, and flashing light signals with automatic gate arms), installed under the Highway-Railroad Crossing Safety Program since 1973. The annual funding level is $700,000. The fund is administered by Iowa DOT.

2.1.5.1.6 LIFTS Program

The Linking Iowa's Freight Transportation System Program (LIFTS) seeks to address gaps in multimodal funding to assist in bolstering the freight transportation system. LIFTS grant funding is not limited to a particular mode of transportation, but is designed to assist projects that contribute to effective and efficient freight transportation. Examples of projects could include transload facilities, port-rail improvements and other projects that increase capacity, efficiency or connections between modes. Project applications were solicited in 2015 for available funding of $2.6 million, which expended available funding. A legislative appropriation will be needed for future funding rounds.

In 2016 the Iowa Transportation Commission approved more than $2.6 million in grant funding for six transportation infrastructure-related development projects under the LIFTS program. The following is a list of LIFTS projects approved by the ITC:

- Port of Muscatine ($80,000)
- Standard Distribution Company ($584,000)
- Hall Towing Inc. ($479,000)
- Iowa Traction Railway Propane Terminal ($544,000)
- Council Bluffs Transload Facility ($500,000)
- Eastern Iowa Logistics Park ($500,000)

2.1.5.2 FEDERAL RAIL-RELATED PROGRAMS AND FUNDING

This section identifies and describes federal rail-related programs and funding. Federal transportation funding to states is periodically authorized through Federal Surface Transportation Acts. Transportation funding is provided to states through apportionment by formula or discretionary funding for various programs.

The recently approved Federal Surface Transportation Act, the Fixing America's Surface Transportation (FAST) Act, is a five-year program to improve the nation's transportation infrastructure, including roads, bridges, transit systems, and rail transportation network. The bill provides for a total of $305 billion in funding over the period.

The FAST Act places major emphasis on freight investments to be supported by the Highway Trust Fund by creating a new National Freight Program funded at an average of $1.2 billion per year to be distributed to states by formula. Non-highway projects eligible to receive these funds include rail-highway grade separation and intermodal transfer and access projects.

Title XI of the FAST Act, also known as the Passenger Rail Reform and Investment Act of 2015 (PRRIA), provides for $5.5 billion to be spent on the national intercity rail network outside the Northeast Corridor. Funding for this program, as well as another $2.2 billion for FRA grant programs, however, are dependent on annual Congressional budget appropriations. No passenger appropriations were passed for the first year of the program. The following is a brief description of rail-eligible programs available through PRIIA, as well as past and current Federal Surface Transportation Acts, and Iowa's participation where applicable.

2.1.5.2.1 PRIIA Capital Assistance Programs

In 2008, the Passenger Rail Investment and Improvement Act (PRIIA) and related appropriation bills provided funds directly to states for intercity rail passenger investments. In early 2009, the American Recovery and Reinvestment Act (ARRA) also provided flexible transportation funding to states for rail capital projects as well as funding for passenger rail development.

The following section provides a brief history of these programs and federal budget appropriations which were specifically available for rail assistance as well as other programs that have been utilized or may be eligible for future rail-related applications

Passenger Rail Investment and Improvement Act (PRIIA)

This legislation authorized over $13 billion between 2009 and 2013 for Amtrak and promoted the development of new and improved intercity rail passenger services. The act also established an intercity passenger rail capital grant program, the High Speed Intercity Passenger Rail Program (HSIPR) for states. States were required to identify passenger rail corridor improvement projects in their state rail plans.

Federal funding authorized under PRIIA or other authorization programs were required to be appropriated in annual budget or other legislative bills. USDOT's last budget appropriation for the high-speed rail state grant programs was for Federal Fiscal Year (FFY) 2010 (October 1, 2009 through September 30, 2010) and provided $2.5 billion of funds authorized under PRIIA. These funds were provided to states, on a competitive basis, for up to 50 percent of the capital cost of improving intercity rail passenger service.

Previous USDOT appropriation acts also provided funding that could be utilized for intercity rail passenger improvements under similar terms. The FFY 2008 USDOT Appropriations Act provided $30 million to states. The FFY 2009 USDOT Appropriations Act provided $90 million to states. No appropriations for high-speed rail grants were included in subsequent federal budgets, and PRIIA authorizations expired on September 30, 2013.

HSIPR funding received by Iowa includes:

- A grant of $1.0 million for planning, engineering, and environmental analysis to support new intercity passenger service between Chicago and Council Bluffs/Omaha via the Quad Cities of Illinois and Iowa, Iowa City, and Des Moines.
- A grant of $400,000 to develop new transportation forecasting and analysis software to support the Statewide Travel Demand Model-Rail Component of Iowa's State Rail Plan

American Recovery and Reinvestment Act (ARRA)

As a result of the economic recession of 2008, the federal government approved the ARRA (Public Law 111-5) in February 2009 to stimulate the economy partly through the funding of infrastructure projects that could be initiated in the short term.

Grants awarded to Iowa DOT through ARRA include a grant of $17.3 million under the HSIPR for the construction of four new track crossovers on the BNSF Ottumwa Subdivision necessary to significantly reduce delays on Amtrak's long-distance *California Zephyr* service. In addition, ARRA regulations allowed Iowa to "flex" $5 million of highway funding received from ARRA for rail-related improvements.

Transportation Investment Generating Economic Recovery Program (TIGER)

A popular program established under ARRA is the Transportation Investment Generating Economic Recovery (TIGER) program, which provides grants for capital investment in rail, highway, bridge, public transportation, and port projects and is awarded by USDOT on a competitive basis. USDOT has held or scheduled eight rounds of TIGER applications since 2010. Following the sunset of ARRA in 2013, subsequent TIGER programs were funded through annual appropriation acts.

Iowa DOT has received a number of TIGER grants for projects in Iowa. These include:

- A grant of $10.0 million to construct the second phase of the Des Moines Multi-Modal Hub. This facility in downtown Des Moines functions as a central location for public transportation service, including potential future passenger rail services.
- A grant of $1.0 million to fund planning and design work for a viaduct that will span several railroad tracks and intersecting roadways in Sioux City. The project will improve safety for residents by replacing at least two at-grade crossings as well as improving rail switching

2.1.5.2.2 Federal Surface Transportation Rail-Related Programs

Highway Safety Improvement Program (HSIP)

This program is a core federal-aid funding program with the goal of achieving a significant reduction in traffic fatalities and serious injuries on all public roads. Funding from this program can be set aside for the purpose of reducing the number of fatalities and serious injuries at public highway-railway crossings through the elimination of hazards and/or the installation/upgrade of protective devices at crossings (Section 130 funding). The federal funding share for this program is 90 percent. Iowa receives approximately $5.0 million annually through this program which is described under the state-sponsored Railway-Highway Crossing Safety Fund.

Rail Line Relocation Program
This program provided grants to be awarded for construction projects that improve the route or structure of a rail line for either the purpose of mitigating the adverse effects of rail traffic on safety, motor vehicle traffic flow, community quality of life, or economic development or for the lateral or vertical relocation of any portion of the rail line. Funding for this program was last appropriated in FFY 2011.

Iowa localities have received the following grants through this program:

- A grant of $237,500 for Southeast 44th Avenue railroad crossing improvements in Des Moines.
- A grant of $2.0 million to construct the new Southbridge Rail Yard in Sioux City to alleviate traffic congestion and trains blocking grade crossings, as well as to enhance the efficiency of railroad switching operations.

Rail Rehabilitation and Improvement Financing (RRIF)
This program provides loans and credit assistance to both public and private sponsors of rail and intermodal projects. Eligible projects include acquisition, development, improvement, or rehabilitation of intermodal or rail equipment and facilities. Direct loans can fund up to 100 percent of a capital project with repayment terms of up to 25 years and interest rates equal to the cost of borrowing to the government.

Eligible borrowers include railroads, state and local governments, government sponsored authorities, corporations, and joint ventures that include at least one railroad.

Railroads operating in Iowa which have received RRIF funding include the Dakota, Minnesota & Eastern Railroad (DM&E), a subsidiary of the Canadian Pacific Railway (CP); Iowa Interstate Railroad (IAIS); and Iowa Northern Railway (IANR).

Railroad Rehabilitation and Repair (Disaster Assistance) Program
This program provided the US Secretary of Transportation funding for necessary expenses to make grants to repair and rehabilitate Class II and Class III railroad infrastructure damaged by hurricanes, floods, and other natural disasters. These funds covered up to 80 percent of the project costs. Due to flood damage in Iowa, the following grants were awarded in 2009:

- $6.965 million for restoration of a bridge and signals on the Cedar Rapids and Iowa City Railway in the Cedar Rapids Area;
- $459,200 for restoration of the Keokuk Junction Railway Yard in Keokuk; and,
- $2.175 million for replacement of the Iowa Northern Railway's bridge over the Cedar River in Waterloo.

Additional funding was awarded in 2011 and 2014 to repair rail infrastructure damaged by floods and to address flood mitigation, as follows:

- $2.236 million to Iowa Northern Railway (2011)
- $566,400 to Iowa Interstate Railroad (2011)
- $44,771 to Burlington Junction Railway (2011)
- $760,926 to Cedar Rapids and Iowa City Railway (2014)
- $407,024 to Iowa Northern Railway (2014)
- $76,623 to Iowa Interstate Railroad (2014)
- $47,857 to Keokuk Junction Railway (2014)

Railroad Safety Grants for the Safe Transportation of Energy Products by Rail Program
This program provides $10 million in discretionary funding for public and private railroad grade crossing

projects that improve safety on rail routes that transport flammable energy product. Iowa DOT has applied for funding under this program but has not received a grant.

2.1.5.2.3 Federal Surface Transportation Programs with Selected Rail Applications

In addition to the above programs, a number of additional programs, although primarily intended for highway use, are eligible for rail projects at the discretion of states and with the approval of the administering federal agency. These programs include:

National Highway System Program

This program can be utilized to improve designated highway intermodal connectors between the National Highway System (NHS) and intermodal facilities, such as truck-rail transfer facilities. The federal share of NHS funding is 80 percent.

Congestion Mitigation and Air Quality Improvement Program

This program funds transportation projects and programs that improve air quality by reducing transportation-related emissions in non-attainment and maintenance areas for ozone, carbon monoxide, and particulate matter. Examples of Congestion Mitigation and Air Quality (CMAQ)-funded rail projects include the construction of intermodal facilities, rail track rehabilitation, diesel engine retrofits and idle-reduction projects in rail yards, and new rail sidings.

CMAQ funds are disbursed to and within a state based on levels of pollution within an area, with the state or the region utilizing the funds to implement projects that reduce congestion or improve air quality. Projects must be included in MPO transportation plans and transportation improvement programs (TIPs) or the current state transportation improvement program (STIP) in areas without an MPO. The federal matching share for these funds is 80 percent.

Surface Transportation Program

The Surface Transportation Program (STP) is a general grant program available for improvements on any Federal-Aid highway, bridge, or transit capital project. Eligible rail improvements include lengthening or increasing vertical clearance of bridges, crossing eliminations, and improving intermodal connectors, which are roads that provide access between major intermodal facilities. Project funding decisions are made by states with approval from the FHWA. The federal share for these funds is 80 percent.

Transportation Infrastructure Finance and Innovation Act (TIFIA)

This program provides credit assistance to large-scale projects (over $50 million or one-third of a state's annual federal-aid funds) of regional or national significance that might otherwise be delayed or not constructed because of risk, complexity, or cost. A wide variety of intermodal and rail infrastructure projects are eligible and can include equipment, facilities, track, bridges, yards, buildings, and shops. Eligible recipients for TIFIA funds include state and local governments, transit agencies, railroad companies, special authorities or districts, and private entities. The interest rate for TIFIA loans is the U.S. Treasury rate, and the debt must be repaid within 35 years.

Transportation Alternatives Program

This program, which replaced the SAFETEA-LU Transportation Enhancement Program, offers funding opportunities to expand transportation choices and enhance the transportation experience through 12 eligible activities related to surface transportation. Eligible rail-related activities include the rehabilitation of historic transportation buildings or facilities, the preservation of abandoned rail corridors, and the establishment of transportation museums. The federal share of project costs is 80 percent.

2.1.5.2.4 Other Federal Programs and Mechanisms Available for Rail-Related Funding

In addition to transportation programs available under the Transportation Authorization bill, other programs are administered by federal agencies for which rail-related capital projects are eligible. These programs include:

U.S. Department of Commerce Economic Development Administration

The U.S. Department of Commerce provides Economic Development Administration (EDA) grants for projects in economically distressed industrial sites that promote job creation. Eligible projects must be located within EDA-designated redevelopment areas or economic development centers. Eligible rail projects include railroad spurs and sidings. EDA also provides disaster recovery grants. Grant assistance is available for up to 50 percent of the project, although EDA could provide up to 80 percent for projects in severely depressed areas.

Recent EDA rail-related grants provided to Iowa localities include:

- A $7.1 million grant to the city of Coralville to help make rail corridor improvements, including developing higher surface elevations and flood-proof construction to protect area businesses from future flood events.
- A $5.5 million grant to help build the Northern Cedar Falls Industrial Park. The project includes extension of required utilities, road upgrades, rail spur design and construction, and an access roadway.
- A $6.7 million grant to the city of Davenport and the Greater Davenport Redevelopment Commission to help build a transload facility to handle the movement of goods between rail and truck for businesses utilizing the I-80 Airport Industrial Park.
- A $551,459 grant to Sioux City to provide flood-protected access for the Sioux Southbridge Business Park.

U.S. Department of Agriculture Programs

The U.S. Department of Agriculture (USDA) Community Facility Program and Rural Development Program provide grant or loan funding mechanisms to fund construction, enlargement, extension, or improvement of community facilities providing essential services in rural areas and towns. Grant assistance is available for up to 75 percent of the project cost. Eligible rail-related community facilities include transportation infrastructure for industrial parks and municipal docks.

The 45G Short Line Railroad Tax Credit

Originally enacted in 2004, the Railroad Track Maintenance Tax Credit, also known as the Section 45G Tax Credit, was a federal income tax credit for track maintenance performed by short lines and regional railroads (Class II and III railroads) in the U.S. Tax Code Section 45G leveraged private sector investment in rail infrastructure by providing a tax credit of 50 cents for every dollar spent on qualified track maintenance expenditures or other qualifying railroad infrastructure projects. The credit was capped based on a mileage-based formula; the maximum amount allowable was $3,500 per mile of track.

The credit created a strong incentive for short line and regional railroads to invest private sector dollars on freight railroad track rehabilitation. Recent legislation extended Section 45G for tax years 2015 and 2016.

Per Section 45G, qualifying railroad structures improvements include: grading; other right-of-way expenditures; tunnels and subways; bridges, trestles, and culverts; elevated structures; ties; rails and other track material; ballast; fences, snow sheds, and signs; signals and interlockers; public improvements and construction. Qualified railroad track maintenance expenditures are expenditures for maintaining the aforementioned qualifying railroad structures owned by short line and regional railroads.

2.1.6 Ongoing Projects for Safety and Security Improvements

Rail safety is an important issue for both railroads and state departments of transportation. Rail safety affects the well-being of railway workers and the general public. It also has a major impact on the efficiency of railroad operations. Increased attention has also focused on the safe movement of hazardous materials by rail, especially the movement of crude oil.

Rail security has seen increased attention due to the potential for disruption of the transportation system or acts which could place large numbers of citizens at risk.

This section describes rail safety and security efforts in Iowa.

2.1.6.1 RAIL SAFETY PROGRAMS IN IOWA

Rail safety requirements are provided through a combination of federal and state laws. Most safety-related rules and regulations fall under the jurisdiction of the Federal Railroad Administration (FRA), as outlined in the Rail Safety Act of 1970 and other legislation, such as the most recent Rail Safety Improvement Act of 2008. FRA's rail safety regulations can generally be found in Title 49 Code of Federal Regulations Parts 100-299.

Iowa DOT's involvement in rail safety is located within the Office of Rail Transportation which is responsible for railroad coordination activities, track safety inspection, and the grade crossing safety program.

This office oversees the federally funded Highway-Railroad Grade Crossing Safety Programs by identifying and funding safety enhancement projects at public highway-rail grade crossings. The state funded Highway-Railroad Grade Crossing Surface Repair Program and Primary Grade Crossing Repair Program provides funding for safe and smooth grade crossings. Projects receive final approval by the Iowa Transportation Commission.

Iowa Operation Lifesaver, established in 1972, is a non-profit educational organization for highway-rail crossing safety and rail trespass prevention. Operation Lifesaver promotes safety through education of both drivers and pedestrians to make safe decisions at crossings and around tracks, promoting enforcement of traffic laws related to crossing signals and trespass, and by encouraging continued engineering research and innovation to improve the safety of railroad crossings. The Iowa DOT has a liaison that works with the state-wide Operation Lifesaver coordinator.

Rail inspection activities fall under the jurisdiction of FRA's Office of Railroad Safety which promotes and regulates safety throughout the nation's railroad industry. The office executes its regulatory and inspection responsibilities through a diverse staff of railroad safety experts. Safety inspections are carried out to ensure compliance in five safety disciplines: Hazardous Materials; Motive Power and Equipment; Operating Practices; Signal and Train Control; and Track.

Iowa DOT provides two federally certified track inspectors to supplement and coordinate with FRA inspectors.

In 2012, Iowa DOT published its Highway-Rail Grade Crossing Action Safety Plan for a five-year period 2012-2016. Because Iowa's collision experience ranked in the top 10 states for the years 2006 through 2008, the state was mandated by 49 CFR Part 23, "State Highway-Rail Grade Crossing Action Plans" to submit an action plan to the FRA promote safety at highway-rail grade crossings. The resulting plan included specific solutions for improving safety through new or expanded educational, enforcement, and engineering programs, as well as new incentives for crossing closures; it also included a focus on crossings that have experienced multiple accidents.

In April 2016, Iowa DOT released a study about crude oil and biofuels railroad transportation incident response preparedness within Iowa. The Iowa Crude Oil and Biofuels Rail Transportation Study was developed to serve as a tool to assist Iowa's state, local, and tribal governments to determine the status of risks and vulnerabilities; prevention methods and programs; and preparedness, response, and recovery capabilities for crude oil and biofuels railroad transportation incidents in Iowa. The geographic, administrative, and operational areas identified in the report were assessed for risks, vulnerabilities, programs, and capabilities. Results of the assessments were used to identify challenges and to form recommendations to reduce risk and vulnerability through policy change, planning, training and education, communication, and other actions.

The Study examined the commodities of crude oil and biofuels that are being transported by railroads in bulk volumes in and through Iowa. The Study used desktop research, interviews and surveys, a Stakeholder Steering Committee (SSC), and workshops to gather and assess information, develop findings, form recommendations, and design an action plan. Desktop research used public sources to assess current practices, regulations, risks, and vulnerabilities. Interviews and surveys were used to focus on the capabilities, practices, and programs of railroads, ethanol shippers, first responders, and federal, state, and local agencies. In addition, a SSC was assembled and was comprised of Iowa railroads, ethanol shippers/producers, government agencies, and emergency response personnel/first responders. Together these groups participated in workshops that were used to present findings, discuss gaps, develop strategies to close gaps, to refine recommendations, and to develop implementable action plans.

Additionally, a Risk and Vulnerability Assessment (RVA) conducted for the Study considered current bulk crude oil and ethanol transportation routes and volumes, recorded previous incidents including main track derailments, spills, and fires, likelihood of future incidents, key public safety and environmental risk factors, and potential impacts from those incidents. These quantities were used to derive an aggregate value for risk. The RVA was constructed as a building block process on a county-by-county basis, using various factors, such as length of railroad segments carrying crude oil or ethanol within a county, volume of rail traffic, and populations, critical facilities, and environmentally important segments within an identified hazard area. The individual factors were analyzed to determine and overall risk for a given county. In addition, all risk assessment results are based on methodology designed specifically for the State of Iowa using Iowa-specific data, statistics, and conditions.

The Study then combined all of the results from research, interviews, SSC meetings, and the RVA to create a summary of findings, recommendations, and improvement actions. These recommendations were developed using feedback from stakeholders, Iowa DOT, and Iowa Homeland Security and Emergency Management (HSEMD). Improvement actions were guided by several principles:

- Cooperation and voluntary action by stakeholders would be the preferred methods, instead of new regulation requiring legislative action at the state or federal level.
- Proposed improvements would be implementable within the near term, and would be practical and meaningful.
- Proposed improvements would work within existing commercial, economic, regulatory, and technological parameters.
- Proposed improvements would be amenable to tracking to enable measurement of improvement and the efficacy of actions.
- Where feasible, improvements would extend to other hazardous commodities transported by rail in or through Iowa.

Detailed findings, recommendations, and improvement actions are presented in Iowa Crude Oil and Biofuels Rail Transportation Study Executive Summary included in Appendix B of the Iowa State Rail Plan.

2.1.6.2 IOWA RAIL ACCIDENT STATISTICS

The following is a statistical review of rail safety in Iowa over the past decade. It addresses the rail accident and incident trends and provides details as to the type of rail accidents, those affected, and causes.

Table 2.13 below shows statistics for the total number of rail accidents and incidents in Iowa over the past 10 calendar years. These totals include Train Accidents, Highway-Rail Incidents, and Other Incidents. These categories will be defined and discussed in greater detail below.

Table 2.13: Total Accidents and Incidents in Iowa (2005-2014)

RAIL INJURY TYPE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Incidents	275	252	283	267	187	208	195	167	163	164
Deaths	10	8	12	7	10	5	11	7	13	9
Injuries	166	125	153	160	101	119	122	88	96	98

Source: FRA Office of Safety Analysis.

The trend in total rail accidents and incidents in Iowa has decreased over the past decade. The first half of the decade saw an average of 253 total incidents, 9.4 fatalities, and 179 injuries, while the most recent five-year period saw averages of 179 total incidents, 9.0 fatalities, and 105 injuries.

The following sections discuss the various types of Iowa rail accidents and incidents in more detail.

2.1.6.2.1 Train Accidents in Iowa

Train accidents include train derailments, collisions, and other events involving on-track rail equipment that result in fatalities, injuries, or monetary damage above a threshold set by FRA[21]. Train accident statistics in Iowa over the past decade are provided in Table 2.14 below.

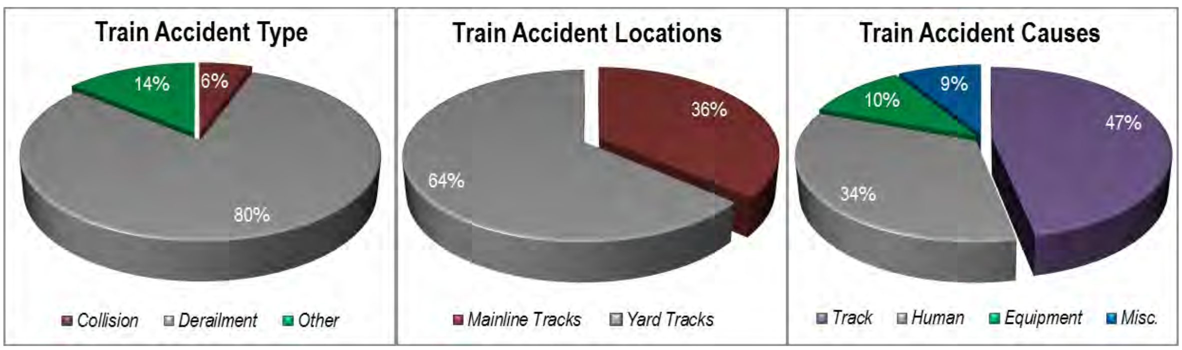
Table 2.14: Total Train Accidents in Iowa (2005-2014)

TRAIN ACCIDENTS	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Accidents	76	82	73	68	51	55	59	51	40	34
Deaths	0	0	0	0	2	0	2	0	0	0
Injuries	7	2	2	7	1	0	6	1	3	0

Source: FRA Office of Safety Analysis.

Figure 2.14 below provides more detailed information regarding the type, location, and causes of the train accidents over the past decade.

Figure 2.14: Train Accident Type/Locations/Causes in Iowa (2005-2014)



Source: FRA and CDM Smith

In the above illustration, rail derailments are shown to have been the dominant type of rail accidents in the state over of the past 10 years. Also, most rail accidents occurred on yard tracks as opposed to main line tracks. Lastly, track defects and human error were the leading causes of train accidents over the past decade, while equipment defects and miscellaneous causes comprised lesser shares of rail accidents in the state.

2.1.6.2.2 Other Rail Incidents

Other rail incidents include events other than train accidents or crossing incidents that caused a death or injury to any person. Most fatalities in this category are due to rail trespassers. Other events which generally lead to injuries in this category include such railroad-related activities as getting on or off equipment, doing maintenance work, throwing switches, setting handbrakes on railcars, falling, and so on. Rail passenger-related casualties can include boarding or alighting from standing trains or platforms. Statistics for this category of rail incidents are shown in Table 2.15 below.

Table 2.15: Other Rail Incidents 2005-2014

OTHER RAIL INCIDENTS	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Incidents	122	101	128	127	84	98	95	73	74	79
Deaths	4	2	5	2	4	1	7	2	8	2
Injuries	127	103	124	128	81	99	92	71	68	81

Source: FRA Office of Safety Analysis.

In recent years the trend has shown a decrease in the number of total incidents and injuries for this category

21 *In 2014, the monetary threshold was $10,500. The threshold is adjusted yearly to ensure the threshold accurately reflects cost increases that have occurred within the railroad industry.*

of rail incidents.

2.1.6.3 HIGHWAY-RAIL AT-GRADE CROSSING SAFETY IN IOWA

2.1.6.3.1 Crossing Protection in Iowa

According to FRA's inventory of at-grade crossings, there are a total of 4,331 public at-grade highway-rail crossings in Iowa. In addition, there are also 745 crossings that are grade separated. Public at-grade crossings in the state have various levels of grade crossing warning devices. Table 2.16 below shows the type of warning equipment and the number of crossings equipped with each. The warning devices are shown in a decreasing order of warning effectiveness.

Table 2.16: Types of Warning Devices at Iowa Public At-Grade Crossings

WARNING DEVICE TYPE	GATES	FLASHING LIGHTS	BELLS	SPECIAL WARNING	STOP SIGNS	CROSS BUCKS	OTHER	NONE
Number of Crossings	1,010	794	19	19	423	2,042	2	20

Source: FRA Office of Safety Analysis.

These figures show that slightly less than half of all public at-grade crossings in the state have active warning devices such as gates, flashing lights, and bells or special warning arrangements (e.g., flagmen), while more than half of crossings have passive warning devices (e.g., cross bucks and / or stop signs) or no warning systems. Many of the crossings with passive warning systems have low volumes of roadway traffic and are rural in nature.

In addition to public at-grade crossings, there about 2,500 private crossings in the state. Private crossings are outside the jurisdiction of Iowa DOT.

2.1.6.3.2 At-Grade Crossing Incidents in Iowa

Table 2.17 below shows the number of highway-rail grade crossing incidents, fatalities, and injuries which have occurred at all public at-grade crossings over the past decade.

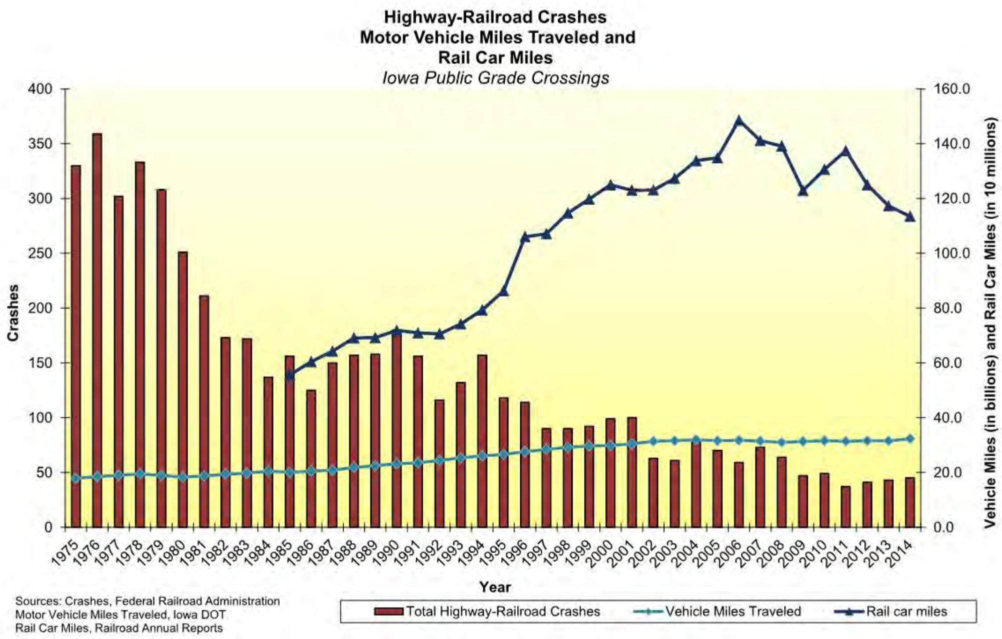
Table 2.17: Highway-Rail Incidents in Iowa (2005-2014)

HIGHWAY-RAIL INCIDENTS	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Incidents	77	69	82	72	110	52	41	43	49	51
Deaths	6	6	7	5	4	4	2	5	5	7
Injuries	32	20	27	25	19	20	24	16	25	17

Source: FRA Office of Safety Analysis.

These figures show a significant decrease in the average number of total incidents and injuries comparing the initial and later five-year segments, with the average number of total incidents decreasing 42 percent and the number of injuries decreasing 33 percent. Over the successive five-year periods the number of deaths decreased by an average of one per year. The decrease in total incidents is noteworthy in that the decrease has occurred during a period where motor vehicle and train traffic has been increasing, as seen in Figure 2.15 below.

Figure 2.15: Crossing Incidents Decreasing while Motor Vehicle and Train Traffic Increasing



In 2012, Iowa DOT developed a *State Highway-Rail Grade Crossing Action Plan*[22] to focus on road user safety at highway-rail at-grade crossings. The objective of the plan was to identify specific solutions to reduce collisions between railroad trains and equipment, and pedestrians or vehicles at crossings. The plan focused on crossings with a history of multiple crashes or which were determined to have other risk factors associated with multiple crash crossings. The plan identified specific solutions to reduce grade crossing collisions with action items associated with increased education, engineering, enforcement, and funding.

2.1.6.4 HAZARDOUS MATERIAL INCIDENTS IN IOWA

2.1.6.4.1 Hazardous Materials Safety Programs

The Federal Railroad Administration (FRA) and the Pipeline and Hazardous Materials Safety Administration (PHMSA) regulate the transport of hazardous materials.

Hazardous Materials Safety Programs are generally composed of four main components:

- Inspection of railroad and shipping facilities and inspection of employee training records, security procedures, and quality assurance programs to ensure safety standards are met;
- Technical assistance, education, and outreach activities to shippers/consignees, rail carriers, emergency responders, and the general public are carried out by the FRA, PHMSA, railroads, Iowa's Homeland Security and Emergency Management Department, Iowa DOT, and TRANSCAER (a training and outreach organization supported by the railroad and chemical industries);
- Inspection and transport of nuclear materials (the Iowa Department of Health permits certain nuclear materials shipped by rail); and,
- Planning, preparation, and recovery plans, exercises, and training in the event of an incident. Hazardous materials are just one hazard encompassed in "all hazards" planning (Section 2.1.6.6 describing security includes more details on Iowa's emergency management organization).

Outside of public emergency response to a hazardous materials rail incident, the larger Class I railroads have

22 https://www.iowadot.gov/Iowarail/pdfs/Action%20Plan%20-%20FRA%20rewrite%20submittal.

additional resources and personnel that can be rapidly dispatched to the scene of an incident to advise and supplement the local response.

2.1.6.4.2 Rail Accidents Involving Hazardous Materials in Iowa

Table 2.18 below shows the history of accidents involving rail cars carrying hazardous materials in Iowa over the past decade.

Table 2.18: Rail Accidents Involving Hazardous Materials in Iowa (2005-2014)

RAIL INCIDENTS	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Cars Carrying Hazmat	158	120	203	109	332	316	245	190	352	97
Hazmat Cars Damaged or Derailed	15	7	48	7	67	28	34	17	24	28
Cars Releasing Hazmat	0	0	0	0	2	0	0	1	3	0

Source: FRA Office of Safety Analysis.

Rail accidents involving hazardous materials in Iowa have not generally followed the overall trend of decreases in rail-related accidents and incidents. In recent years the number of cars carrying hazardous materials involved in rail accidents has increased. The average number of hazardous material cars damaged or derailed in accidents, however, has decreased slightly in the most recent five-year period.

2.1.6.5 POSITIVE TRAIN CONTROL

Positive Train Control (PTC) refers to technologies designed to automatically stop or slow a train before certain accidents can occur. PTC is designed to prevent collisions between trains, derailments caused by excessive speed, trains operating beyond their limits of authority, incursions by trains on tracks under repair, and by trains moving over switches left in the wrong position. PTC systems are designed to determine the location and speed of trains, warn train operators of potential problems, and take action if operators do not respond to a warning.

The Rail Safety Improvement Act of 2008 originally required railroads to place PTC systems in service by December 31, 2015, under the following circumstances:

- On all rail main lines over which regularly-scheduled commuter or intercity passenger trains operate; and
- On all Class I railroad main lines with over 5 million gross ton-miles per mile annually over which any amount of toxic/poison-by-inhalation hazardous materials is handled.

The mandate for PTC excludes all Class II (regional) and III (short line) railroads regardless of tonnage or number of toxic/poison cars handled as long as no passenger trains travel over the lines.

Under these conditions, all rail operators over the Amtrak corridors within Iowa as well as any Class I railroad main line routes would likely need to be equipped with PTC. Class I railroads are currently developing PTC systems for their networks, which would include implementation of the technology on principal lines in Iowa.

Congress has considered several bills that would extend the 2015 deadline of the Act. In October 2015, Congress passed H.R. 38 19 — Surface Transportation Extension Act of 2015, providing a three-year extension of the original PTC deadline. Under the new law, U.S. freight railroads will have until December 31, 2018, to fully implement PTC[23].

2.1.6.6 RAIL SECURITY

In response to the increased focus on the security of the transportation system, new federal and state agencies have been established to oversee and provide assistance to ensure the security of transportation modes. The following addresses specific rail security issues and Iowa's involvement in rail security procedures.

23 *Association of American Railroads - Positive Train Control: https://www.aar.org/policy/positive-train-control*

The primary agencies responsible for security related to transportation modes in Iowa are the U.S. Department of Homeland Security, Iowa's Homeland Security and Emergency Management Department, Iowa Department of Public Safety, Iowa Emergency Response Commission (IERC), and county emergency management coordinators. These agencies, in coordination with federal and state transportation agencies, have addressed transportation security largely through identifying critical infrastructure assets, developing protection strategies for these assets, and developing emergency management plans.

The U.S. Department of Homeland Security addresses rail system security through the following means:

- Training and deploying manpower and assets for high risk areas;
- Developing and testing new security technologies;
- Performing security assessments of systems across the country; and,
- Providing funding to state and local partners.

Iowa's Homeland Security and Emergency Management Department (Iowa HSEMD) works to ensure the state is adequately prepared for disasters through administration, preparation, and execution of emergency management and homeland security programs. Iowa HSEMD supports local entities as they plan and implement mitigation, preparedness, response, and recovery strategies. Iowa HSEMD provides technical assistance, training, exercise facilitation, communications, and other support necessary for establishing and maintaining local capabilities. Iowa HSEMD is the coordinating entity that ensures consistency and compliance with numerous federal and state requirements and regulations.

IERC's mission is to assist in improving communities' preparedness for handling chemical accidents, promoting cooperation among state and local government and industry, increasing public awareness of chemicals in the community, and building information databases. The IERC appoints members to Local Emergency Planning Committees (LEPC).

LEPCs develop an emergency response plan, review the plan at least annually, and provide information about chemicals in the community to citizens. LEPCs have broad-based representation, including state and local officials, law enforcement, emergency management, emergency medical services, firefighting, health, local environment, hospital, transportation, broadcast and print media, community groups, and owners and operators of facilities subject to the state's Emergency Planning and Community Right-to-Know Act of 1986 requirements. The IERC supervises the activities of the LEPC and reviews emergency response plans.

County emergency management coordinators and agencies facilitate the local government and volunteer response to and recovery from a disaster, whether man-made or natural. When a communities' ability to respond exceeds its capabilities, there is a process in place to obtain mutual aid from other local entities, HSMED, other states, and the federal government.

Iowa's larger Class I railroads also have additional resources and personnel that respond to a security threat or incident, including railroad police officers.

Additionally, the Iowa Department of Public Safety's Intelligence Fusion Center plays a role in security through support to law enforcement and homeland security partners in Iowa.

The Association of American Railroads (AAR), working with the U.S. Department of Homeland Security and other federal agencies, has organized the Rail Security Task Force. This task force developed a comprehensive risk analysis and security plan for the rail system that includes:

- A database of critical railroad assets;
- Assessments of railroad vulnerabilities;
- Analysis of the terrorism threat; and,
- Calculation of risks and identification of countermeasures.

The railroad sector maintains communications with the U.S. Department of Defense, the U.S. Department of Homeland Security, the USDOT, the Federal Bureau of Investigation, and state and local law enforcement agencies on all aspects of rail security.

2.1.7 Economic Impacts

Rail economic impacts to Iowa are derived from the IMPLAN® economic model with input data and assumptions from freight movement data (via the STB Waybill Sample, which is described in Section 2.2.2 of the Iowa State Rail Plan) and passenger rail operations and visitor characteristics. Impacts of rail activities in Iowa emanate from firms providing freight and passenger transport services, industries using such services to trade goods (shippers/receivers), and tourism-related visitors to Iowa via rail. Of these activities, freight-users generate the most significant impacts.

Impacts are calculated and presented by activity (service provision and rail users), type (direct, indirect, induced, and total), and measure (employment, income, value added, output, and tax revenue) for year 2013 to provide a comprehensive perspective on how rail in Iowa impacts the economy, and are shown in Table 2.19 below:

- ***Employment*** — Economic impacts of rail extend beyond the 3,520 directly employed in the provision of rail transport (both passenger and freight). When the freight and visitor user impact activities and multiplier impacts are included, rail-related employment in Iowa totals 219,380 jobs, which represent 10.8 percent of the 2.0 million jobs statewide.
- ***Income*** — $13.8 billion earned by these total employees represent 13.6 percent of Iowa's total labor income.
- ***Value-Added*** — And, the combined value-added impact, $24.2 billion, associated with the rail services and users represent 14.7 percent of the state's Gross State Product (GSP).

Table 2.19: Rail Economic Impacts in Iowa

MEASURE AND TYPE	TRANSPORT SERVICES			TRANSPORT USERS			TOTAL		
	PASS.	FREIGHT	SERVICES	PASS.	FREIGHT	USERS	PASS.	FREIGHT	TOTAL
EMPLOYMENT*									
Direct	20	3,500	3,520	230	66,450	66,680	250	69,960	70,200
Total	40	8,830	8,860	300	210,220	210,510	330	219,040	219,380
Income**									
Direct	$1.1	$365.9	$367.0	$4.8	$6,411.3	$6,416.1	$5.9	$6,777.2	$6,783.1
Total	$1.7	$600.6	$602.4	$7.6	$13,214.2	$13,221.8	$9.4	$13,814.8	$13,824.2
VALUE ADDED**									
Direct	$1.9	$1,075.5	$1,077.4	$7.1	$11,196.9	$11,204.0	$9.0	$12,272.4	$12,281.4
Total	$3.0	$1,448.0	$1,451.0	$12.0	$22,705.5	$22,717.6	$15.0	$24,153.6	$24,168.6
OUTPUT**									
Direct	$3.6	$1,725.8	$1,729.4	$13.4	$43,029.3	$43,042.6	$17.0	$44,755.0	$44,772.0
Total	$5.6	$2,428.0	$2,433.6	$22.3	$66,970.4	$66,992.7	$27.9	$69,398.4	$69,426.3
TAX REVENUE**									
Direct	$0.05	$18.3	$18.4	$1.2	$475.0	$476.2	$1.3	$493.3	$494.6
Total	$0.14	$49.5	$49.6	$1.6	$1,325.5	$1,327.1	$1.8	$1,375.0	$1,376.7

Source: CDM Smith, Amtrak, WAYBILL, and IMPLAN

* Employment rounded to nearest ten job-years; totals may not sum due to rounding
** in millions of 2013 dollars

The full description of economic impacts can be found in Appendix C of the Iowa State Rail Plan.

2.2 Trends and Forecasts

The purpose of this section is to describe trends that will affect rail needs for the state of Iowa in the future. Trends which impact both passenger and freight rail include factors such as demographic and economic growth, freight and passenger transportation changes, congestion to all transportation modes, and the future land use outlook. These factors all contribute to the projected demand and growth for both passenger and freight, although many of these factors are difficult to incorporate into demand forecasting. The following discussion provides a base for determining future rail service needs in Iowa and identifies areas of the state's future economy that will be transportation dependent.

2.2.1 Demographic and Economic Growth Factors

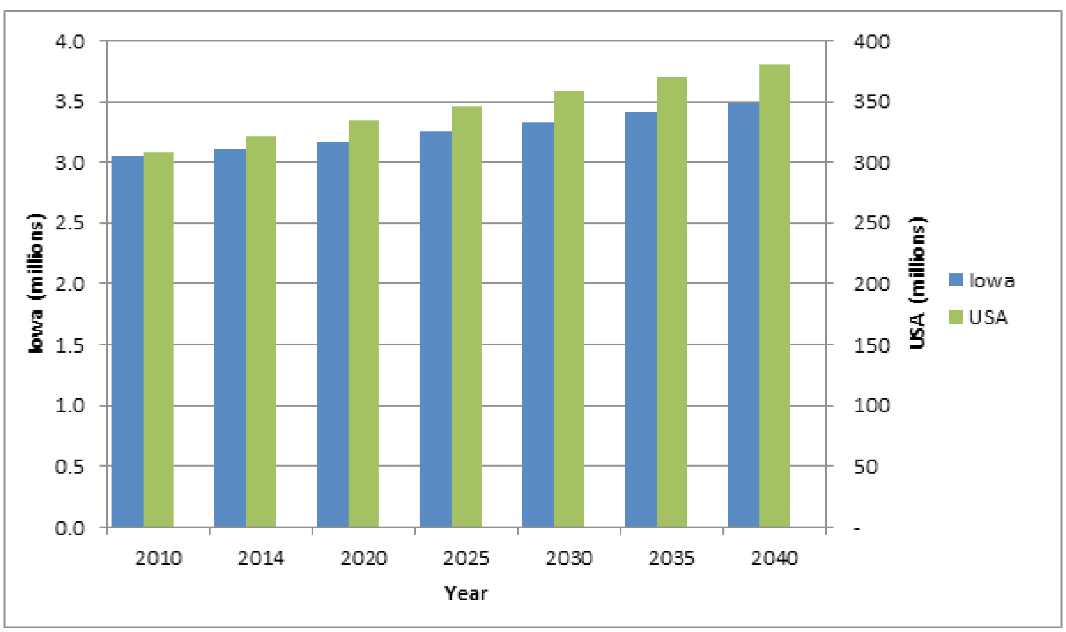
2.2.1.1 POPULATION

The estimated population for Iowa in 2014 was 3,107,126, which ranked 30th among the U.S. states. Over the past four years Iowa's population increased by 2.0 percent, compared with a 3.3 percent population growth rate for the U.S. as a whole. From 2000 to 2014, Iowa only grew at the 38th fastest rate in the country, reflecting the slower growth of the region when compared with other portions of the country.

Overall, Iowa's population increased by 6.2 percent from year 2000 to 2014, which is substantially lower than the country's overall 13.3 percent growth in population during the same time period. This indicates that Iowa, while still growing, is not adding as much population as most other states in the country[24].

The State Library of Iowa's Data Center Program and the U.S. Census Bureau provide future population projections for public use. Iowa's information is provided to year 2040, while the U.S. Census projects to the year 2060. Population projections in five-year increments were used for both the state and country. Based on this information, between 2010 and 2040 the state's population is projected to increase by more than 14 percent, reaching a total of nearly 3.5 million people. Compared to the estimated 23.1 percent growth for the country, Iowa's projected growth indicates that the state will continue to lag behind most of the country in terms of attracting more people and grow slower than the U.S. as a whole. Figure 2.16 below shows the projected population estimates for both Iowa and the United States[25].

Figure 2.16: Iowa and USA Future Population Estimates



Source: U.S. Census Bureau

24 *Population data from U.S. Census Bureau.*
25 *Population forecast based on U.S. Census Bureau population estimates.*

Based on information from the Census Bureau's American FactFinder, which is sourced from information gathered for the American Community Survey (ACS), the median age for the state is 38.1 years, which is slightly older than the national median age of 37.2 years. Among the state's population over 25 years of age, 90.9 percent graduated from high school and 25.7 percent received a bachelor's degree or higher degree; the high school graduation rate is much higher than the national average of 85.7 percent, but the college graduation rate is below the 28.5 percent national average[26]. Iowa's working age population (aged 18 to 65 years) was about 61.2 percent of the overall population, which is below the country's 62.9 percent of the population. This suggests that the state skews slightly older than the rest of the country in general, which is also reflected in the median age.

2.2.1.2 EMPLOYMENT

The most current wage and salary employment (i.e., base employment) figures indicate that around 1.93 million people were employed in the state as of 2014, based on information from the Bureau of Economic Analysis (BEA). This data excludes farm and nonfarm proprietors' employment information.

Using Iowa Workforce Information Network employment growth projections, by 2020 base employment will increase to about 2.05 million, an 11.2 percent increase when compared to 2012 base employment projections[27]. Using this information and applying actual employment information from the BEA, the state's base employment is projected to increase by around 24 percent to nearly 2.48 million jobs in year 2040[28]. As previously mentioned, this excludes proprietor's employment as defined by the BEA.

Iowa's unemployment rate over the past few years has changed substantially as a result of shifting regional and national economic conditions. In the past decade unemployment rates ranged from as low as 3.6 percent in June 2006 prior to the recent economic recession to as high as 6.6 percent in August 2009. Since 2009, rates have gradually dropped from 6.0 percent in May 2010 to 5.5 percent in June 2011, 5.0 percent in August 2012, 4.7 percent in August 2013, and 4.3 percent in August 2014. As of July 2015, the seasonally adjusted unemployment rate for the state was 3.8 percent. This rate is significantly lower than the national average rate of 5.3 percent, which itself has dropped substantially from its recent high of 10.0 percent in October 2009[29].

As of 2014, Iowa is the headquarters for two Fortune 500 companies: Principal Financial Group, an insurance and investment management company, and Casey's General Stores, a convenience store chain. According to the Iowa Economic Development Authority (IEDA), Iowa's gross domestic product (GDP) has increased by 10.2 percent since 2010, which is the 8th highest rate in the country. Companies in Iowa have continued to increase economic development in the state. For example, Google recently chose to increase their investment in their Council Bluffs data center by over $1 billion[30]. This investment reflects the strong economic performance of the state and indicates that overall economic development will continue to increase as the economy expands and improves.

Figure 2.17 below displays the employment change from 2000 and 2013 against the Iowa's Gross State Product (GSP) by employment sector in 2014. The graph highlights sectors with the largest impact on the Iowa economy and the changes in those sectors recently in terms of available jobs. The size of the bubble for each employment sector represents the number of jobs in that sector compared against all other sectors. According to the BEA, education and healthcare and public administration rank as the top employment sectors for the state, with retail trade and manufacturing closely behind. Education and healthcare employment has shown a growing trend since 2000, while public administration employment has slowly grown. The manufacturing sector has decreased by more than 13 percent, while the information sector

26 U.S. Census Bureau, 2010 Demographic Profile Data.

27 Iowa Workforce Information Network. Part of the Labor Market and Workforce Information Division of Iowa Workforce Development. July 2014.

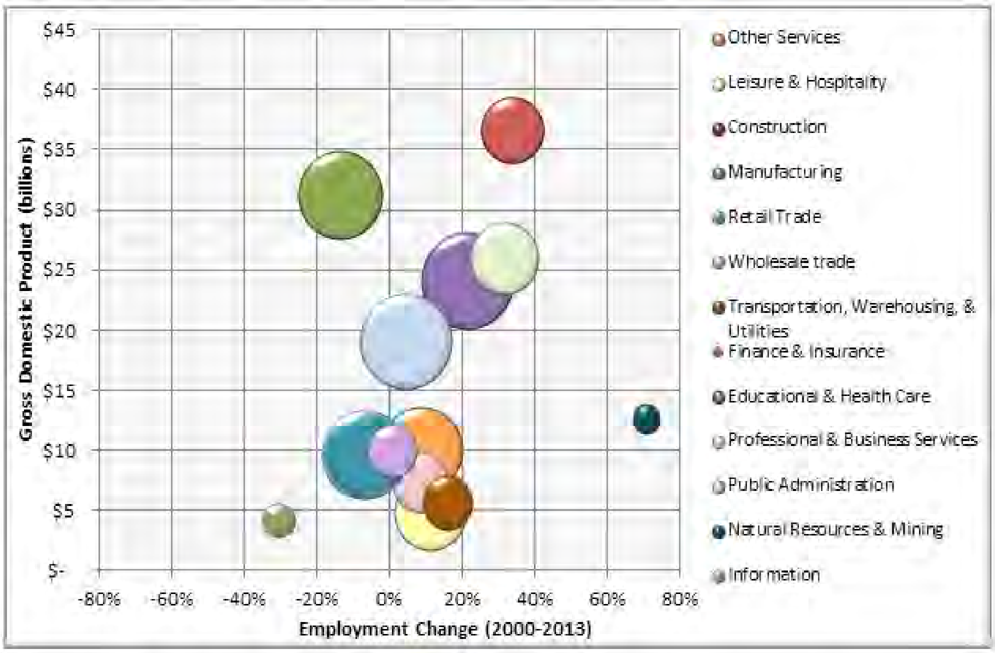
28 Percentage increase determined from projections provided by IWIN and then applied to actual BEA data. Thus it varies from IWIN projection data.

29 Unemployment statistics provided by the U.S. Department of Labor and the Bureau of Labor Statistics.

30 Link found via http://www.desmoinesregister.com/story/tech/2015/04/16/google-invests-billion-council-bluffs-data-center/25894229/. Accessed on September 21, 2015.

(which includes industries like publishing and telecommunications) has decreased by around 30 percent[31]. Other notable sectors include the natural resources and mining sector which has grown by over 70 percent in the past 15 years. In terms of GSP, four sectors generate nearly 59 percent of the overall GSP and have the most economic impact for the state. These four sectors are: the finance and insurance sector, educational and healthcare industry, manufacturing, and professional and business services.

Figure 2.17: Employment Growth and GSP by Size of Employment Sector (2014)



Source: U.S. Census Bureau and the Bureau of Economic Analysis

2.2.1.3 PERSONAL INCOME

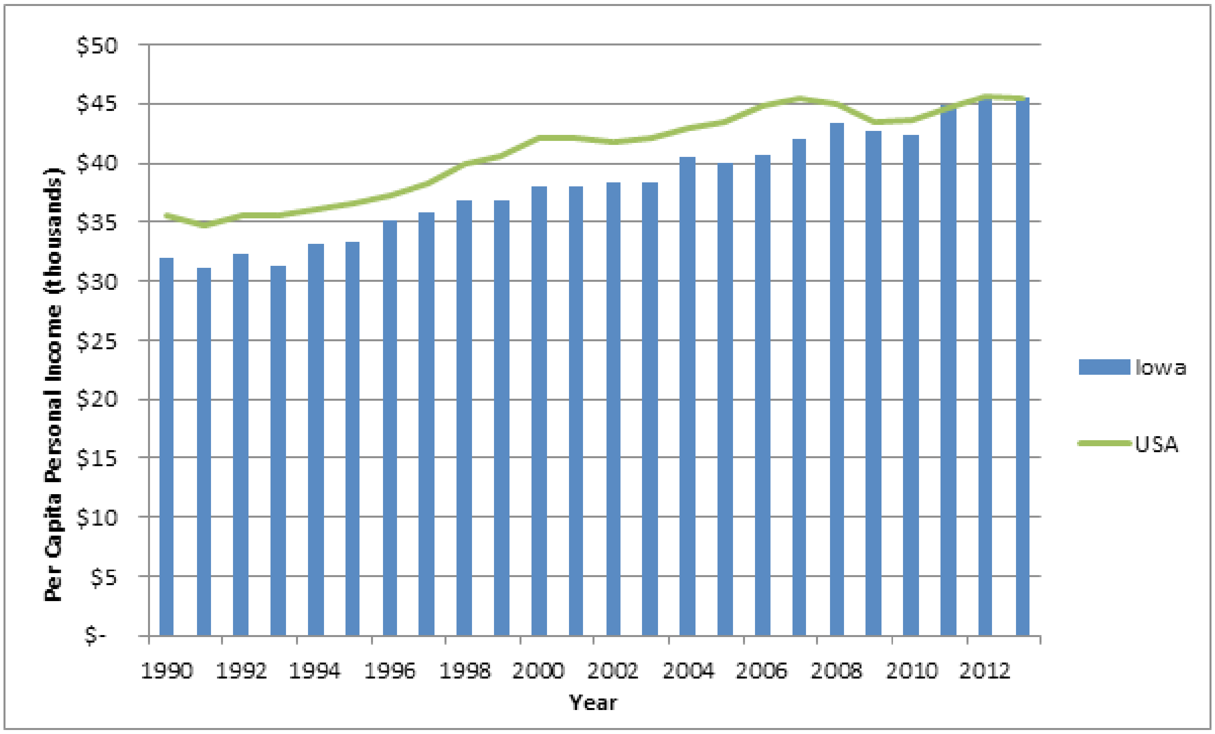
Iowa's per capita personal income in 2014 was $45,115, which ranked 26th within the United States and was 98 percent of the national average ($46,129)[32]. In continuous 2013 dollars (adjusted for inflation using the Consumer Price Index) the per capita personal income since 1990 has grown by 41.3 percent, substantially above the national income growth of 30.0 percent. Since 2000, Iowa's per capita personal income has continued to increase at a pace well above the national average, with a growth of 19.0 percent, while nationally incomes have grown by about 9.7 percent. The income growth in the past decade in Iowa can be attributed to the strong economy, as shown by the recent GSP gains and low unemployment rate. Iowa's per capita personal income is currently at or around the U.S. personal income average, which is a substantial improvement when compared to historical data, where it was consistently below the national average. Historical per capita personal income from 1990 to the present day is shown in Figure 2.18 below[33].

31 *U.S. Census Bureau and the Bureau of Economic Analysis.*

32 *Bureau of Economic Analysis, accessed at http://www.bea.gov/iTable/index_regional.cfm.*

33 *Bureau of Economic Analysis, adjusted by the national CPI into 2014 U.S. dollars.*

Figure 2.18: Historical Per Capita Personal Income (2014 U.S. $)



Source: Bureau of Economic Analysis

2.2.1.4 INDUSTRIAL OUTLOOK BY SECTOR

Inbound agricultural shipments will have the highest growth rate at 4.6 percent per year over the period 2013-2040. However, by 2040, outbound agricultural products will comprise by far the single largest tonnage shipped (30.8 million tons). The outlook of rail shipments by industrial sector is discussed in the following section.

2.2.2 Freight Demand and Growth

2.2.2.1 INTRODUCTION AND APPROACH

Various freight traverses Iowa's rail infrastructure annually. Such freight includes finished goods, materials, and supplies. Principal freight rail issues concern the identification of movements most important to Iowa, and the options to facilitate/support such movements. Identifying the importance of, and solutions for, freight rail comprises several perspectives, including: volumes (especially compared to capacity), units (carloads), and directional movements.

In this report, current freight rail volumes for year 2013, as reported in the U.S. Surface Transportation Board (STB) Railroad Waybill Sample database, are tabulated by major commodity types to understand freight movements. Additionally, directional rail tonnage forecasts are provided as derived from the Federal Highway Administration (FHWA) Freight Analysis Framework (FAF) data.

- ***Commodity Classification*** — The Standard Transportation Commodity Code (STCC) is a seven-digit numeric code, categorized by 40 commodity groupings, based on physical product information used on shipping documents and published/maintained by the Association of American Railroads (AAR). A hierarchical STCC structure allows for data collapsibility, enabling summarization of commodity information[34]. Although freight movements are tallied at the seven-digit STCC detail, the information summarized herein is at the aggregated two-digit level.

34 For example, '01' represents 'Farm Products', '011' identifies 'Field Crops,' '0112' indicates 'Raw Cotton', etc., narrowing in specificity to a seven-digit level

- ***Waybill Sample*** — Based on STCC codes[35], the Waybill provides detailed most-recently available year 2013 movement data by commodity. It uses a 2 percent stratified sample by the STB Carload Waybill Sample of carload waybills for all rail traffic submitted by rail carriers that terminate 4,500 or more revenue carloads annually.
- ***Freight Analysis Framework (FAF)*** — Integrates year 2012 U.S. Census Bureau Commodity Flow Survey (CFS) and additional sources to provide freight movement metrics in terms of tonnage, value, and domestic ton-miles by region of origin and destination, commodity type, and mode for most current year (e.g., 2013 via FAFv3.6) and forecasts through 2040 (via FAFv3.5). While FAF is not as exhaustive (excludes railcar unit metrics or through state movements) as the Waybill Sample, FAF does provide a means by which to assess future tonnage growth. Note that FAF presents rail ton movement data by two-digit Standard Classification of Transportable Goods (SCTG) code classification, which differs notably from the STCC classification used in the Waybill Sample[36].

2.2.2.2 CURRENT FREIGHT RAIL

Year 2013 Iowa rail movements by direction (outbound, inbound, intrastate, and through) and term (defined as tons and carload units) are derived from the STB Waybill database. Each subsection summarizes rail movements by direction and term, and each identifies the top two-digit STCC commodity movements. Summary data are shown graphically for ease of visually identifying important commodity movements and related observations, with the supporting comprehensive data located in tables in Appendix D of the Iowa State Rail Plan.

2.2.2.2.1 Summary

Iowa rail movements in 2013 totaled 290.3 million tons, carried within almost 4.5 million carload units, as seen in Table 2.20 below. As depicted in Figure 2.19 below, rail movements through Iowa are the dominant directional movement, comprising almost three-quarters (73.2 percent) of all directions, by tonnage, and over four-fifths (80.9 percent) by units. Outbound and inbound movements are proportionally similar in total magnitude and compositional percentage (12.2 percent of tons and 8.1 percent to 8.9 percent of carload units), while intrastate movements are relatively small (around 2 percent) by comparison.

Table 2.20: Rail Movements by Direction, 2013

DIRECTION	TONS		UNITS (CARLOADS)		TONS/UNIT UTILIZATION
	AMOUNT	PERCENT	AMOUNT	PERCENT	
Outbound	35,428,698	12.2%	400,835	8.9%	88.4
Inbound	35,402,440	12.2%	360,760	8.1%	98.1
Intra	6,894,726	2.4%	93,910	2.1%	73.4
Through	212,549,767	73.2%	3,624,093	80.9%	58.6
Total	**290,275,631**	**100.0%**	**4,479,598**	**100.0%**	**64.8**

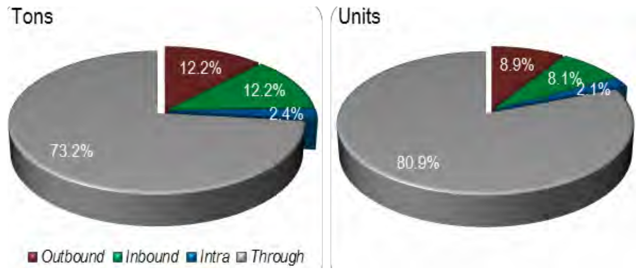
Source: prepared by CDM Smith, based on the STB Waybill Sample data for 2013

35 STB WAYBILL designates freight rail movements via two STCC conventions: one includes the 49xxxxx (HAZMAT-related) and 50xxxxx (bulk movements) STCC designations; the alternative translates those HAZMAT- and bulk-related movements into actual product STCC. Summary data herein pertains to the non-HAZMAT/non-bulk STCC convention.

36 STCC is a detailed 7-digit numeric code with about 750 product classifications, published/maintained by the Association of American Railroads (AAR), that are generally collapsed for analysis purposes into 4-digit or 2-digit summaries. Conversely, STCG is based on the Harmonized Commodity Description and Coding System product classifications tailored for transportation modes. The 5-digit SCTG comprises over 1,100 product classifications; however, FAF only provides information at the 2-digit summary level. Unfortunately, collapsibility between the two conventions differs due to the overarching needs of the organizations that developed them.

While STCC is railroad-based commodity classification system, STCG is a broader-based multimodal classification system for all modes. So, developed for different purposes and modal use, STCC and STCG are different tools used for different purposes, which happened to overlap on quantification of rail movements. Most notably for Iowa products is the difference in classification of ethanol between STCC (Chemical and Allied Products) and STCG (Alcoholic Beverages).

Figure 2.19: Rail Movement Share by Direction, 2013



Source: prepared by CDM Smith, based on the STB Waybill Sample data for 2013

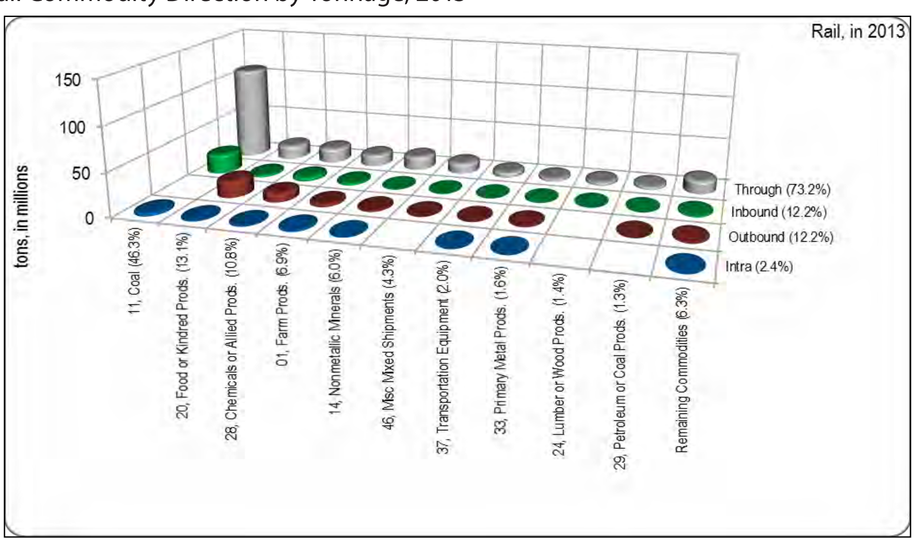
Major Commodity Movements — A table in Appendix D summarizes rail commodities in Iowa (all directions), which total 290.3 million tons, via 4.5 million carload units. The top five commodities by tonnage and by units (i.e., by terms) include:

By Tonnage:
1. Coal (134.4 million tons, 46.3 percent of rail total);
2. Food or Kindred Products (38.0 million, 13.1 percent);
3. Chemicals or Allied Products (31.2 million, 10.8 percent);
4. Farm Products (20.0 million, 6.9 percent); and
5. Nonmetallic Minerals (17.4 million, 6.0 percent).

By Units:
1. Coal (1,215,557 units, 27.1 percent of rail total);
2. Miscellaneous Mixed Shipments (837,920, 18.7 percent);
3. Food or Kindred Products (526,973, 11.8 percent);
4. Chemicals or Allied Products (402,477, 9.0 percent); and
5. Transportation Equipment (317,018, 7.1 percent).

Figure 2.20 and 2.21 below depict two-digit STCC commodities[37] by direction for Iowa freight rail, in terms of tonnage and units, respectively. Supporting data are presented by direction in Appendix D and are further detailed in the following subsections.

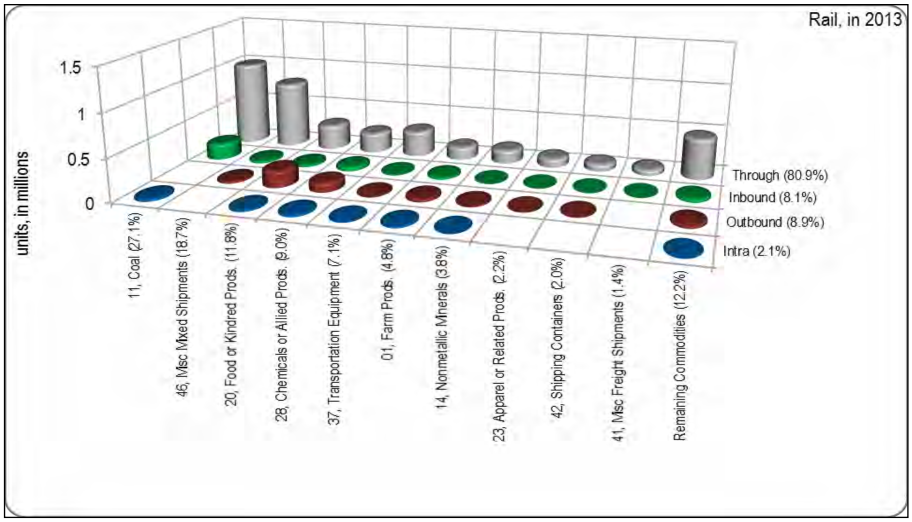
Figure 2.20: Rail Commodity Direction by Tonnage, 2013



Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

37 *Note the numbers preceding the commodity names in the figures pertain to the two-digit STCC codes for such commodities*

Figure 2.21: Rail Commodity Direction by Unit, 2013



Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

2.2.2.2.2 Rail Outbound

A table in Appendix D presents outbound rail commodities from Iowa, in 2013, which total 35.4 million tons, via 400,835 carload units; top five commodities include:

By Tonnage:

1. Food or Kindred Products (18.5 million tons, 52.2 percent of outbound total);
2. Chemicals or Allied Products (9.6 million, 27.2 percent);
3. Farm Products (3.1 million, 8.6 percent);
4. Nonmetallic Minerals (1.3 million, 3.7 percent); and
5. Primary Metal Products (0.9 million, 2.6 percent).

By Units:

1. Food or Kindred Products (193,089 units, 48.2 percent of outbound total);
2. Chemicals or Allied Products (102,799, 25.6 percent);
3. Farm Products (29,378, 7.3 percent);
4. Miscellaneous Mixed Shipments (22,040, 5.5 percent); and
5. Nonmetallic Minerals (11,876, 3.0 percent).

Outbound Tonnage Origin — Major outbound rail tonnages in 2013 are charted by county of origin in Figure 2.22 and mapped in Figure 2.24 below (support data are presented in Appendix D). Rail movements destined out-of-state are primarily transported from Pottawattamie County (4.7 million, 13.2 percent), Wapello County (2.9 million, 8.2 percent), and Clinton County (2.7 million, 7.5 percent).

Pottawattamie County:

1. Food or Kindred Products (2.6 million tons, 55.1 percent of outbound county total);
2. Farm Products (1.2 million, 25.9 percent);
3. Miscellaneous Mixed Shipments (0.4 million, 8.6 percent);
4. Chemicals or Allied Products (0.2 million, 4.2 percent); and
5. Nonmetallic Minerals (0.2 million, 3.3 percent).

Wapello County:

1. Food or Kindred Products (2.8 million tons, 97.4 percent of outbound county total);
2. Chemicals or Allied Products (0.1 million, 1.9 percent);
3. Clay, Concrete, Glass, or Stone (11,320, 0.4 percent);

4. Nonmetallic Minerals (4,640, 0.2 percent); and
5. Waste or Scrap Materials (3,320, 0.1 percent).

Clinton County:
1. Food or Kindred Products (1.4 million tons, 52.8 percent of outbound county total);
2. Chemicals or Allied Products (0.9 million, 34.2 percent);
3. Primary Metal Products (0.2 million, 7.2 percent);
4. Farm Products (0.1 million, 3.5 percent); and
5. Petroleum or Coal Products (38,120, 1.4 percent).

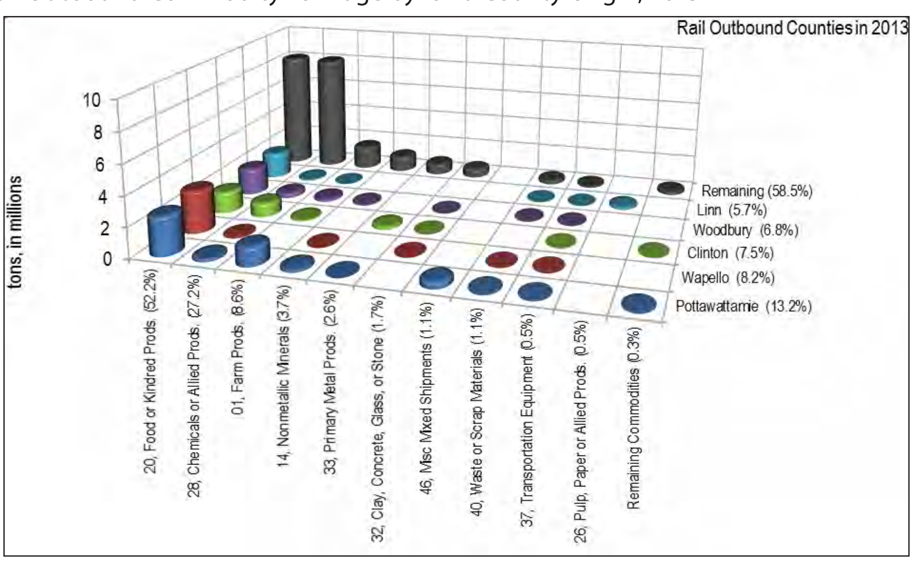
Outbound Tonnage Destination — Major outbound rail tonnages in 2013 are charted by state destination in Figure 2.23 and mapped in Figure 2.25 below (support data is also presented in a table in Appendix D). Rail movements destined out-of-state are transported to the following top three states: Illinois (10.9 million, 30.8 percent), Texas (6.8 million, 19.1 percent), and California (3.5 million, 9.8 percent).

Illinois:
1. Food or Kindred Products (5.6 million tons, 51.7 percent of outbound state total);
2. Chemicals or Allied Products (4.5 million, 41.2 percent);
3. Farm Products (0.2 million, 2.2 percent);
4. Waste or Scrap Materials (0.2 million, 1.7 percent); and,
5. Miscellaneous Mixed Shipments (0.1 million, 1.3 percent)

Texas:
1. Food or Kindred Products (4.2 million tons, 61.3 percent of outbound state total);
2. Chemicals or Allied Products (1.5 million, 22.3 percent);
3. Nonmetallic Minerals (0.7 million, 10.9 percent);
4. Farm Products (0.1 million, 1.9 percent); and,
5. Primary Metal Products (0.1 million, 1.5 percent)

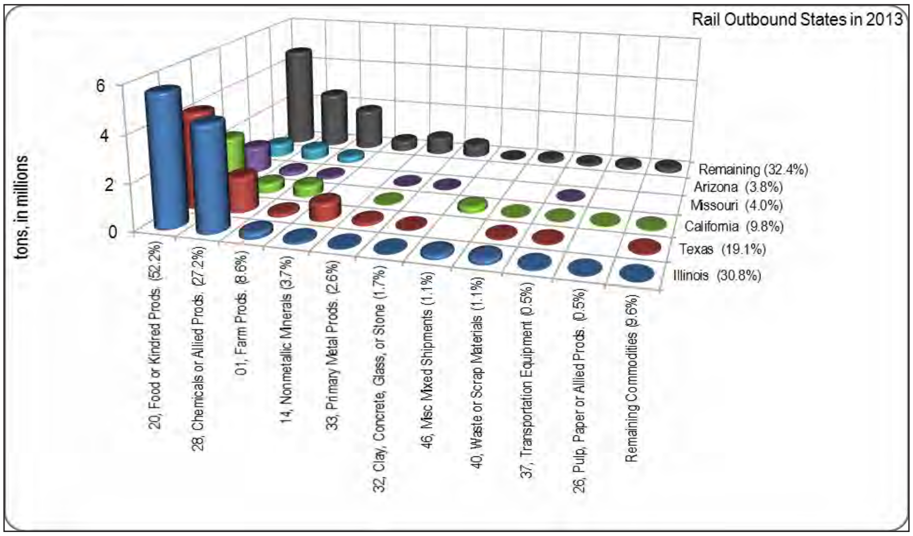
California:
1. Food or Kindred Products (2.3 million tons, 66.0 percent of outbound state total);
2. Farm Products (0.5 million, 13.4 percent);
3. Chemicals or Allied Products (0.4 million, 11.6 percent);
4. Miscellaneous Mixed Shipments (0.2 million, 6.9 percent); and,
5. Primary Metal Products (0.0 million, 0.8 percent)

Figure 2.22: Rail Outbound Commodity Tonnage by Iowa County Origin, 2013



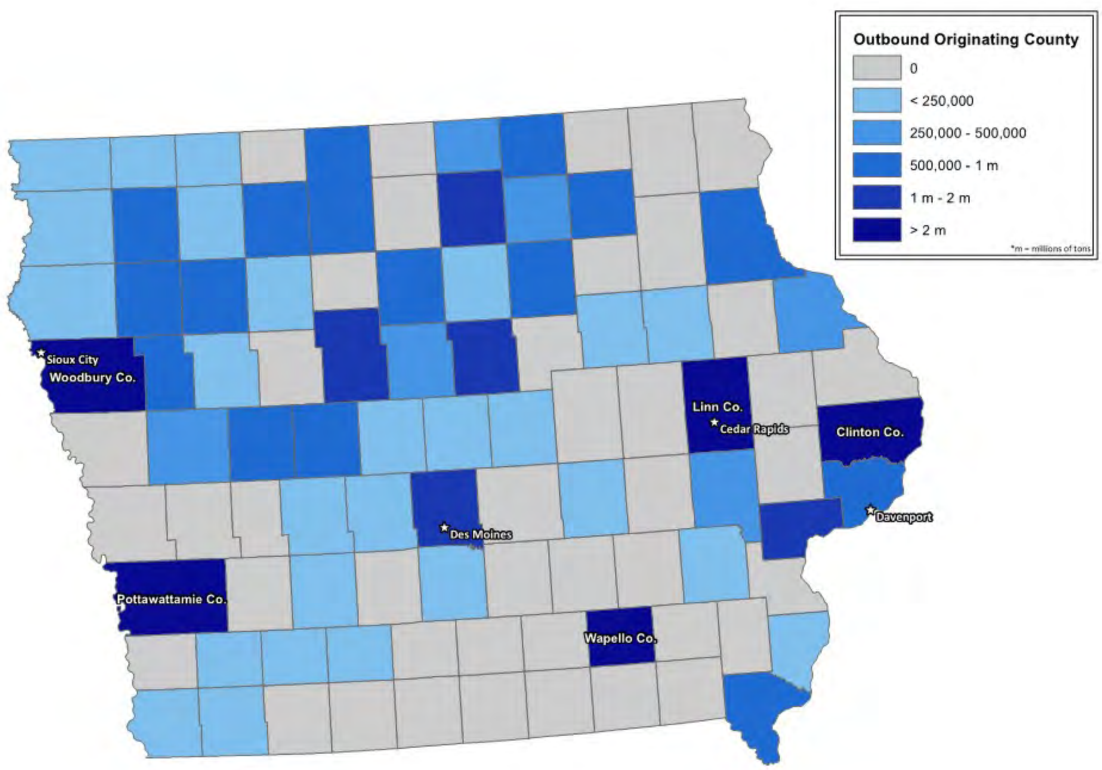
Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Figure 2.23: Rail Outbound Commodity Tonnage by Destination State, 2013



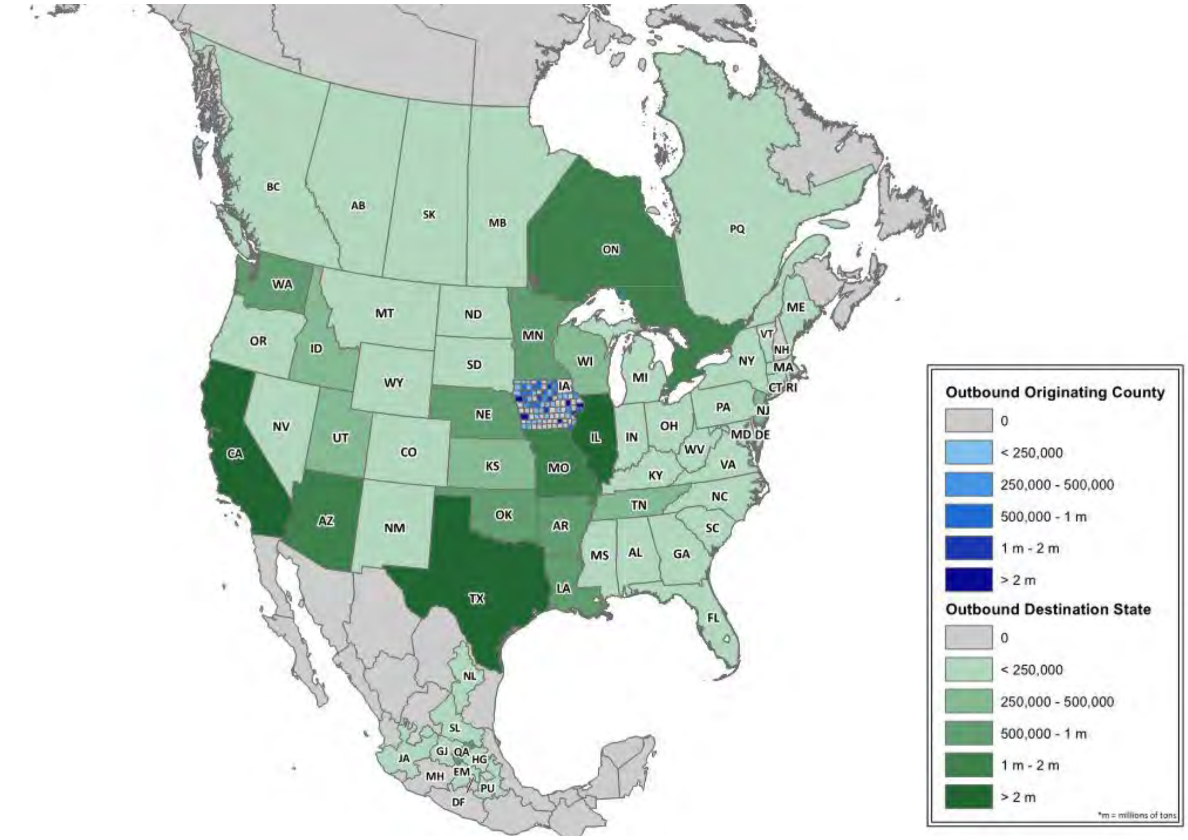
Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Figure 2.24: Rail Outbound Total Tonnage by Iowa County Origin, 2013



Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Figure 2.25: Rail Outbound Total Tonnage by Destination State, 2013



Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

2.2.2.2.3 Rail Inbound

A table in Appendix D presents inbound rail commodities to Iowa, in 2013, which total 35.4 million tons, via 360,760 carload units; top five commodities include:

By Tonnage:

1. Coal (22.4 million tons, 63.2 percent of inbound total);
2. Chemicals or Allied Products (4.2 million, 11.9 percent);
3. Food or Kindred Products (2.5 million, 7.1 percent);
4. Farm Products (2.3 million, 6.4 percent); and
5. Clay, Concrete, Glass, or Stone (0.8 million, 2.2 percent).

By Units:

1. Coal (187,395 units, 51.9 percent of inbound total);
2. Chemicals or Allied Products (45,730, 12.7 percent);
3. Miscellaneous Mixed Shipments (27,000, 7.5 percent);
4. Food or Kindred Products (25,140, 7.0 percent); and
5. Farm Products (23,563, 6.5 percent).

Inbound Tonnage Origin — Major inbound rail tonnages in 2013 are shown by state origin in Figure 2.26 and Figure 2.28 below (support data are presented in a table in Appendix D). Rail movements originating out-of-state are transported from the following top three states: Wyoming (22.4 million, 63.3 percent), Illinois (1.6 million, 4.6 percent), and Minnesota (1.5 million, 4.2 percent).

Wyoming:

1. Coal (22.1 million tons, 98.7 percent of inbound state total);

2. Chemicals or Allied Products (0.3 million, 1.1 percent);
3. Clay, Concrete, Glass, or Stone (38,000, 0.2 percent);
4. Nonmetallic Minerals (4,000, 0.0 percent); and
5. Petroleum or Coal Products (3,400, 0.0 percent).

Illinois:
1. Chemicals or Allied Products (0.4 million tons, 24.1 percent of inbound state total);
2. Food or Kindred Products (0.3 million, 18.2 percent);
3. Coal (0.3 million, 16.4 percent);
4. Farm Products (0.2 million, 12.5 percent); and
5. Waste or Scrap Materials (0.1 million, 6.4 percent).

Minnesota:
1. Farm Products (0.9 million tons, 59.0 percent of inbound state total);
2. Food or Kindred Products (0.2 million, 16.6 percent);
3. Waste or Scrap Materials (0.2 million, 11.1 percent);
4. Chemicals or Allied Products (0.1 million, 9.7 percent); and
5. Petroleum or Coal Products (36,792, 2.5 percent).

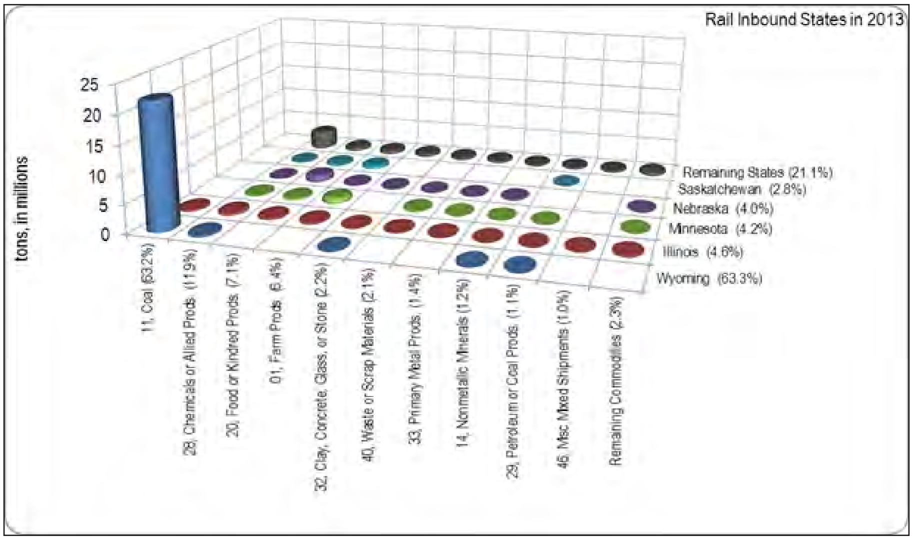
Inbound Tonnage Destination — Major inbound rail tonnages in 2013 are shown by county destination in Figures 2.27 and 2.29 below. Rail movements originating out-of-state are transported to the following top three counties: Pottawattamie County (8.0 million, 22.6 percent), Wapello County (5.9 million, 16.6 percent), and Woodbury County (5.8 million, 16.4 percent).

Pottawattamie County:
1. Coal (5.7 million tons, 71.7 percent of inbound county total);
2. Food or Kindred Products (1.0 million, 12.7 percent);
3. Miscellaneous Mixed Shipments (0.4 million, 4.5 percent);
4. Chemicals or Allied Products (0.2 million, 2.5 percent); and
5. Nonmetallic Minerals (0.2 million, 2.2 percent).

Wapello County:
1. Coal (5.5 million tons, 94.1 percent of inbound county total);
2. Chemicals or Allied Products (0.2 million, 3.4 percent);
3. Food or Kindred Products (0.1 million, 1.9 percent);
4. Nonmetallic Minerals (20,400, 0.3 percent); and
5. Transportation Equipment (6,520, 0.1 percent).

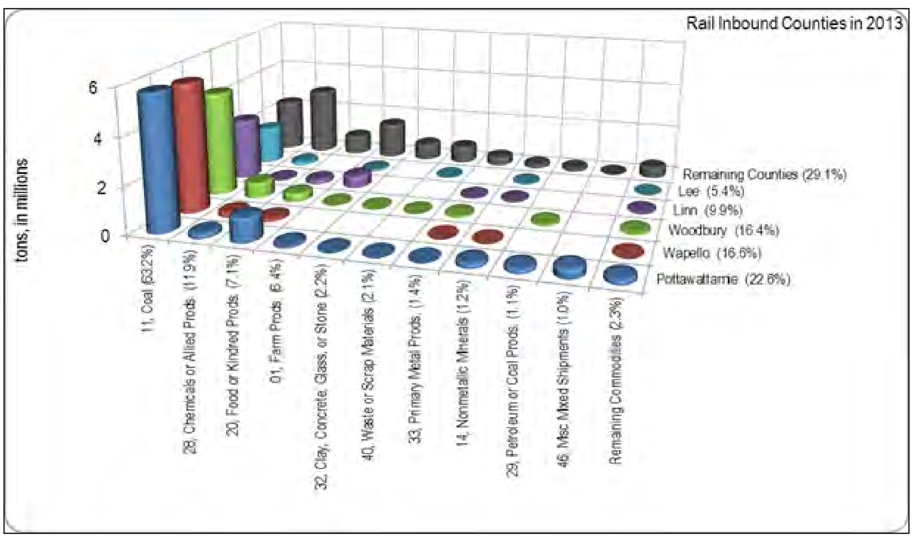
Woodbury County:
1. Coal (4.5 million tons, 78.0% of inbound county total);
2. Chemicals or Allied Products (0.7 million, 11.5 percent);
3. Food or Kindred Products (0.3 million, 5.9 percent);
4. Petroleum or Coal Products (0.1 million, 1.2 percent); and
5. Primary Metal Products (0.1 million, 1.1 percent).

Figure 2.26: Rail Inbound Commodity Tonnage by Origin State, 2013



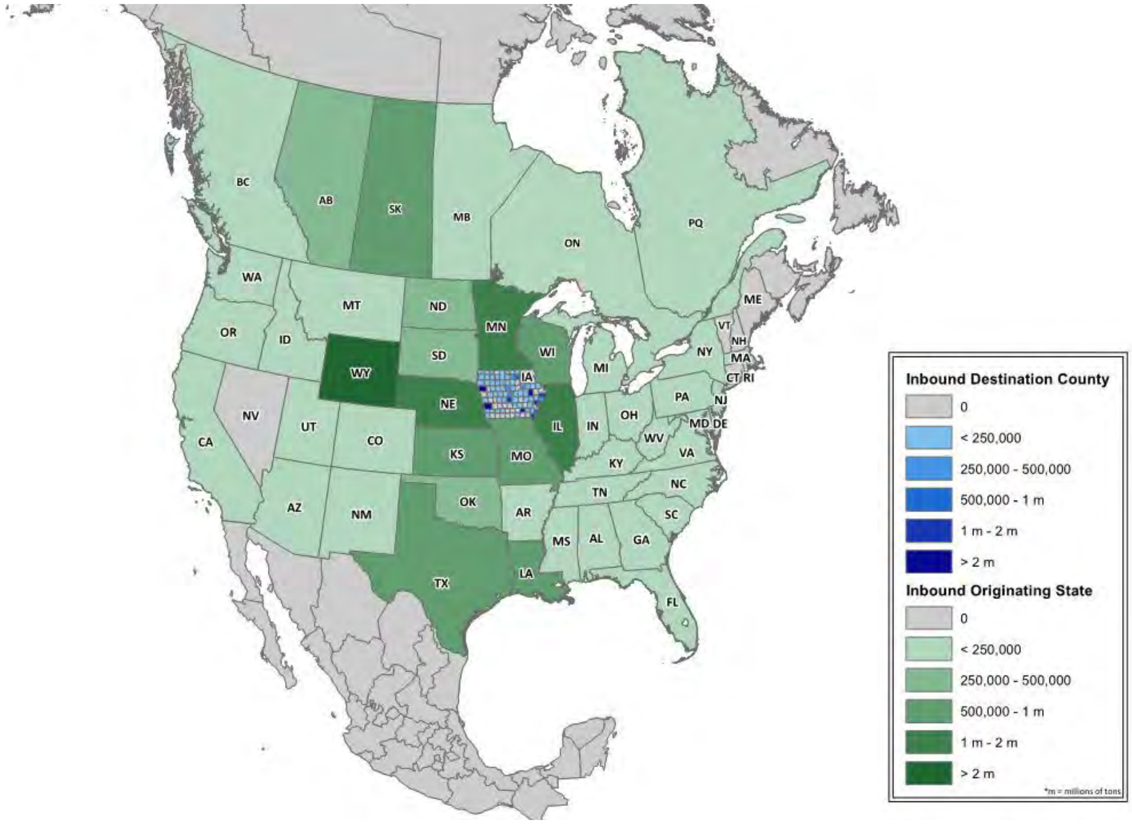
Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Figure 2.27: Rail Inbound Commodity Tonnage by Iowa County Destination, 2013



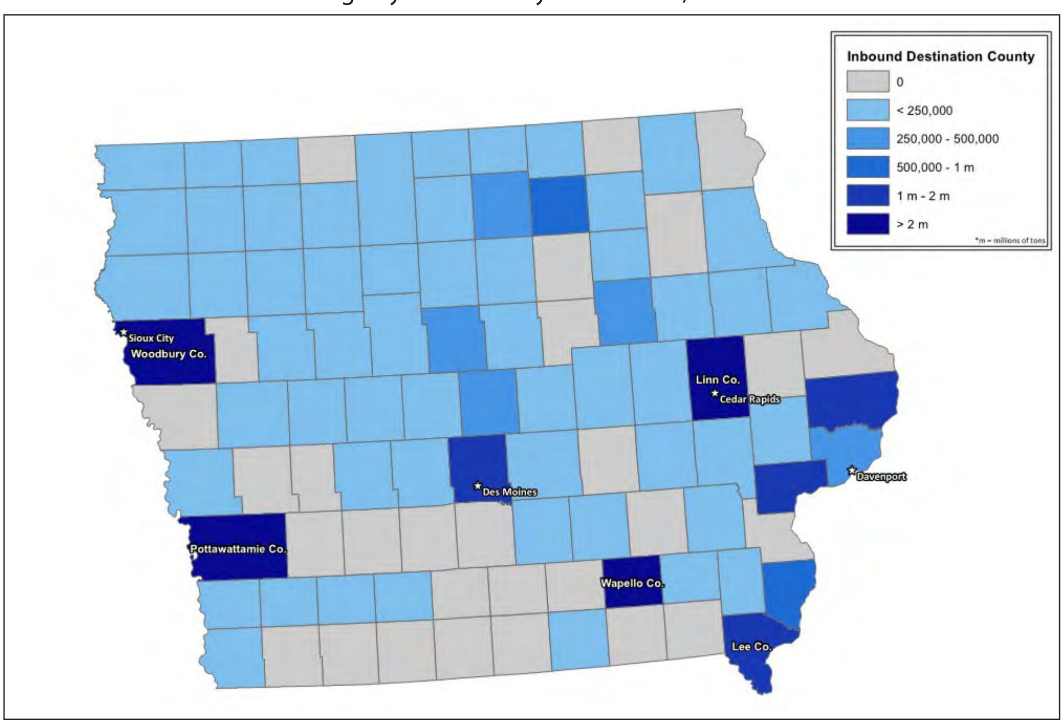
Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Figure 2.28: Rail Inbound Total Tonnage by Origin State, 2013



Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Figure 2.29: Rail Inbound Total Tonnage by Iowa County Destination, 2013



Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

2.2.2.2.4 Rail Intrastate

A table in Appendix D presents intrastate rail commodities within Iowa, in 2013, which total 6.9 million tons, via 93,910 carload units; top five commodities include:

By Tonnage:
1. Coal (3.1 million tons, 45.2 percent of intra total)[38];
2. Farm Products (1.4 million, 19.7 percent);
3. Food or Kindred Products (0.9 million, 13.4 percent);
4. Chemicals or Allied Products (0.6 million, 9.4 percent); and
5. Waste or Scrap Materials (0.4 million, 6.0 percent).

By Units:
1. Coal (26,180 units, 27.9 percent of intra total);
2. Chemicals or Allied Products (19,776, 21.1 percent);
3. Food or Kindred Products (19,252, 20.5 percent);
4. Farm Products (17,390, 18.5 percent); and
5. Waste or Scrap Materials (4,932, 5.3 percent).

2.2.2.1.5 Rail Through

As previously noted, through traffic is the largest rail directional rail movement in Iowa representing 73.2 percent of total tonnage movements and 80.9 percent of carloads. A table in Appendix D presents through rail commodities moving across Iowa, in 2013, which total 212.5 million tons, via 3.6 million carload units; top five commodities include:

By Tonnage:
1. Coal (108.9 million tons, 51.2 percent of through total);
2. Chemicals or Allied Products (16.7 million, 7.9 percent);
3. Food or Kindred Products (16.1 million, 7.6 percent);
4. Nonmetallic Minerals (15.5 million, 7.3 percent); and
5. Farm Products (13.4 million, 6.3 percent).

By Units:
1. Coal (1,001,982 units, 27.6 percent of through total);
2. Miscellaneous Mixed Shipments (788,880, 21.8 percent);
3. Transportation Equipment (299,721, 8.3 percent);
4. Food or Kindred Products (289,492, 8.0 percent); and
5. Chemicals or Allied Products (234,172, 6.5 percent).

2.2.2.3 FREIGHT FORECASTS

Rail freight tonnage forecasts for year 2040 were derived using data from the Freight Analysis Framework (FAF): 2013 provisional data (FAFv3.6) and 2040 forecasts (FAFv3.5). While rail freight data in the FAF is not as exhaustive as the Waybill, FAF does provide a means by which to assess future tonnage growth. Specifically, total annual growth forecasts by direction (outbound, inbound, intrastate, and through) are derived by comparing FAF tonnage volumes for year 2013 to year 2040[39]. FHWA FAF data are presented in SCTG commodity terms, and is thus not directly comparable to the Waybill by commodity[40]. However, the directional totals are relatively comparable, as shown below.

38 Coal moved by rail could be originating by water, and it could also be coal that is being repositioned. Coal is not actively mined in Iowa.
39 Since FAF does not provide specific through-state movement data, total US tonnage growth was used as a proxy to estimate through-state tonnage.
40 While useful for aggregate directional comparisons, commodity code variance between the two sources (STCC-Transearch versus STCG-FAF) can present complications when/if broken down by commodity groups due to variances between sub-group composite commodities.

FHWA FAF makes available directional rail tonnage for 2013 via the FAFv3.6 provisional data; however, the directional coverage excludes through movements because routing of freight movements is not specified. As such, only outbound, inbound, and intra movements are comparable with the Waybill data for 2013. Subtotaling the available three directions, the FHWA FAF indicates that 68.8 million tons moved via the Iowa rail system, about 11.5 percent below that subtotal reported by Waybill. Because of the reporting differences (shown in Table 2.21 below), the forecast growth rates, by direction, from the FAF were applied to the Waybill directional totals to estimate 2040 rail freight.

Table 2.21: Rail Tonnage Comparison by Source, 2013

DIRECTION	STB WAYBILL		FHWA FAFV3.6		FAF/STB
	AMOUNT	PERCENT	AMOUNT	PERCENT	
Outbound	35,428,698	45.6%	28,267,709	41.1%	79.8%
Inbound	35,402,440	45.5%	34,061,534	49.5%	96.2%
Intra	6,894,726	8.9%	6,425,712	9.3%	93.2%
Through*	NA	NA	NA	NA	NA
Subtotal	**77,725,864**	**100.0%**	**68,754,954**	**100.0%**	**88.5%**

Source: STB WAYBILL 2013 and FHWA FAF v3.6

*Note FAF does not provide Through-State movement data

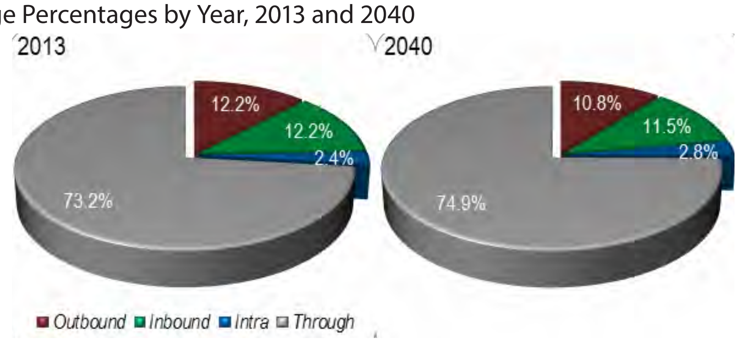
Summary Forecasts — FAF growth rate forecasts for Iowa rail movements between 2013 and 2040 indicate that outbound rail freight tonnage will grow 34.7 percent (1.1% CAGR)[41] and inbound by 44.0 percent (1.4% CAGR). Further, FAF data are used to estimate a 79.7 percent (2.2% CAGR) growth[42] in intrastate movements, and a 55.7 percent (1.7% CAGR) growth in through-state movement (based on national growth trends). These directional CAGRs were applied to the total directional volumes reported by the Waybill Sample for year 2013, to generate year 2040 rail freight ton forecasts as summarized in Table 3 below and contrasted in Figure 12 below.

Table 2.22: Rail Tonnage Forecast Summary, 2013-2040

DIRECTION	2013		2040		CHANGE		
	AMOUNT	PERCENT	AMOUNT	PERCENT	AMOUNT	PERCENT	CAGR
Outbound	35,428,698	12.2%	47,718,838	10.8%	12,290,140	34.7%	1.1%
Inbound	35,402,440	12.2%	50,987,470	11.5%	15,585,030	44.0%	1.4%
Intra	6,894,726	2.4%	12,392,520	2.8%	5,497,794	79.7%	2.2%
Through	212,549,767	73.2%	330,989,061	74.9%	118,439,294	55.7%	1.7%
Total	**290,275,631**	**100.0%**	**442,087,889**	**100.0%**	**151,812,258**	**52.3%**	**1.6%**

Source: CDM Smith use of STB WAYBILL 2013 and FHWA FAF v3.5/v3.6 growth

Figure 2.30: Rail Tonnage Percentages by Year, 2013 and 2040



Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

41 *CAGR: Compound annual growth rate.*

42 *Almost half of the growth in interstate tonnage is attributed to cereal grains.*

Including all directional movements, total rail freight in Iowa is forecast to grow 52.3 percent (1.6% CAGR) from 290.3 million tons in 2013 to 442.1 million tons in 2040. Given similar changes in growth by direction, the directional composition is not projected to alter appreciably, with through traffic still constituting the large majority of all freight on the Iowa rail network.

Commodity Growth — As noted, the SCTG commodity types reported in the FAF differ from the STCC reported in the Waybill Sample, which makes direct comparison difficult. Nonetheless, the change in 2-digit level SCTG commodity movements for the available outbound, inbound, and intra directions for both years (2013 to 2040) are presented in a table in Appendix D. The most notable changes concern Cereal Grains, which are forecast to increase for inbound and intra movements (4.9% and 2.6% CAGR, respectively), while outbound is forecast to decline (1.0% CAGR). Additionally, Alcohol Beverages (this category led by the ethanol, a primary rail-borne commodity in Iowa) are also forecasted to change freight patterns more notably than the other SCTG commodity groups, with outbound increasing 4.2% CAGR through 2040, for an almost tripling of outbound commodity movements.

Top SCTG commodities in 2040, according the FHWA FAFv3.5 include:

Outbound Tonnage (2040)

1. Animal Feed (8.4 million tons, 22.1 percent of outbound total);
2. Other Foodstuffs (8.3 million, 21.9 percent);
3. Alcoholic Beverages (6.6 million, 17.4 percent);
4. Cereal Grains (4.9 million, 12.7 percent); and
5. Nonmetal Mineral Products (2.0 million, 5.2 percent).

Inbound Tonnage (2040)

1. Coal (20.2 million tons, 41.2 percent of inbound total);
2. Cereal Grains (8.0 million, 16.4 percent);
3. Fertilizers (5.0 million, 10.2 percent);
4. Basic Chemicals (3.0 million, 6.0 percent); and
5. Chemical Products. (1.9 million, 3.9 percent).

Intra Tonnage (2040)

1. Cereal Grains (5.1 million tons, 43.8 percent of intra total);
2. Gravel (2.0 million, 17.1 percent);
3. Waste/Scrap (1.2 million, 10.0 percent);
4. Other Agricultural Products. (1.0 million, 8.6 percent); and
5. Animal Feed (0.9 million, 7.4 percent).

Industrial Outlook by Sector — FHWA FAF-derived commodity movements by direction are presented by SCTG code in Appendix D, where the SCTG codes are also summarized within four overarching industrial categories: *Agricultural, Mining and Extraction, Manufacturing, and Other*. Note that Alcoholic Beverages, a category that includes ethanol, is included in the Agricultural SCTG code. A condensed table of the industrial categories is provided below in below. It presents the FHWA FAF 2013 provisional data (v3.6) and 2040 forecasts (v3.5) by outbound, inbound, and intrastate directions, with corresponding compound annual growth rates in rail freight and percentages of total directional/year movements.

FAF data suggests the largest outbound industrial-category movement by rail pertains to Agricultural products, constituting 81.8 percent and 80.8 percent of all outbound industrial products in 2013 and 2040, respectively. Such outbound *Agricultural* products are forecast to increase from 23.1 million to 30.8 million tons between 2013 and 2040, for a 1.1% CAGR.

Inbound industrial-category movements are dominated by *Mining and Extraction* products, which are not slated to effectively increase between 2013 and 2040, with 23.2 million and 23.4 million tons, respectively. As such, the proportional composition of inbound *Mining and Extraction* products declines over time, from

68.1 percent in 2013 to 47.6 percent in 2040. In contrast, *Agricultural and Manufacturing* inbound products are forecasts to increase by 4.6 percent and 2.6 percent respectively, and thus increasing proportional share of inbound industrial goods by 2040.

As with outbound industrial movements, the dominant intrastate movement pertains to *Agricultural* products, constituting 57.4 percent and 64.5 percent of all intrastate industrial products in 2013 and 2040, respectively. Such intrastate *Agricultural* products are forecast to increase 2.6% CAGR, from 3.7 million to 7.4 million in 2013 and 2040, respectively. See Table 2.23 below.

Table 2.23: FHWA FAF Rail Tons by Industrial Sector, 2013 and 2040

NDUSTRIAL SECTOR	OUTBOUND			INBOUND			INTRA		
	2013	2040	CAGR	2013	2040	CAGR	2013	2040	CAGR
Agricultural	23,133,781	30,770,081	1.1%	3,103,540	10,500,764	4.6%	3,685,994	7,449,741	2.6%
Mining/ Extraction	437,799	353,866	-0.8%	23,211,400	23,359,672	0.0%	1,340,938	1,976,559	1.4%
Manufacturing	4,395,184	6,463,458	1.4%	7,217,659	14,468,100	2.6%	840,765	964,198	0.5%
Other	300,945	486,311	1.8%	528,934	727,727	1.2%	558,015	1,159,021	2.7%
Total	**28,267,709**	**38,073,716**	**1.1%**	**34,061,534**	**49,056,264**	**1.4%**	**6,425,712**	**11,549,518**	**2.2%**
PERCENT OF TOTAL									
Agricultural	81.8%	80.8%	N/A	9.1%	21.4%	#N/A	57.4%	64.5%	N/A
Mining/ Extraction	1.5%	0.9%	N/A	68.1%	47.6%	#N/A	20.9%	17.1%	N/A
Manufacturing	15.5%	17.0%	N/A	21.2%	29.5%	#N/A	13.1%	8.3%	N/A
Other	1.1%	1.3%	N/A	1.6%	1.5%	#N/A	8.7%	10.0%	N/A
Total	**100.0%**	**100.0%**	**N/A**	**100.0%**	**100.0%**	**#N/A**	**100.0%**	**100.0%**	**N/A**

Source: Prepared by CDM Smith, based on the FHWA FAFv3.5 and v3.6

2.2.2.4 CONCLUSIONS

Freight rail movements pertaining to Iowa comprise a range of commodities moving in different directions (outbound, inbound, intrastate, and through), measured in different terms (tons and carload units), and with varying geographic origins and destinations. These various directional movements, terms, and geographies complicate simple summarization. Nonetheless, the following summary highlights major commodity movements by direction.

Total Movements — A combined total 290.3 million tons of freight moved across Iowa rail lines in 2013, transported in almost 4.5 million railcar units, for an average 64.8 tons/carload.

Directional Overview — Commodity movement, and composite terms (tons and carload units), vary by direction.

- ***Through*** — Significantly dominates directional movements in terms of both tonnage and carload units. In terms of tonnage, the 212.5 million tons constitutes almost three-quarters of all directional freight rail movement via Iowa (73.2 percent). In terms of carload units, the directional proportion attributable to through traffic is even higher, with the 3.6 million carload units representing 80.9 percent of total directional units. About half (108.9 million tons, or 51.2 percent of through tonnage) of such through freight comprises Coal (from Wyoming, predominately to Illinois, Wisconsin, and Missouri).
- ***Inbound*** — At 35.4 million tons, it represents 12.2 percent of all directional tonnage, and at 360,760 units, 8.1 percent of directional carloads. As with through movements, the dominant commodity is Coal, representing 63.2 percent of all inbound tonnage (22.4 million).
- ***Outbound*** — Almost the same tonnage volumes as inbound rail flows in 2013, at 35.5 million, representing 12.2 percent of directional movements; however, the units are slightly greater than inbound, at 400,835,

representing 8.9 percent of directional carloads. More than half (18.5 million, or 52.2 percent of outbound) tonnage is Food and Kindred Products.
- ***Intrastate*** — Comparatively insignificant, mostly repositioning of Coal.

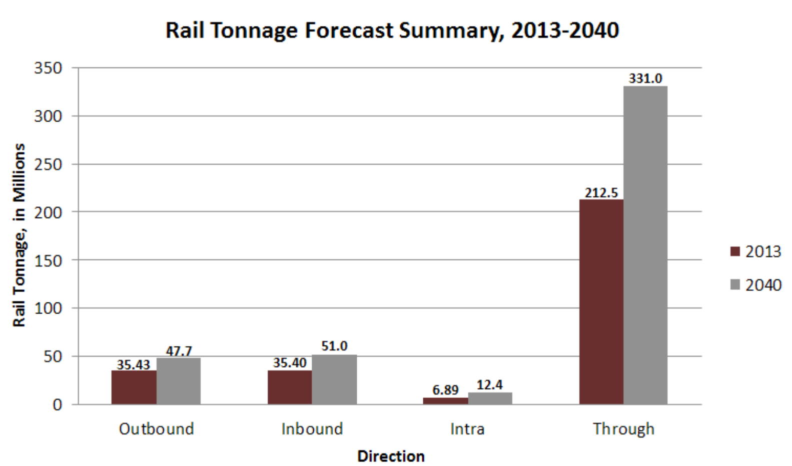
Notable Commodity Movements — Commodity movements are compared and contrasted by their associated tonnage and carload units, as well as direction.

- ***Coal (STCC 11)*** — The major single-commodity movement via Iowa in 2013, accounting for 46.3 percent of all freight rail tonnage (134.4 million tons); and, accounting for 27.1 percent of carload units (1.2 million). A majority of such coal freight pertains to through movements (108.9 million tons), predominately from Wyoming to Illinois, Wisconsin, and Missouri (among a few other origins/destinations); with the remaining pertaining to inbound (22.4 million tons) and intrastate repositioning (3.1 million). There is presently no outbound coal.
- ***Food or Kindred Products (STCC 20)*** — Almost 38.0 million tons traversed the rail network in Iowa in 2013, the second largest commodity movement, with almost half (48.7 percent, 18.5 million tons) pertaining to outbound movements; 42.3 percent, 16.7 million tons pertain to through movements, and the remaining 9.0 percent pertain to both inbound and intrastate. Given that Iowa is an agriculture-producing state, the outbound-related movements are intuitive. In terms of specific outbound Food or Kindred Products, about a third of the exported commodity (6.9 million tons) pertains to Soybean Oil or Byproducts (STCC 2092), and other significant detailed commodity exports pertain to Wet Corn Milling or Milo (STCC 2046) at 4.3 million tons, Prepared or Canned Foods (STCC 2042) at 2.5 million, and Distilled or Blended Liquors (STCC 2085) at 2.4 million tons.
- ***Chemicals or Allied Products (STCC 28)*** — The third largest commodity movement by tonnage, at 31.2 million tons, representing 10.8 percent of all commodities. A majority of such movements are through movements (16.7 million tons, 53.6 percent of directional commodity movements), with 30.8 percent (9.6 million) as outbound; the remainder are mostly inbound. Ethanol is included in this STCC category.

Forecasted Movements — Total rail traffic inbound, outbound, and within the state (intra) will grow 34.7 percent (1.1 % CAGR), 44.0 percent (1.4 % CAGR), and 79.7 percent (2.2% CAGR) per year respectively from 2013 through 2040. Inbound agricultural shipments will have the highest growth rate at 4.6 percent per year over the period. However, by 2040, outbound agricultural products will comprise by far the single largest tonnage shipped (30.8 million tons).

Total growth for freight rail traffic for all directional categories from 2013 to 2040 is estimated at 151.8 million tons, representing a 52.3 percent change. Growth is anticipated at 1.6 percent CAGR overall. The forecasted growth in freight rail tonnage from 2013 to 2040 is portrayed in Figure 2.31 below.

Figure 2.31: Rail Tonnage Forecast Summary, 2013-2040



Source: Prepared by HDR

2.2.3 Passenger Travel Demand and Growth

2.2.3.1 TRAVEL DEMAND — HIGHWAYS

Projections for travel demand within and to/from Iowa will continue to grow in the future. The estimated growth in vehicular travel demand for Iowa, exhibited in Vehicles Miles Traveled (VMT), is shown in Table 2.24 below. VMT describes the level of travel demand on a roadway system, and growth in VMT is a strong indicator of growth in travel demand. VMT is a weighted measure of travel, and it is calculated by multiplying the number of vehicles on a roadway segment by its length. Thus, an increase could be correlated to either increases in vehicles or trip lengths, both of which are growth-related.

In the table, VMT is shown for years 2010 and 2040 by National Highway Functional Classification (NHFC). These classifications are used to define roadway types and their primary uses for roadway users.

Table 2.24: Estimated VMT on IDOT Roadways by Classification, 2010 and 2040

FUNCTIONAL CLASS	EXISTING MILES OF ROADWAY	AVERAGE ANNUAL DAILY VMT (IN THOUSANDS)		GROWTH IN VMT	% GROWTH
		2010	2040		
Interstate/ Freeway	1,569	19,725	26,017	6,292	24.2%
Principal Arterial	5,353	30,034	35,257	5,222	14.8%
Minor Arterial	3,854	8,981	9,497	516	5.4%
Collector	94	132	153	21	13.6%
Local	18	66	90	24	27.1%
Total	**10,888**	**58,938**	**71,014**	**12,076**	**17.0%**

This information was extracted from the state's travel demand forecasting model and represents an estimate of the changes in regional travel conditions between 2010 and 2040, specifically for Iowa DOT-controlled roadways (where data is available to study). Overall vehicle travel is forecasted to grow by around 17 percent from around 59 million daily VMT to around 71 million daily VMT in the state, with the large majority of growth occurring along interstate freeways and principal arterial roadways controlled by Iowa DOT (around 95 percent of the VMT growth would occur in these two functional classes). In terms of a general trend, it can be expected that travel, particularly on state and federal highways, will increase as the population grows and overall economy expands.

2.2.3.2 TRAVEL DEMAND — AIR TRAVEL

The Iowa DOT's *Aviation System Plan 2010-2030* projected 2015 passenger enplanements at 2.1 million, which is relatively close to the 1.8 million enplanements reported by Iowa DOT for 2014. The plan anticipated a total of 3.2 million enplanements in 2030. Furthermore, the plan projected that based aircraft at the state's eight commercial airports would to rise from 614 in 2010 to 787 in 2030. With more activity measured in enplanements and based aircraft expected at Iowa airports, airport planners need to ensure sufficient capacity to serve airport users and thus avoid congested conditions. More detail on air travel is included in Section 2.2.6.2 of the Iowa State Rail Plan.

2.2.3.3 TRAVEL DEMAND — INTERCITY RAIL

The basis for forecasting Amtrak riders at Iowa stations was to project population growth in Iowa and Illinois for counties within an approximate 30-mile radius of Iowa stations[43]. Station ridership changes were calculated based upon the growth rate of each county served by the station.

It is important to note that actual future ridership performance will be based not only on population growth,

43 County population projections obtained from the State Date Center of Iowa website and from the Illinois Department of Commerce and Economic Opportunity website.

but also by changes in income growth, changes in the number of train frequencies and train schedule times at the station (day vs. night), changes in Amtrak fares vs. other modes, and changes in the quality of Amtrak service (i.e., on-time performance).

Population around Iowa's Amtrak stations shows growth overall at 8.34 percent over the period, with the strongest growth around Ottumwa and Osceola. As a result, forecasted passenger boardings and alightings at those stations are highest. A slight decline in usage is predicted for Mount Pleasant.

Table 2.25 below shows FY2014 boardings and alightings at Iowa's six intercity rail stations as well as the forecasts for 2040.

Table 2.25: Amtrak Iowa Boardings and Alightings Forecast for 2040

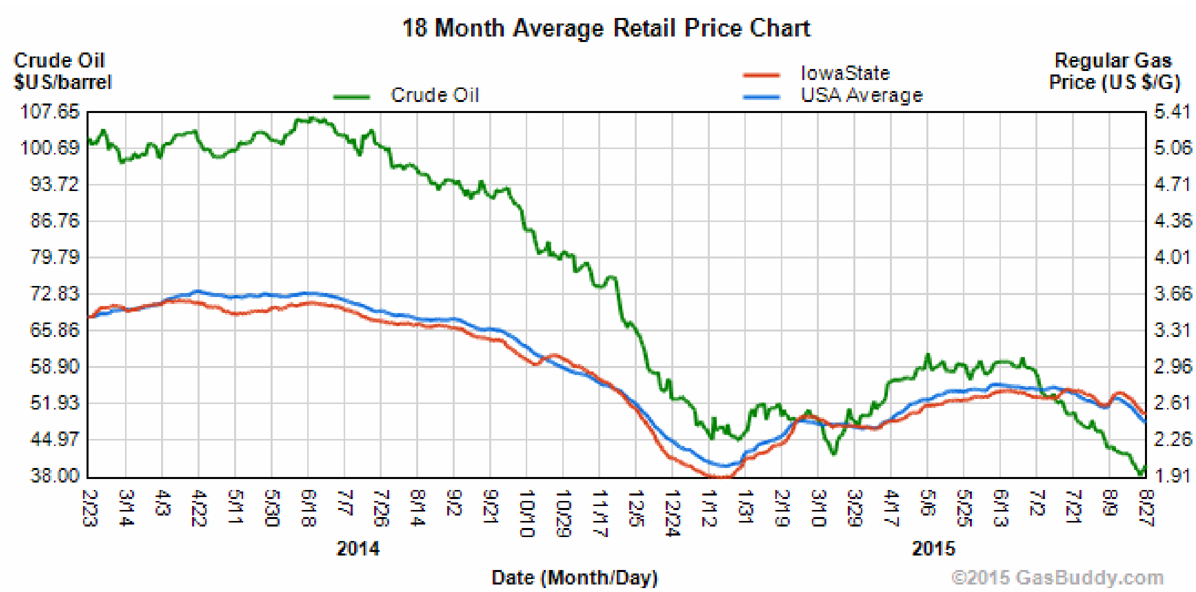
CITY	2014	2040	CHANGE OVER PERIOD	ANNUAL CHANGE
Burlington	8,813	9,011	2.25%	0.09%
Creston	4,314	4,486	3.98%	0.15%
Fort Madison	6,986	7,091	1.50%	0.06%
Mount Pleasant	12,030	11,915	-0.96%	-0.04%
Osceola	13,986	16,373	17.07%	0.61%
Ottumwa	11,109	13,137	18.25%	0.65%
Total Iowa Station Usage	**57,238**	**62,012**	**8.34%**	**0.31%**

Source: Amtrak

2.2.4 Fuel Cost Trends

Trends in fuel costs (crude oil and regular gasoline) over the last 10 years are shown in Figure 2.32 below. The average retail gas price trends in the state of Iowa and the U.S. track closely to each other.

Figure 2.32: Fuel Price Trends from 2005 to 2015



Source: GasBuddy.com

Ultra-low diesel fuel costs over the past 7 years for Midwest region have also not varied substantially from the nationwide average, according to the U.S. Energy Information Administration (EIA). The price of diesel fuel in February 2007 in the Midwest was $2.46, climbing to $4.64 per gallon in July 2008. With the onset of the Great Recession diesel began to drop, bottoming out at $2.04 per gallon in March 2009. Diesel prices recovered to almost pre-recessionary highs between 2011 and 2014, but have since dropped. The cost of diesel averaged

$2.69 per gallon from March through August 2015 in the Midwest region.

2.2.5 Rail Congestion Trends

In order to assess the potential level of congestion on major Class I main lines, or main lines having the higher rail traffic volumes, a planning level evaluation was conducted for selected major rail lines in Iowa, i.e., the Class I main lines have the highest volume of trains. The evaluation compared estimated volumes of trains per day to the practical capacity of the line (the maximum trains per day that can be accommodated), as determined by the existing Method of Operations and associated control systems (e.g., Centralized Traffic Control [CTC][44]; Automatic Train Control [ATC][45]; Automatic Block Signals [ABS][46]; and Track Warrant Control [TWC][47]) on the line and the existing track configurations (single track [1]; two main tracks [2]; and three main tracks [3]). The practical capacity limits for the respective control systems and track configurations were taken from the *National Rail Freight Infrastructure Capacity and Investment Study*, 2007, prepared for the Association of American Railroads.

The practical capacity of a line segment is stated in a range; for example, for a single-track segment with a CTC control system, the range is between 30 and 48 trains per day. The lower end of the range reflects use by multiple train types, such as traditional carload (merchandise), intermodal (trailers and containers on railcars), and passenger trains; and the higher end reflects use by single train types, such as coal unit trains. For subdivisions having two control systems on separate segments of the line (e.g., ABS and TWC), the practical capacity of the lesser efficient control system (in this example, the TWC) is generally shown.

Figure 2.33 below identifies the select major rail routes of UP and BNSF in Iowa, along with the corresponding railroad operating subdivisions comprising each, that were evaluated during the practical capacity analysis exercise conducted for the Iowa State Rail Plan. Note that this practical capacity exercise is only a high-level conceptual analysis and was not conducted through coordination with or data inputs from UP and BNSF.

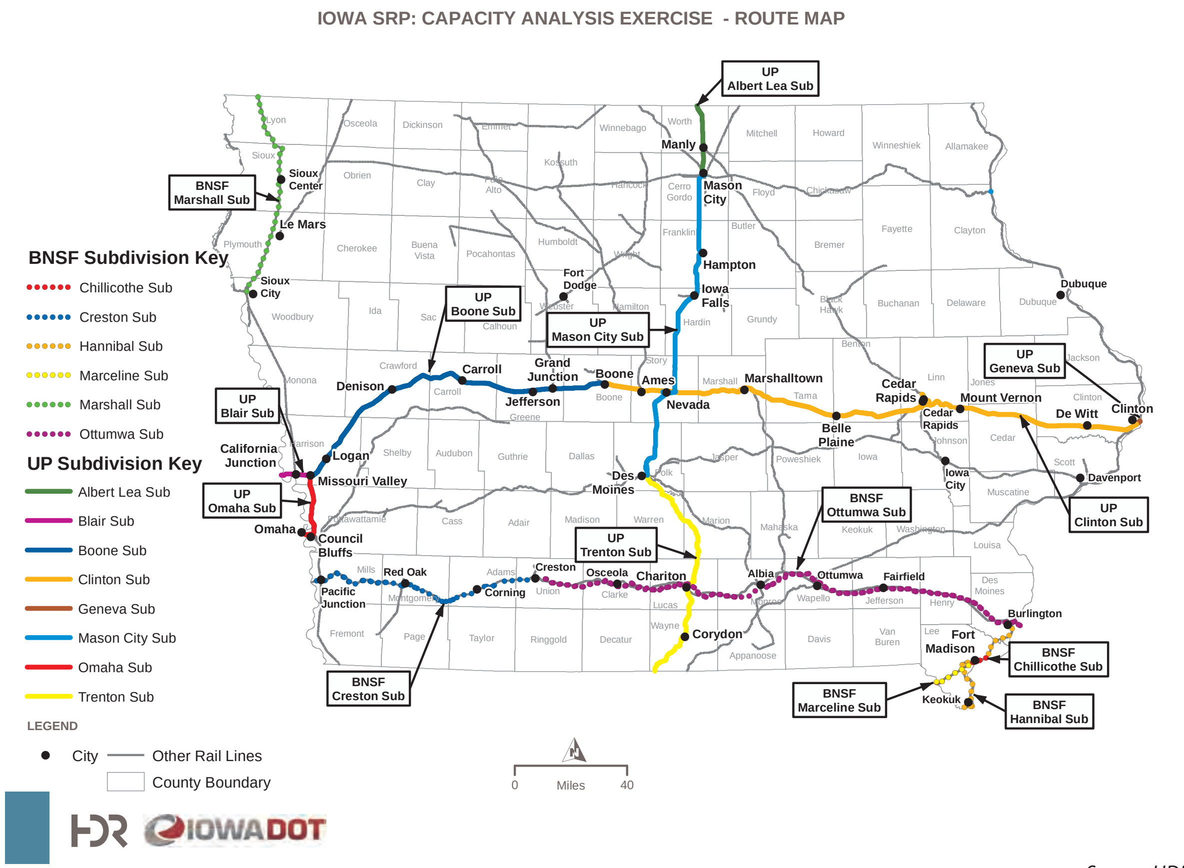
44 CTC is a train control system whereby a dispatcher in a remote location moves trains across sections of track using a wayside signal system and radio communication.

45 ATC is a train control system that automatically stops a train if the engineer does not do so in instances when the train exceeds the maximum authorized speed for a specific track segment. If the train exceeds the maximum authorized speed, an alarm sounds in the locomotive cab to warn the engineer. On the UP, ATC is deployed with CTC on some main lines in Iowa. CTC is the arbiter of practical capacity of these lines, rather than ATC.

46 ABS is a train control system that controls when a train can advance into the next block via wayside signal indications. ABS operation is generally designed to allow trains operating in the same direction to follow each other in a safe manner by minimizing the risk of rear end collisions. ABS is governed by block occupancy and cannot be controlled remotely by a dispatcher. Movement of trains over ABS-equipped segments would generally require a track warrant or other special manual overlay protection from a dispatcher to provide main track authority.

47 TWC is a verbal authorization system defined by the General Code of Operation Rules (GCOR), using track warrants authorizing trains to occupy main tracks. Track warrants are generally provided by the dispatcher remotely via radio communication.

Figure 2.33: Major Iowa Rail Line Capacity Evaluation — Routes Studied



Source: HDR

For the UP, the two major lines evaluated in Iowa are:

- **"The Overland Route"** — oriented from west to east from the Iowa/Nebraska state line, across the central tier of the state to Clinton and onto the Iowa/Illinois state line. The UP subdivisions making up the Overland Route through Iowa include the Omaha, Blair, Boone, Clinton, and Geneva subdivisions.
- **"The Spine Line"** - oriented from north to south from the Iowa/Minnesota state line through Des Moines to the Iowa/Missouri state line. The UP subdivisions making up the Spine Line through Iowa include the Albert Lea, Mason City, and Trenton subdivisions.

For BNSF, the four major lines evaluated in Iowa are:

- **"The Southern Tier Route"** between the Iowa/Nebraska state line, Creston, Osceola, Ottumwa, Mount Pleasant, Burlington, and the Iowa/Illinois state line. The BNSF subdivisions making up this route in Iowa include the Creston and Ottumwa subdivisions. The route handles one daily Amtrak round-trip, i.e., the *California Zephyr.*
- **"The TransCon Route"** via Fort Madison in the southeastern quadrant of the state. The BNSF subdivisions making up the TransCon through Iowa include the Marceline and Chillicothe subdivisions.
- **The Hannibal Subdivision** between Burlington and the Iowa/Missouri state line near Keokuk in the southeastern quadrant of the state.
- **The Marshall Subdivision** between Sioux City and the Iowa/Minnesota state line north of Lester, Iowa, in the northwest quadrant of the state.

2.2.5.1 RESULTS OF THE EVALUATION

The results of the evaluation of these major lines appear in Table 2.26 below.

Table 2.26: Major Iowa Rail Line Capacity Evaluation

RAILROADS EVALUATED							
UNION PACIFIC RAILROAD							
UP Rail Line Segments		UP Operating Subdivision	Control System	No. of Main Tracks	Est. Trains per Day*	Practical Capacity in Trains per Day**	Capacity Constraint
IA/NE State Line	N Council Bluffs	Omaha	CTC	2 & 3	35-45	75-163	No
N Council Bluffs	Missouri Valley	Omaha	CTC/ATC	1	35-45	30-48	Potential
IA/NE State Line	California Jct	Blair	CTC	1	35-45	30-48	Potential
California Jct	Missouri Valley	Blair	CTC	2	35-45	75-100	No
Missouri Valley	E Missouri Valley	Blair	CTC/ATC	2	65-75	75-100	No
Missouri Valley	Boone	Boone	CTC/ATC	2	65-75	75-100	No
Boone	Clinton	Clinton	CTC/ATC	2	65-75	75-100	No
Clinton	IA/IL State Line	Geneva	CTC/ATC	2	65-75	75-100	No
IA/MN State Line	Mason City	Albert Lea	CTC	1	10-14	30-48	No
Mason City	Flint	Mason City	ABS/Yard Limits	1	10-12	18-25	No
Flint	Nevada	Mason City	ABS/TWC	1	10-12	16-20	No
Nevada	Des Moines	Mason City	CTC	1	10-12	30-48	No
Des Moines	Beech	Trenton	CTC	1	10-14	30-48	No
Beech	Williamson	Trenton	ABS/TWC	1	10-14	16-20	No
Williamson	IA/MO State Line	Trenton	CTC	1	10-14	30-48	No
BNSF RAILWAY							
BNSF Rail Line Segments		BNSF Operating Subdivision	Control System	No. of Main Tracks	Est. Trains per Day*	Practical Capacity in Trains per Day**	Capacity Constraint
IA/NE State Line	Creston	Creston	CTC	1	40-45	30-48	No
Creston	IA/IL State Line	Ottumwa	CTC and ABS/TWC	2	40-45	53-80	No
Sioux City	IA/MN State Line	Marshall	TWC	1	10-14	16-20	No
IA/MO State Line	Burlington	Hannibal	TWC	1	12-16	16-20	No
IA/MO State Line	Fort Madison	Marceline	CTC/ATC	2	70-75	75-100	No
Fort Madison	IA/IL State Line	Chillicothe	CTC/ATC	2	60-65	75-100	No

Source: HDR and CDM Smith

* Trains per day estimates provided by BNSF and HDR
** Per National Rail Freight Infrastructure Capacity and Investment Study, Association of American Railroads, September 2007

The sole potential capacity constraint for UP in Iowa appears to exist on the westernmost segment of the corridor — west and south of Missouri Valley. The UP Overland Route traffic generally runs directionally:

westbound from Missouri Valley to Blair, Nebraska, and thence to Fremont, Nebraska, on the Blair Subdivision; eastbound traffic from Fremont to Omaha, thence to Council Bluffs and Missouri Valley on the Omaha Subdivision. Single-track segments between California Junction and Missouri Valley (Blair Subdivision) and between North Council Bluffs and Missouri Valley (Omaha Subdivision) constrict volume to the point where current volumes appear to be consuming the practical capacity of the lines.

The practical capacity of the UP Spine Line appears to be sufficient to handle estimated present train volumes.

The practical capacity of the BNSF subdivisions evaluated during the exercise appear to be sufficient to handle estimated present train volumes.

2.2.6 Highway and Airport Trends

2.2.6.1 HIGHWAY CONGESTION

Iowa contains 99 counties and is home to three cities with populations greater than 100,000, including the state capital and largest city, Des Moines. Linking these cities and counties within the state are various types of highways and roadways. According to Iowa DOT, as of 2013, the state has approximately 114,400 miles of public roadway. Of these, around 8 percent are state or federal highways (comprising interstate highways, US highways, and Iowa state highways), 79 percent are county roads, and 13 percent are city, institution, or locally maintained streets. There are approximately 782 miles of federal interstate highways in Iowa. Primary interstate roadways in the state include Interstate 29, Interstate 35, Interstate 80, and Interstate 380. Other interstate highways in Iowa include Interstate 74, Interstate 129, Interstate 235, Interstate 280, Interstate 480, and Interstate 680.

Every highway within the state is classified as one of six state traffic data definitions, as shown in Table 2.27 below. Rural locations refer to unincorporated places within the state, while municipal areas are located within city or town limits. Secondary roads and streets refer to nonfederal or state highways that range from local streets to larger multilane roadways. Primary roads are federal and state highways that usually provide high speed travel over middle-to-long distances. The interstate highway class of road is the highest classification of arterial roadway and is designed and constructed with mobility and long-distance travel in mind, primarily providing limited-access intercity travel connections.

Most traffic counts are reported in terms of annual average daily traffic (AADT) and represent an estimate of the number of vehicles traveling along a given point on a highway on an average day in the year. Vehicle-miles-traveled (VMT) estimates, while based on AADT estimates, include the distance traveled element and thus provide a measure of highway vehicle travel usage over a geographic area, such as a county, state, or highway system.

The table below provides a breakdown of the lane-mileage and VMT of each type of roadway type and location (i.e. rural vs. city). The data indicate that for year 2014 the Iowa state roadway network carried about 32.3 million vehicle-miles a day, for an estimated 11.8 billion vehicle-miles a year.

Table 2.27: Iowa 2014 Lane-Mileage and VMT by Facility Type (in thousands)

FUNCTIONAL CLASS	LANE-MILES	% OF TOTAL MILES	VMT (IN 1000S)	% OF TOTAL VMT
Rural Interstate	773	0.7%	5,335	16.5%
Rural Primary	7,092	6.2%	8,580	26.5%
Rural Secondary	89,818	78.6%	5,366	16.6%
Municipal Interstate	286	0.3%	2,737	8.5%
Municipal Primary	1,253	1.1%	3,641	11.3%
Municipal Streets	15,037	13.2%	6,673	20.6%
Total	**114,257**	**100.0%**	**32,332**	**100.0%**

Source: Iowa DOT Miles of Public roads in Iowa by Surface Type

While interstate/freeway roadways account for only 1 percent of the state's roadway lane-mileage, they carry the highest percentage (27 percent) of the recorded vehicle-miles traveled. Rural secondary roads, which inherently connect low-traveled and populated areas, comprise around 79 percent of the state's roadway system, but only carry around 17 percent of the state's traveled vehicle mileage.

Based on data provided by Iowa DOT, Table 2.28 below shows the lane-miles and percentage of Iowa DOT-controlled roadways and their respective level of service (LOS) operations, sorted by functional class. Iowa DOT is generally responsible for regional and longer-distance roadways such as the interstate and state/US highway systems. LOS ranges from A to F, with LOS A describing free-flow conditions and LOS F describing highly congested and delayed traffic. LOS D through F conditions describe traffic conditions approaching or exceeding available capacity.

Table 2.28: IDOT Existing LOS Mileage and Operations by Functional Class

FUNCTIONAL CLASS	TOTAL MILES	LOS OPERATIONS – NUMBER OF MILES											
		A	%	B	%	C	%	D	%	E	%	F	%
Interstate/ Freeway	1,566	687	43.8%	549	35.0%	253	16.1%	58	3.7%	14	0.9%	4	0.3%
Principal Arterial	5,340	5,122	95.7%	161	3.0%	35	0.7%	13	0.2%	5	0.1%	3	0.1%
Minor Arterial	3,854	3,794	98.4%	49	1.3%	3	0.1%	3	0.1%	1	0.0%	4	0.1%
Collector	93	92	98.3%	0	0.3%	0	0.3%	1	0.7%	0	0.0%	0	0.0%
Local	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	**10,853**	**9,695**	**89.0%**	**759**	**7.0%**	**292**	**2.7%**	**75**	**0.7%**	**20**	**0.2%**	**11**	**0.1%**

Source: Iowa DOT 2010 Travel Demand Model output

The vast majority of non-interstates currently perform very well according to Iowa DOT, with only 30 miles of roadway operating at LOS D or worse and with most roadways operating at LOS A. At the interstate level of roadway, around 76 of the 1,566 interstate miles in the state operate at LOS D or worse, comprising around 5 percent of the existing interstate mileage. Overall a total of 89 percent of Iowa DOT-maintained roadways operate at LOS A, while a total of 1 percent of roadways operate at LOS D or worse.

Iowa DOT projected highway volumes and level of service to year 2040 for their roadways. A comparison between current and future 2040 conditions is presented below in Table 2.29 below, specifically the number of miles in the future expected to worsen compared to existing conditions. According to Iowa DOT data, the 2040 roadway network is largely expected to remain the same, with only a limited amount of new roadway construction, for a network mileage total of 10,881 miles. Conditions in year 2040 are projected to worsen slightly, as an estimated 425 additional miles of Iowa highways and interstates would experience LOS D through F conditions. In sum, around 5 percent of total roadway mileage would experience traffic conditions approaching or exceeding available capacity in 2040. In particular, an estimated 94 additional miles of roadways are expected to operate at LOS F. Overall, around 84 percent of the Iowa DOT mileage in the future would still operate at LOS A; however, only 30 percent of the interstate mileage would perform at LOS A, indicating that there is an expectation that some roadways would experience increased congestion.

Table 2.29: IDOT 2040 LOS Mileage and Operations by Functional Class and Comparison to Existing Conditions

FUNCTIONAL CLASS	TOTAL MILES	LOS OPERATIONS – NUMBER OF MILES											
		A	%	B	%	C	%	D	%	E	%	F	%
Interstate/ Freeway	1,566	476	30.3%	518	33.0%	148	9.5%	266	16.9%	83	5.3%	76	4.8%
Principal Arterial	5,367	4,946	91.0%	236	4.3%	100	1.8%	47	0.9%	21	0.4%	17	0.3%
Minor Arterial	3,854	3,745	97.1%	70	1.8%	18	0.5%	4	0.1%	5	0.1%	12	0.3%

Collector	94	93	91.9%	0	0.2%	0	0.3%	1	0.6%	0	0.0%	0	0.0%
Local	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	**10,881**	**9,259**	**84.3%**	**823**	**7.5%**	**267**	**2.4%**	**318**	**2.9%**	**108**	**1.0%**	**105**	**1.0%**
Existing Total	**10,853**	**9,695**	**89.0%**	**759**	**7.0%**	**292**	**2.7%**	**75**	**0.7%**	**20**	**0.2%**	**11**	***0.1%***
2040 – Existing Difference	**28**	**(435)**	**(4.7%)**	**64**	**0.5%**	**(25)**	**(0.3%)**	**243**	**2.2%**	**88**	**0.8%**	**94**	***0.9%***

Source: Iowa DOT 2010 Travel Demand Model output

2.2.6.2 AIRPORT CONGESTION

There are eight commercial service airports in Iowa. According to the Aviation System Plan, "These airports support some level of scheduled commercial airline service and have the infrastructure and service available to support a full range of general aviation activity. These facilities meet most needs of the aviation system and serve as essential transportation and economic centers of the state."

Iowa's eight commercial airports appear in Table 2.30 below, along with their passengers and pounds of cargo enplaned and deplaned. As can be seen, Cedar Rapids and Des Moines dominate the air traffic profile in the state.

Table 2.30: Iowa Commercial Airport Activity

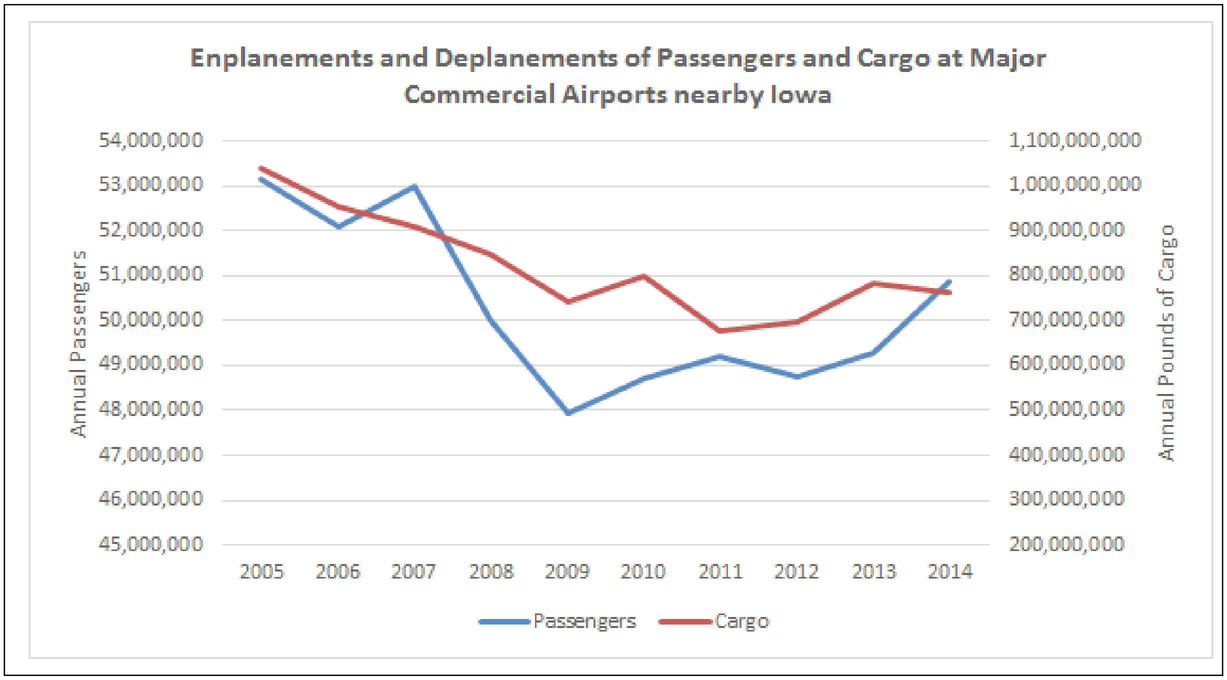
AIRPORT	2014	
	PASSENGERS	CARGO (POUNDS)
Burlington	12,905	0
Cedar Rapids	1,138,148	51,698,793
Des Moines	2,324,289	130,790,339
Dubuque	68,401	2,712
Fort Dodge	232	0
Mason City	1,475	32
Sioux City	55,899	1,596
Waterloo	47,980	850
Total	**3,649,329**	**182,494,322**

Source: Iowa DOT

Of the 3.6 million passengers, almost exactly half (1.8 million) were enplaned and half deplaned. Of the 182.5 million pounds of cargo, 97.5 million, or about 53 percent, were enplaned and 85 million, or 47 percent, were deplaned.

A 10-year summary of the passenger and freight activity at these airports is seen in Figure 2.34 below. Both passenger and freight activity declined with the onset of the Great Recession in 2008. However, passenger traffic has recovered since that time and exceeded the pre-recessionary high of 2007. Freight traffic; however, has tended to remain flat since 2009.

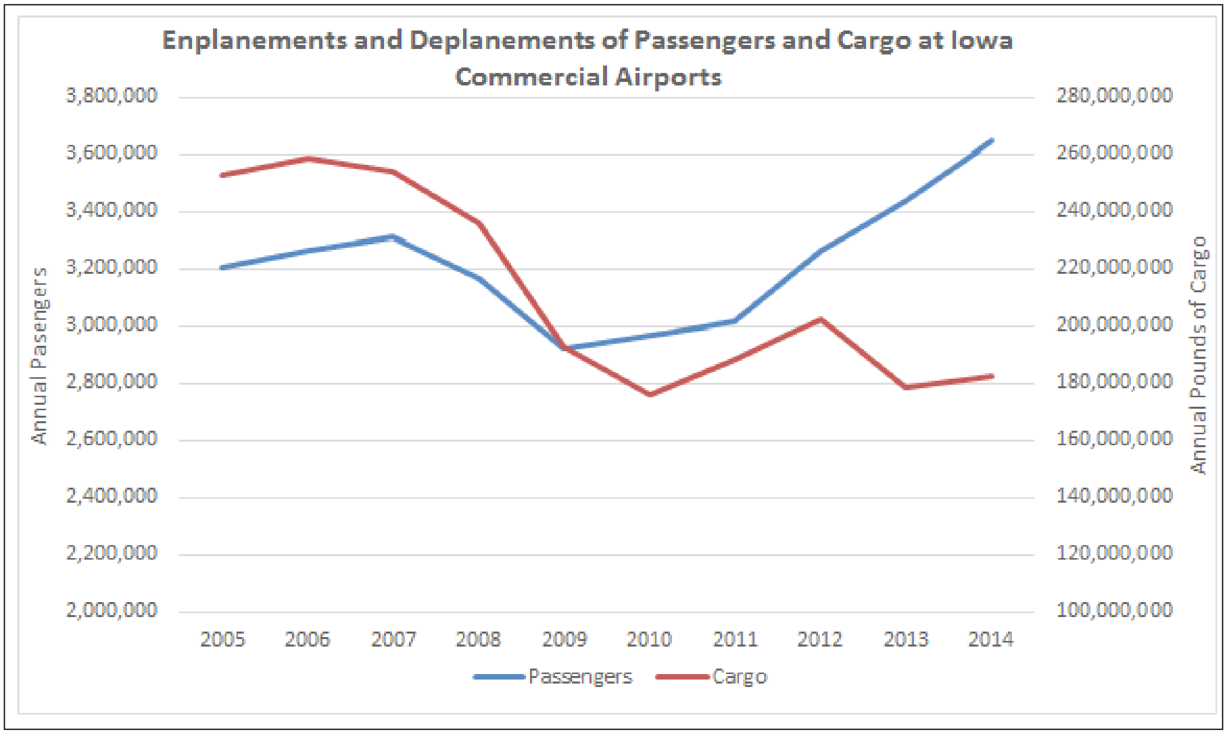
Figure 2.34: Iowa Airport Activity 10-Year Summary



Sources: Figures from Iowa DOT

Iowans also make use of commercial airports in nearby states. These airports include Kansas City, Missouri; Minneapolis, Minnesota; Moline, Illinois; Omaha, Nebraska; and Sioux Falls, South Dakota. The passenger and freight activity at these airports over the last 10 years is summarized in Figure 2.35. While passenger activity is recovering, the long-term trend in cargo activity has been more or less flat since 2009.

Figure 2.34: Activity at Airports near Iowa 10-Year Summary



Source: Figures from Iowa DOT

2.2.7 Land Use Trends

A large portion of the state's land is rural with the majority of land in the state used for cropland and pastureland. Agriculture continues to be a large land use in the state as Iowa remains a leader in producing corn, soybeans, and other products.

In all, 33.4 million acres of Iowa's total land acreage of 36.1 million, or 92.5 percent, is rural farm land, while 1.9 million acres, or 5.2 percent, are developed. Of farm uses, cropland accounts for 25.7 million acres, or 77.4 percent, and pastureland 3.3 million acres, or 9.9 percent[48].

2.3 Rail Service Needs and Opportunities

This section identifies the needs and opportunities for freight and passenger rail in Iowa. Specific projects relative to these needs and opportunities are summarized in subsequent chapters.

2.3.1 Freight Rail Needs and Opportunities

2.3.1.1 RAIL CORRIDOR DEVELOPMENT

As owners and operators of large transportation networks, BNSF, CN, CP, NS, and UP manage their businesses across state lines, considering the entire market potential and competition they face in their Midwestern and western U.S. operating territory. The portions of the railroads' networks connecting key regional markets are considered rail freight corridors, most all of which span multiple states. In Iowa, BNSF and CP name these corridors for business planning, investment, and marketing reasons. Iowa's location in the Midwest and its close proximity to major rail hubs in neighboring states — including Chicago, Illinois; Kansas City, Missouri; and Minneapolis, Minnesota — means that many of the rail corridors in the regional and national rail network connect through Iowa.

Class I freight railroads typically provide the capital necessary for their own network corridor infrastructure improvements. Yet in recent years, some Class I railroads have made corridor improvement investments that have involved public financial assistance, typically justified on the basis of the public benefits from reducing truck traffic and truck emissions on parallel portions of the highway network. A primary interest of the state of Iowa is in the impacts on the connecting short line railroads, enhanced access to the state's rail network, and potential connections to river ports.

The remainder of this section discusses Class I freight railroad corridors in Iowa and elsewhere in the Midwestern United States that affect Iowa in some way. While the focus is on freight rail corridors, some or portions of these routes may have potential to expand existing or add new passenger rail service in coordination with the ongoing operations of the freight railroads in Iowa.

2.3.1.1.1 BNSF Corridors of Commerce

BNSF has designated Corridors of Commerce within its network of routes in the U.S. and Canada to create jobs; deliver rail transportation, safety, and environmental benefits; and promote U.S. economic growth and competitiveness.

Two of the three BNSF Corridors of Commerce intersect with Iowa — the MidCon Corridor and the Transcon Corridor.

BNSF MidCon Corridor

The BNSF MidCon Corridor extends from Canada and Duluth, Minnesota, through the U.S. Heartland to southern ports in Texas and to connections with other railroads at the Mexican border. Of the 3,216 miles comprising the MidCon Corridor reaching 10 U.S. states and the Canadian province of Manitoba, 114 of those miles include BNSF lines in Iowa. Principal BNSF terminals in Iowa, including Sioux City and Council Bluffs are located on the MidCon Corridor[49].

48 http://www.extension.iastate.edu/soils/crop-and-land-use-statewide-data. Based on USDA Natural Resources Inventory (NRI) 2010 data.
49 BNSF MidCon Corridor Fact Sheet, 2015

The MidCon Corridor is a primary conduit for the U.S. energy supply, including coal movements to utilities for power generation and unrefined petroleum products from the Bakken in North Dakota and refined petroleum products from the U.S. South. The MidCon also handles substantial volumes of agricultural products for export. In 2009, BNSF transported 192 million tons of freight, removing 7.6 million trucks from U.S. highways[50]. BNSF has invested over $220 million in the MidCon Corridor to increase capacity by double tracking key segments, siding extensions, and yard improvements. BNSF has spent over $1.4 billion in the last decade to maintain its infrastructure and to ensure the safe movement of goods.

The MidCon Corridor is identified in Figure 2.35 below and connects with BNSF's other two Corridors of Commerce as identified below:

- Great Northern Corridor between Chicago, Illinois and Seattle, Washington/Portland, Oregon — at Fargo, North Dakota
- TransCon Corridor between Chicago, Illinois/St. Louis, Missouri/Atlanta, Georgia/Fort Worth, Texas and Los Angeles/San Diego/Oakland, California — at Kansas City, Missouri, and Ellinor, Kansas.

Figure 2.35: BNSF MidCon Corridor

Source: BNSF

BNSF TransCon Corridor

The BNSF TransCon Corridor extends from Chicago, Illinois; St. Louis, Missouri; and Atlanta, Georgia, through the U.S. Heartland and U.S. South to West Coast ports and major metropolitan areas in the U.S. Southwest and West including Fort Worth and El Paso, Texas; Albuquerque, New Mexico; Phoenix, Arizona; San Diego, Los Angeles, Stockton, Sacramento, and Oakland, California. Of the over 4,647 miles comprising the MidCon Corridor reaching 13 U.S. states, 20 of those miles include a BNSF line in Iowa[51]. The principal BNSF terminal at Fort Madison, Iowa, is located on the TransCon Corridor.

The TransCon Corridor is a major import and export gateway for U.S. businesses and consumers and is a

50 *Ibid.*

51 *BNSF TransCon Corridor Fact Sheet, 2015*

primary conduit for high volumes of consumer goods. The TransCon also handles substantial volumes of agricultural products and other bulk products. BNSF has invested over $1.8 billion in the TransCon Corridor in the last decade to ensure the safe movement of goods, increase capacity by double and triple tracking key segments; expanding and rebuilding an intermodal facility at Memphis, Tennessee; and undertaking several maintenance projects[52].

The TransCon Corridor is identified in Figure 2.36 below and connects with BNSF's other two Corridors of Commerce as identified below:

- MidCon Corridor identified earlier in this section — at Kansas City, Missouri, and Ellinor, Kansas.
- Great Northern Corridor between Chicago, Illinois and Seattle, Washington/Portland, Oregon — at Chicago, Illinois.

Figure 2.36: BNSF TransCon Corridor

Source: BNSF

2.3.1.1.2 CP Corridors

CP has one designated corridor serving Iowa: the Central Corridor, which reaches to six U.S. states and one Canadian province. This route connects with CP's east-west transcontinental route at Moose Jaw, Saskatchewan (Canada), and is oriented south to Minneapolis, Minnesota; Milwaukee, Wisconsin; Chicago, Illinois; and Kansas City, Missouri. Over the Central Corridor, CP provides a direct, single-carrier route between West Coast ports in Canada, Western Canada, and the U.S. Midwest, with access to Great Lakes and Mississippi River ports[53].

Approximately 360 miles of the Central Corridor include the CP network in Iowa. The Central Corridor serves the Iowa cities of Dubuque, Clinton, Davenport, Muscatine, and Ottumwa, and provides an efficient route for traffic destined for southern U.S. and Mexican markets via connections with other railroads at Kansas City. The principal CP terminal at Davenport (Nahant), Iowa, is located on the Central Corridor. The Central Corridor segment to Kansas City also connects with a line at Sabula Junction, Iowa, that has a direct connection into Chicago and points east on the CP network, including Toronto, Ontario, and the Montreal, Quebec, in Canada[54].

The Central Corridor is identified in Figure 2.37 below and connects with CP's other two designated corridors as identified below[55]:

- Western Corridor from Vancouver, British Columbia, to Calgary and Edmonton, Alberta; Saskatoon, Moose Jaw, and Regina, Saskatchewan; Winnipeg, Manitoba; and Thunder Bay, Ontario — at Moose Jaw, Saskatchewan.

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52 Ibid
53 CP Investor Fact Book, 2014
54 Ibid
55 Ibid.

- Eastern Corridor from Chicago, Illinois, and Thunder Bay, Ontario, to Detroit, Michigan; Toronto, Ontario; and Montreal, Quebec — at Chicago, Illinois.

Figure 2.37: CP Central Corridor

Source: CP

2.3.1.1.3 UP Corridor Development

The two main UP corridors serving Iowa are the east-west Overland Route through the central tier of the state, and the north-south Spine Line via Des Moines. The corridors cross in Nevada, Iowa.

The Overland Route connects Chicago and the San Francisco Bay Area. At one time, the route consisted of segments of three separate railroads:

- Chicago & North Western Railway (C&NW) between Chicago, Illinois, and Omaha and Fremont, Nebraska (via Iowa);
- Union Pacific Railroad between Omaha and Fremont, Nebraska, and Ogden, Utah; and,
- Southern Pacific Railroad (SP) between Ogden, Utah, and Sacramento and Oakland, California.

The UP acquired C&NW in 1995 and the SP in 1996, thereby providing common ownership and management of the Overland Route, a primary east-west corridor for national and international rail-borne traffic. Branches off the Overland Route in Wyoming and Utah allow UP to reach Denver and the Pacific Northwest, and Southern California, respectively.

Part of the former Chicago Rock Island & Pacific Railroad, the Spine Line connects the Twin Cities of Minneapolis and St. Paul, Minnesota with Des Moines, Iowa, and Kansas City, Missouri; thence by other UP lines to several urban centers in Texas: Dallas/Fort Worth, Houston, San Antonio, and Laredo, the major rail gateway to Mexico.

These two corridors are strategically important to UP. Besides handling Powder River Basin coal trains from Wyoming bound for the Midwestern, eastern, and southern power plants, the Overland Route serves as a land bridge for domestic and international container traffic between West Coast cities (Seattle, Tacoma, Portland, Oakland, and Los Angeles/Long Beach) and Chicago. The Spine Line is part of UP's north-south network linking rapidly growing southwestern markets and Mexico with the Midwest.

2.3.1.1.4 DRIVING FACTORS IN RAIL CORRIDOR DEVELOPMENT

Many external factors are generally affecting the demand for use of rail corridors as well as influencing Class I railroads' business and network investment strategies. Some of the key factors influencing rail corridor development generally are identified in this section.

Expansion of the Panama Canal

The Panama Canal was opened in 1914 as a major international trade artery that cuts through the Isthmus of Panama and connects Pacific Ocean and Atlantic Ocean trade routes. The Panama Canal Authority is currently expanding the Panama Canal with a larger, third set of locks. This project, anticipated for 2016 completion, will significantly increase the throughput capacity of the canal. It will allow for much larger vessels to transit the locks, potentially providing savings from greater economies of scale for shippers on Panama Canal trade routes. The canal capacity for container vessels, now limited to 4,500 Twenty-foot Equivalent Units (TEU) ships, will increase to container vessels of 12,500 TEU capacity. The greater capacity of the locks will permit larger dry bulk and tanker vessels to also use the canal.

This expansion project creates an opportunity for the ports in the eastern and southern U.S. to capture additional ocean trade with Asian and West Coast of South American countries — traffic that, until now, has bypassed Atlantic ports and traveled instead to ports on the West Coast before traveling to or from the eastern and southern U.S. by rail or truck. Additional international trade could be carried to and from Atlantic ports by rail, if port market shares increase. International trade commodities traveling cross-country by rail through Iowa to or from Atlantic and Pacific Coast ports may see a decrease in share.

Increases in Domestic Intermodal Transportation

The Class I railroads are increasingly focused on growing their intermodal container business and facilities. The intermodal business has been part of the railroads' services since the 1960s, and it grew substantially between 1980 and 2000. Intermodal transportation may include a truck trailer on a flat car (TOFC) or a shipping container stacked one or two high on specialized container well railcars or other flatcar (COFC). COFC was first initiated to serve international ocean container traffic at container ports, but within the last decade, railroads have grown their domestic intermodal container businesses nationwide. The railroads have accomplished this generally by offering speed and pricing of service and intermodal container yards located where they are useful to truckers, thus replacing the need for truck drivers to drive long-haul distances far from home and to better address the present and surging shortage of truck drivers in the U.S. The domestic intermodal service uses larger size containers than used in ocean shipping, matched instead to standard highway trailer sizes that are 53 feet long and taller and wider than a standard 40-foot long international ocean container. In 2015, Iowa had one active rail intermodal facility, at Council Bluffs, and was located in proximity to other intermodal facilities in the Chicago area, Omaha, Minneapolis / St. Paul, and Kansas City. Iowa's central location in the Midwest could potentially make it a hub for the development of an additional facility on various domestic intermodal rail corridor services extending to the southern, eastern, and western U.S. and various international ports, thus enhancing access to the rail network in Iowa and the reach of Iowa's shippers and receivers in the national and global marketplace.

Changes in Energy Production: Oil, Gas, and Coal

There has been growth in U.S. domestic production of oil and gas through the application of hydraulic fracking and directional drilling in the last five years. Rail has played a significant part in supplying drilling equipment and materials such as frac sand to these operations. Rail service has made production possible in areas without or with inadequate pipeline capacity.

Iowa does not have oil or gas fields or oil refineries affected by the growth, but crude-by-rail trains transit the state between producers in the Bakken oil fields of North Dakota and markets in the southern and eastern U.S. Frac sand shipped by rail is also transported through Iowa. This increased traffic may have impacts that are significant to the national and Iowa railroad networks.

Combined with the cost of complying with emissions regulations, coal-fired electric generating plants are increasingly becoming uncompetitive with natural gas fired plants. Retirements of coal-fired plants nationwide are increasing and accelerating — a trend which has implications for coal transport by rail and would be traditionally significant for Iowa, as large volumes of coal produced in the Powder River Basin of Wyoming travels over the state's rail network en route to markets in the U.S. Midwest, East, and South or terminate in Iowa. Less direct effects on Iowa's economy and rail network may be relatively greater manufacturing and related shipping activity, as lower electricity prices may make Iowa even more competitive as a manufacturing location, including products for export.

2.3.1.2 OTHER NEEDS AND OPPORTUNITIES FOR IOWA'S FREIGHT RAILROADS

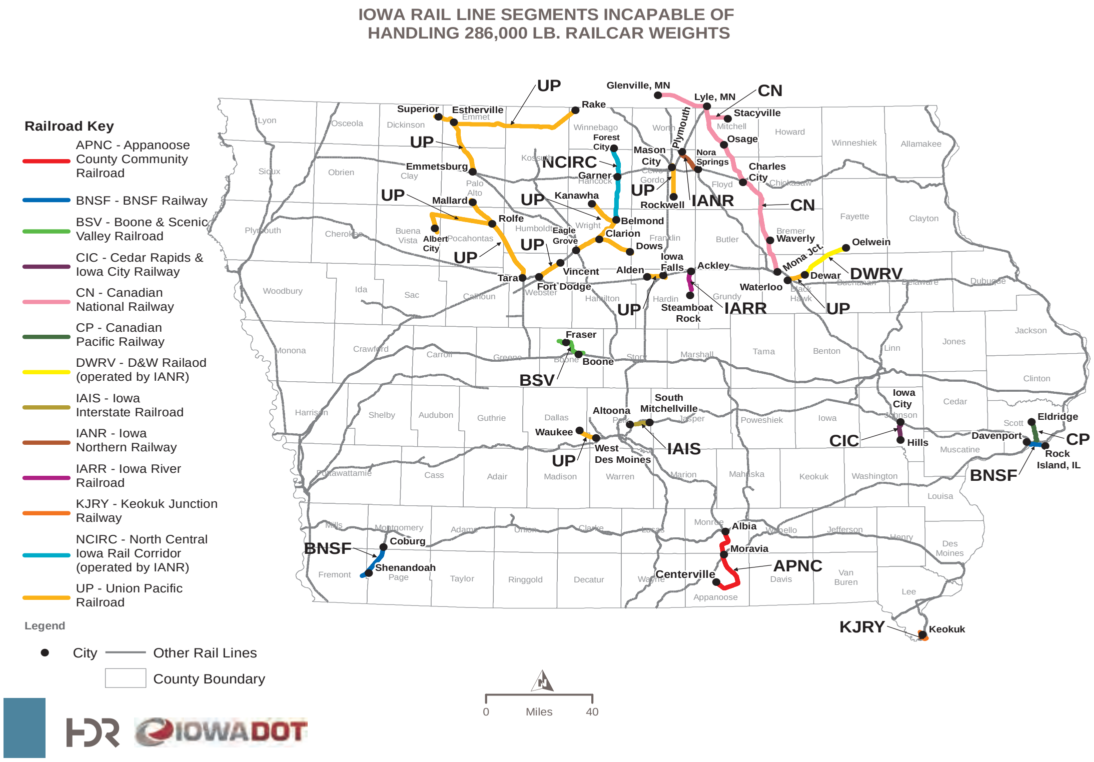
This section identifies and describes generally some needs and opportunities for Iowa's freight railroads. Proposed freight rail improvements and potential investments aimed at targeting freight rail needs and opportunities and a recommended approach for finding potential solutions will be discussed in Chapters 4 and 5 of the Iowa State Rail Plan.

2.3.1.2.1 Upgrades to Accommodate Heavier Railcars

Iowa's railroads have made considerable progress in the last two decades to upgrade track and bridges to accommodate heavier railcars with maximum allowable gross weights of 286,000 lbs. Railcars with a maximum gross weight of 286,000 lbs. are becoming an industry standard for railroad transportation. During the coordination for the State Rail Plan, some of Iowa's Class III railroads identified the need to upgrade track and bridges to increase capacity and, in some instances, also to accommodate 286,000 pound railcar loadings on some or all segments of their Iowa networks. The ability to handle maximum carloads of 286,000 lbs. is of importance to railroads to increase operational efficiencies and to railroad shippers to maintain local rail access and the ability to compete in the marketplace. Railroad shippers on short lines that can only accommodate railcars with a maximum allowable gross weight of 263,000 lbs. or 268,000 lbs. must compete with firms served by Class I and Class II railroads whose lines have the capacity for 286,000 lb. cars. These railroad-served shippers can load more cargo per car and thus realize a transportation cost savings relative to short line railroad shippers whose serving railroad cannot handle the heavier car weights. Some segments of the Class I and Class II networks in Iowa with lighter traffic densities are also unable to accommodate 286,000 lb. cars at present.

Figure 2.38 below identifies rail line segments in Iowa that are incapable of handling maximum loaded car weights of 286,000 pounds. This includes route segments and designated industrial leads of the state's Class I, II, and III railroads.

Figure 2.38: Iowa Rail Line Segments Incapable of Handling 286,000 Lb. Railcar Weights



Source: Iowa's Class I, II, and III railroads and Iowa DOT

Note: The line segment between Plymouth and Nora Springs, Iowa, can accommodate 286,000 lb. car weights with special approval from IANR.

2.3.2.1.2 Enhanced Railroad Access

One potential solution for Iowa's shippers to remain competitive in the global marketplace and to spur economic development, employment, and income in the state, is enhanced access to the Iowa railroad network. Enhanced railroad access could be provided through:

- Rehabilitation of existing railroad branch lines;
- Development of improved or new industrial spurs;
- Optimization of existing access to transload and intermodal facilities in Iowa and construction of additional such facilities to meet demand for multimodal transportation and to address numerous transportation challenges; and,
- Development of coordination and communication strategies for locating and securing available rail equipment and shipping containers in Iowa.

2.3.2.1.3 Reduction of Bottlenecks

Bottlenecks exist throughout Iowa's railroad network, which constrain railroad operating capacity, efficiency, velocity, and safety, as well as freight mobility. Typical bottlenecks in the state include:

- Insufficient capacity on main tracks and in terminals and rail yards to accommodate present and future train volumes, interchange of traffic between railroads, and provision of rail switching;
- Operating delays at railroad junctions and at movable bridge spans over principal navigable waterways;
- Bridges that constrain vertical and horizontal clearances and restrict the types of rail car equipment that can be accommodated; and,
- Potential effects on infrastructure and service for rail lines located in a major floodplain.

Table 2.31 below presents 36 Iowa rail network bottlenecks, as identified by Iowa DOT in 2014 through a freight mobility survey it sent to the state's railroads, Metropolitan Planning Organizations, Regional Planning Affiliations, and Iowa DOT District transportation planners for inputs. The bottlenecks identified through the survey are numbered in the table below and shown by location on the map in Figure 2.39 below. This list differs from the main line analysis in Section 2.2.5 which focused on Class I rail line congestion as a function of trains per day and the existing track and control system infrastructure on certain line segments.

Additional bottlenecks identified by the state's Class III railroads during the 2015 railroad coordination conducted for the State Rail Plan are identified in Table 2.32 as well as in Appendix A of the Iowa State Rail Plan.

Table 2.31: Iowa Rail Network Bottlenecks Inventory, 2014

ID	RAILROAD	LOCATION	FREIGHT MOBILITY ISSUE
1	CN (CC&P) and UP	Mainline between Sioux City and Le Mars, Iowa	**Track congestion** from multiple rail companies operating over the same line.
2	DAIR, UP, CN (CC&P), and BNSF	Interchange at Sioux City, Iowa	**Limited size and capacity.** The alignment of interchanges between all four railroads causes each railroad to access a busy BNSF main line to allow for certain interchange movements from one railroad to another. The alignment requires a very **unsafe "back-up and see-saw"** movement which causes delays to trains and vehicular traffic.
3	BNSF	Gordon Drive Viaduct; Sioux City, Iowa	The Gordon Drive viaduct has a vertical clearance of 17' 6" Above Top of Rail **which does not allow for the passage of double stack container trains.**
4	UP	West of Missouri Valley, Iowa, and South of Omaha, Nebraska	**Flood prone area;** Missouri River flooding in 2011 did not cause a shutdown, but traffic was reduced for a period of 10 days to raise the track in multiple locations above predicted crest elevations. The process was a costly undertaking.
5	CN (CC&P)	UP Bridge over Missouri River in Council Bluffs, Iowa	CN uses a UP bridge at Council Bluffs, Iowa, to reach a customer in Omaha, Nebraska, which **causes some delay** waiting for UP trains. CN traffic between Council Bluffs and Omaha is limited.
6	BSV	Industrial Park at Boone, Iowa	**Need to improve infrastructure with additional siding and storage.**
7	IAIS	Bridge 380.4 (near De Soto, Iowa)	This **bridge restricts the movement of high-wide loads** due to the truss construction. This affects movements between Des Moines and Council Bluffs, Iowa, and restricts movements from wind tower producers.
8	IAIS	Bridge 378.1 (near Van Meter, Iowa)	This **bridge restricts the movement of high-wide loads** due to the truss construction. This affects movements between Des Moines and Council Bluffs, Iowa, and restricts movements from wind tower producers.
9	IAIS	Bridge 373.0 (near Booneville, Iowa)	This **bridge restricts the movement of high-wide loads** due to the truss construction. This affects movements between Des Moines and Council Bluffs, Iowa, and restricts movements from wind tower producers.
10	IAIS	Bridge 360.9 (near West Des Moines, Iowa)	This **bridge restricts the movement of high-wide loads** due to the truss construction. This affects movements between Des Moines and Council Bluffs, Iowa, and restricts movements from wind tower producers.

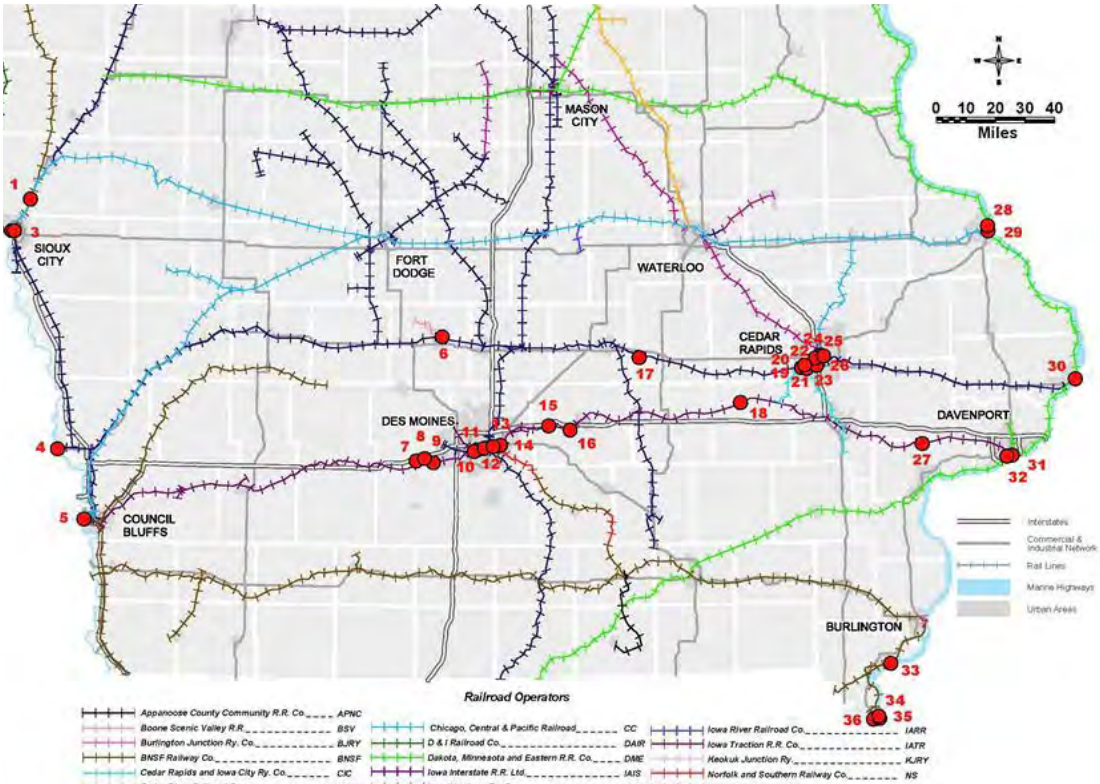
11	IAIS	Des Moines, Iowa, Track Conditions	**Rail, crossings, and bridge conditions limit main track to FRA Class 1 and operations no**t exceeding 10 mph. Need improvements to meet FRA Class 2 track standards and an operating speed increase to 25 mph.
12	IAIS	Des Moines, Iowa	**Flood prone area;** Track from MP359.04 to MP362.25 near Edwards Avenue is at risk of flooding from the Raccoon River anytime the Fluer Flood Gates close.
13	IAIS	UP Short Line Yard in Des Moines, Iowa	UP-owned trackage and yard, **no dedicated through route** for IAIS. Need a dedicated separate track to allow through IAIS movements to pass without restriction.
14	IAIS	Pleasant Hill, Iowa	**Flood prone area**; MP352.25 to MP353 near Fairview Drive is at risk of flooding from Four Mile Creek.
15	IAIS	Colfax, Iowa	**Flood prone area;** MP334.25 to MP336 near Walnut Street is at risk of flooding from the Skunk River.
16	IAIS	Bridge 329.1 (near Colfax, Iowa)	This **bridge restricts the ability to carry high-wide movements** associated with wind towers. Need to replace structure with through plate girder bridge.
17	UP	Montour, Iowa	**Flood prone area;** Closed the line in 2014 due to a large rain event.
18	IAIS	Bridge 268.6 (near Marengo, Iowa)	This **bridge restricts the movement of high-wide loads** due to the truss construction. This affects movements between Newton and Davenport, Iowa, and restricts movements from wind tower producers.
19	CIC and UP	Fairfax 3 in Cedar Rapids, Iowa	UP **can only deliver one train at a time a**t this location. Additional interchange track would alleviate the capacity issue.
20	UP	Cedar Rapids, Iowa	**Flood prone area;** Closed the mainline in 2014 due to a Prairie Creek watershed rain event that backed up drainage ditches. Water backup created flooding in UP Beverly Yard as well as the main line for multiple days.
21	CIC	IAIS Interchange near Cedar Rapids, Iowa	There are only **two tracks existing for the interchang**e. Additional track to accommodate ADM traffic growth via IAIS is warranted.
22	CIC	Edgewood Road - 26th Street Reconfiguration in Cedar Rapids, Iowa	The **single line limits train traffic** between the UP and IAIS interchanges and ADM. It also doesn't allow for car inspections. A second track, removing the S curves, and adding an access road from ADM to the interchange yards would solve the issue.
23	CIC	Cedar Rapids Bypass; Cedar Rapids, Iowa	**Rail traffic currently moves through the ADM plant** greatly affecting services. A new single line that bypasses ADM would allow trains to travel around the plant more efficiently and minimize potential operating conflicts between CIC trains.
24	CIC	OR Bypass in Cedar Rapids, Iowa	**Insufficient capacity to accommodate the interchange space** for IANR and CN corn traffic while facilitating other yard switching activities. Bypass would provide additional capacity and efficiency of railroad operations.

25	CIC	8th Avenue Curve in Cedar Rapids, Iowa	The **current 18-degree curve limits train size and motive power options for train operations,** increasing the number of trains and causing congestion (motor and rail) in downtown Cedar Rapids, Iowa.
26	UP	Cedar Rapids, Iowa	**Flood prone area;** Cedar River caused an entire industrial lead to be closed for the duration of a flood in 2008.
27	IAIS	Moscow, Iowa	**Flood prone area;** MP211.75 to MP 212.75 near Noble Avenue on the Cedar River.
28	CP (DM&E)	Garfield Avenue; Dubuque, Iowa	**Lack of rail yard capacity**
29	CN (CC&P)	South Port; Dubuque, Iowa	**Lack of rail yard capacity**
30	UP*	Swing-span bridge over Mississippi River at Clinton, Iowa	The **bridge closes for rail traffic to accommodate barge passage on the river during navigation season.** The time typically required to stop trains, open the bridge for river traffic, return the bridge to its original position, and restore normal railroad operations cause major delays to UP.
31	IAIS, CP (DM&E), and BNSF*	Government Bridge over Mississippi River at Davenport, Iowa	Existing **bridge restricts all rail traffic to 10 mph, rail traffic is restricted by barge movements during navigation season, and railcar capacity of structure is marginal for railcars with a maximum allowable gross weight of 286,000 lbs**. Need to replace structure.
32	BNSF	Crescent Bridge over Mississippi River at Davenport, Iowa	**Railroad bridge functionally obsolete**; should be replaced.
33	BNSF*	Swing-Span Railroad Bridge over the Mississippi River at Ft. Madison, Iowa	The **bridge closes for rail traffic to accommodate barge passage on the river during navigation season.** The time typically required to stop trains, open the bridge for river traffic, return the bridge to its original position, and restore normal railroad operations cause delays to BNSF and vehicular traffic that shares the bridge.
34	KJRY	Between Keokuk, Iowa, and Hamilton, Illinois	**Flood prone area along the Mississippi River;** Flooding sometimes requires tracks to be shut down for periods of time (a 2008 flood event had the largest impact).
35	KJRY*	Swing-Span Bridge over Mississippi River at Keokuk, Iowa	The **bridge closes for rail traffic to accommodate barge passage on the river during navigation season.** The time required to stop trains, open the bridge for river traffic, return the bridge to its original position, and restore normal railroad operations cause delays to KJRY.
36	KJRY	Twin Rivers Yard at Keokuk, Iowa	**Insufficient storage and switching capacity,** as well as the inability to block rail traffic properly exists at this location. In order to alleviate the bottleneck, an increase in yard capacity is necessary.

Source: Iowa DOT

Note: Locations denoted with an asterisk (*) above indicate multimodal bottlenecks in Iowa that have a rail transportation and a waterway (river) transportation component.

Figure 2.39: Iowa Rail Network Bottlenecks Map



Source: Iowa DOT

Note: Canadian National Railway (CN) operates in Iowa through its subsidiaries Chicago Central & Pacific Railroad (CC&P) and Cedar River Railroad (CEDR) and Canadian Pacific Railway (CP) operates in Iowa through its subsidiary Dakota, Minnesota & Eastern Railroad (DM&E). Bottlenecks listed in the tables above for CN and CP are shown on the figure above on routes of CC&P and DM&E, respectively.

Table 2.32: Capacity Constraints and Operational Bottlenecks Identified by Class III Railroads, 2015

RAILROAD	LOCATION	DESCRIPTION
Cedar Rapids and Iowa City Railway	26th Street to Edgewood Road — Cedar Rapids	Double track main to ease congestion
Cedar Rapids and Iowa City Railway	Interchange Track 953 — Cedar Rapids	Additional interchange track with IAIS
Cedar Rapids and Iowa City Railway	OR Bypass Interchange Track — Cedar Rapids	Unit train receiving track for CN, IANR
D & I Railroad	Sioux City Terminal Area — Sioux City	Operations bottleneck exists where the four railroads in Sioux City (BNSF, CN, DAIR, and UP) intersect at a major at-grade crossing of rail lines and where trains operate at slow speeds in a terminal environment. Carload interchange between the carriers can be a challenge, as there are presently no designated interchange locations, and many of the carriers must operate in each other's yards to interchange cars
Iowa Northern Railway	Bryant Yard — Waterloo	Convergence of traffic from three subdivisions results in insufficient classification space

Iowa Northern Railway	Nora Springs — CP Interchange Traffic	Increased volumes of IANR/ CP interchange traffic results in insufficient track capacity.
Keokuk Junction Railway	Keokuk	Limited yard space for storage of primary shippers' private railcars

Source: Iowa DOT

2.3.1.3 PORT-RAIL NEEDS AND OPPORTUNITIES

Iowa does not have any seaports, but several of its 55 river barge ports on the Missouri and Mississippi rivers have a physical connection to the Iowa rail network. The opportunity for enhanced multimodal transportation opportunities could potentially be met through investments targeted to promote interconnectivity and capacity. Such investment could include the construction or rehabilitation of existing rail connections between principal railroad lines and river port properties and additional sidings, spurs, or yard tracks for switching, staging, and storing railcars at or near port facilities.

2.3.2 Passenger Rail Needs and Opportunities

This section identifies and describes potential passenger rail needs and opportunities in Iowa. Proposed passenger rail improvements and potential investments aimed at targeting passenger rail needs and opportunities will be discussed in Chapter 3 of the Iowa State Rail Plan.

2.3.2.1 PASSENGER RAIL OPPORTUNITIES

2.3.2.1.1 Population and Economic Growth

With population, employment and personal income all forecast to increase through year 2040, it appears that the basic economic conditions in Iowa will be supportive of new passenger rail service. More people and more workers with more disposable income are likely to seek out transportation options that enhance their mobility in convenient and affordable ways. The last 25 years have seen the development of new intercity passenger corridor services (e.g., in California; Oregon and Washington; Texas and Oklahoma; Virginia; Massachusetts, New Hampshire; Maine; and elsewhere) and commuter rail services (e.g., in South and Central Florida; Dallas-Fort Worth; Washington DC; Salt Lake City; Los Angeles; and elsewhere) in response to people's needs for getting around without reliance on auto travel. The intercity and commuter rail concepts summarized below have the potential to meet Iowans' future mobility needs.

2.3.2.1.2 Potential for Intercity Passenger Rail

Responding to the likely increase in regional travel, Iowa continues to investigate new potential services on new routes which will link the state with Chicago, Omaha, the Twin Cities, and Kansas City as well as link cities within Iowa (e.g. Des Moines with Council Bluffs to the west and Iowa City and Davenport to the east). These services would restore passenger rail services that vanished decades ago. It is important to note that intercity bus companies such as Greyhound Lines, Megabus, and Jefferson Lines serve several of these interstate and intrastate markets today. However, intercity bus services typically cater to the price sensitive and transit dependent riders. The opportunity for intercity rail service rests with offering higher quality, albeit more expensive, options appealing to riders. Successful examples of state-sponsored trains started in the not too distant past are the Saluki (between Chicago and Carbondale, Illinois, initiated in 2006) and the Heartland Flyer (Oklahoma City to Fort Worth, initiated in 1999).

The Federal Railroad Administration anticipates the need for a regional approach to new intercity passenger rail service development. The FRA intends to initiate a Midwest Regional Rail Plan effort sometime in 2016 or 2017, which will look at updating and expanding previous work done for the Midwest Regional Rail Initiative. This effort will evaluate the potential for new service in the states of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

2.3.2.1.3 Potential for Commuter Rail

Commuter rail options have been explored for both the Des Moines and the Iowa City — Cedar Rapids areas. Commuter rail assumes a predominance of peak-period and peak-direction travel at costs ranging from 15 to 20 cents per mile per rider. Commuter rail has been deployed most successfully along corridors that have congested highways and high parking fees at central city stations having relatively high job densities. Absent these conditions, successful implementation becomes more challenging. Still commuter rail provides mobility options for busy people, who would prefer to take a comfortable train than remain behind the driver's wheel of their automobiles stuck in traffic. Therefore, studies of potential commuter rail options should continue to determine where and when the key success factors may arise. Examples of medium market commuter rail successes include Nashville's *Music City Star*, Albuquerque's *Rail Runner*, and Salt Lake City's *FrontRunner*.

Another option would be for Iowa to consider schedules for any new regional intercity passenger trains that could attract commuters to the trains. Examples of such dual market trains include two California Corridor trains: the *Capitol Corridor* (between San Jose, Oakland, Sacramento, and Auburn) and the *Pacific Surfliner* (between Santa Barbara, Ventura, Los Angeles, Anaheim, and San Diego). Both trains carry short distance commuters as well as longer distance intercity travelers. Conceivably, the proposed Chicago-Council Bluffs/Omaha intercity service could serve commuters bound for Des Moines, as that service develops. Such a scenario would require commuter stops closer to Des Moines than the either Grinnell to the east and Atlantic to the west, where intercity stations have been proposed[56].

2.3.2.2 PASSENGER RAIL NEEDS

2.3.2.2.1 Improvements to Current Amtrak Performance

The *California Zephyr* and the *Southwest Chie*f today are earning substandard scores per Amtrak's Customer Service Indicator, particularly with regard to information given, on-board cleanliness and on-board food service. Furthermore, the trains are well below the Amtrak standard with regard to on-time performance. Several stations still have unmet needs in terms of ADA compliance and achieving a state of good repair. The good news is that ridership has grown noticeably for both trains since 2008. Also, the cost recovery for the trains is not that far behind the financial performance for Amtrak long-distance trains overall. It is reasonable to conclude that with improvements in customer satisfaction, on-time performance and station conditions, more riders will be attracted to the trains, thus spurring improvements to the trains' performance metrics.

2.3.2.2.2 Capacity

Iowa, among other Midwestern states, envisions intercity passenger rail expansions, which will occur on existing freight railroad corridors. The potential of commuter rail in the Des Moines and the Cedar Rapids — Iowa City areas would also require access to freight railroad corridors. Given the freight railroads' existing and projected traffic volumes, rail line capacity likely will loom large as an issue for new passenger rail service implementation. Passenger rail sponsors will need to engage the freight railroads in analysis of the infrastructure improvements required to assure fluid and reliable freight and passenger operations in shared-use corridors. Often such collaboration will require operations simulation modeling, which can pinpoint potential bottlenecks and robustly test for infrastructure solutions (e.g., additional passing sidings or lengthening sidings), given specific assumptions about train volumes and schedules.

56 *Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study, Draft Service Development Plan, November 2013.*

Iowa State Rail Plan Final

Chapter 3

Proposed Passenger Rail Improvements and Investments

IOWA DOT

Contents

3.1 Introduction

This chapter notes the various ongoing or proposed passenger rail initiatives as well as new passenger rail service concepts that could enhance mobility options for Iowans. These include intercity passenger and commuter rail services. Intercity rail passenger services are generally of 100-150 miles or more in length operating with limited frequencies seven days a week. Commuter rail is a mass transit option that links relatively high density work centers with outlying residential communities with a service concentration on weekdays during the morning and evening commute periods. A third passenger rail mode involves tourist railroads.

The intercity passenger rail initiative involving Iowa that is furthest along in planning is between Chicago, Illinois, and Council Bluffs, Iowa/Omaha, Nebraska. The initiative was identified as one of several routes of the Midwest Regional Rail System (MWRRS), a passenger rail system that will provide service radiating from Chicago to major population centers and intermediate stations throughout the Midwest. Additional components of the MWRRS include higher speed services between Chicago and St. Louis, Missouri, and between Chicago and Detroit, Michigan. Both of these routes are under development. The MWRRS system is shown in Figure 3.1 below.

Figure 3.1: Midwest Regional Rail System

Source: Midwest Interstate Passenger Rail Commission

New potential passenger services reaching all regions of the state, as well as existing passenger rail services, are seen in Figure 3.2 below.

Figure 3.2: Existing and Potential Future Passenger Rail Routes in Iowa

Source: Iowa Department of Transportation

In addition, two potential commuter rail services and new tourist and special operations rail concepts have also been identified. All of these various services are discussed in the sections that follow.

The chapter concludes with a description of iTRAM, an Iowa DOT travel demand model that can be used to forecast the ridership potential of new intercity passenger services.

3.2 Improvements to Existing Intercity Services

3.2.1 Current Projects and Initiatives

Current projects and initiatives to improve existing intercity services include those undertaken on the BNSF Railway's southern tier route across the state over which Amtrak's *California Zephyr* operates in Iowa. These recently completed improvements include the Burlington Bridge Replacement over the Mississippi River at Burlington, Iowa, and the Ottumwa Subdivision Crossover Improvement Project between Burlington and Creston, Iowa. The ongoing implementation of Positive Train Control (PTC) on the BNSF network, including on the southern tier route across Iowa, will have positive impacts to Amtrak services in the state. These improvements are discussed further in Chapter 4.

3.2.2 Potential Future Projects and Initiatives

Potential future projects and initiatives that Iowa might consider proposing to improve existing intercity services in the state are identified in this section

3.2.2.1 THRUWAY BUS SERVICES

To provide Iowans with improved access to existing Amtrak long-distance and corridor routes, new connecting Amtrak Thruway bus routes could be implemented. One route could be implemented along north-south Interstate 35, linking the Twin Cities with Mason City, Ames, Des Moines, Osceola, and Kansas City. The route could provide connections to the Amtrak *Empire Builder* in St. Paul, the *California Zephyr* in Osceola, and the *Southwest Chief* and the *Missouri River Runner* in Kansas City. Ultimately, this potential Thruway route could become a rail route, as east-west rail corridor service between Chicago and Council Bluffs-Omaha via the Quad Cities and Iowa City is implemented. The nexus of the two routes would be Des Moines.

Meanwhile, as new corridor rail service is implemented between Chicago and the Quad Cities, Thruway buses could provide a connection to Iowa City, Des Moines, Council Bluffs, and Omaha, until such time as rail service could be implemented over the entire corridor.

3.2.2.2 IMPROVE PEDESTRIAN AND BICYCLE ACCESS AND ADD BIKE RACKS AT AMTRAK STATIONS

With the exception of Fort Madison, Iowa Amtrak stations are located on public roadways near downtown areas, providing for reasonably good motorized and non-motorized access. The Fort Madison Amtrak station is located at the east end of the BNSF's rail yard, 1.5 miles west of downtown; public access is via a 1,100-foot driveway off of 20th Street. Bus connections available at stations are discussed in Chapter 2. At the present time, there are no bicycle racks at the six Amtrak stations in Iowa. Bike racks could be installed to provide riders an alternative for accessing Amtrak trains in Iowa.

3.2.2.3 SECOND DAILY ROUND TRIP ON THE BNSF SOUTHERN TIER ROUTE IN IOWA

As a way to enhance and supplement the existing Amtrak *California Zephyr* service in the Chicago-Omaha corridor across Iowa, a second round trip operating between Chicago, Burlington, and Omaha could be implemented. The train would serve five of the existing Amtrak stations in Iowa and could be connected to Des Moines via Thruway bus at Osceola, as discussed above. The service would encourage ridership and mobility along the southern tier by doubling service. Eastbound arrivals in Chicago and westbound arrivals in Omaha could be in late afternoon or early evening, providing for midday runs across Iowa.

3.3 Proposed New Intercity Services

3.3.1 Chicago to Council Bluffs-Omaha

This Chicago — Council Bluffs-Omaha rail corridor through Iowa and Illinois has been explored through various studies since 2004 that looked at the potential for implementation of new intercity passenger rail services on the regional corridor as a whole or on segments of the corridor, as demand and funding dictated.

The proposed service would be a component of the MWRRS centered on Chicago. The route of the proposed service, and existing connecting state-supported intercity passenger rail corridors, is shown in Figure 3.3 below.

Figure 3.3: Chicago — Council Bluffs-Omaha Corridor

Source: Iowa Department of Transportation

In September 2004, the Midwest Regional Rail System Executive Report identified the route as a fundamental component of the regional system, with train speeds of up to 90 mph over the segment of the corridor between Chicago and Wyanet (near Princeton), Illinois, and 79 mph train speeds on the rest of the corridor to Council Bluffs-Omaha. Then in 2008, Amtrak developed its Feasibility Report on Proposed Amtrak Service, Quad Cities — Chicago. The proposed service assumed two round trips per day and use of the BNSF Railway (BNSF) and the Iowa Interstate Railroad (IAIS) between Chicago and the Quad Cities of Illinois and Iowa. This basic service concept between Chicago and the Quad Cities, and specifically Moline, Illinois, was adopted as Phase 1 of the Chicago to Council Bluffs-Omaha rail service concept discussed later in this section.

In 2009, the states of Iowa and Illinois partnered to study and pursue funding for implementation of an intercity passenger rail service over a segment of the Chicago — Council Bluffs-Omaha corridor between Chicago, Moline, and Iowa City. The Chicago to Iowa City High Speed Intercity Passenger Rail Program advanced by the states completed a Tier 1 service level environmental assessment in 2009, which also identified a preferred alternative route for the Chicago-Iowa City service via BNSF between Chicago and Wyanet and via IAIS between Wyanet and Iowa City. In 2010, the state partnership completed the Chicago to Iowa City High-Speed Intercity Passenger Rail Program Service Development Plan and applied for a federal High Speed Intercity Passenger Rail (HSIPR) grant. The partnership received $230 million in HSIPR funds from the Federal Railroad Administration (FRA), which were jointly awarded to the states of Iowa and Illinois to establish the new intercity passenger rail service. The funds were split between the states in 2011 to allow for phased service implementation, with $177 million obligated to Illinois to complete Phase 1 of the corridor between Chicago and Moline and $53 million remaining left to Iowa to complete Phase 2 of the corridor between Moline and Iowa City. Starting in 2012, Iowa DOT launched a broader scale look at new intercity passenger rail service by studying the potential for implementation on the entire Chicago — Council Bluffs-Omaha corridor, as discussed in the next section.

3.3.1.1 SERVICE CONCEPT

The states of Iowa and Illinois have envisioned a new intercity passenger rail service running between Chicago and Council Bluffs-Omaha. The concept was defined in a study undertaken during 2012 and 2013.

Six existing rail routes between Chicago and Council Bluffs-Omaha were screened during development of the Chicago to Council Bluffs-Omaha Regional Passenger Rail Planning Study Alternatives Analysis Report in 2012. A preferred alternative route emerged that included use of Amtrak, BNSF, and IAIS trackage between Chicago and Council Bluffs, and as shown in Figure 3.3 above.

The outcome of the alternatives analysis was used to support development of the Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study, Tier 1 Service Level EIS (May 2013) and a subsequent Draft Service Development Plan (November 2013), a component of the Tier I EIS.

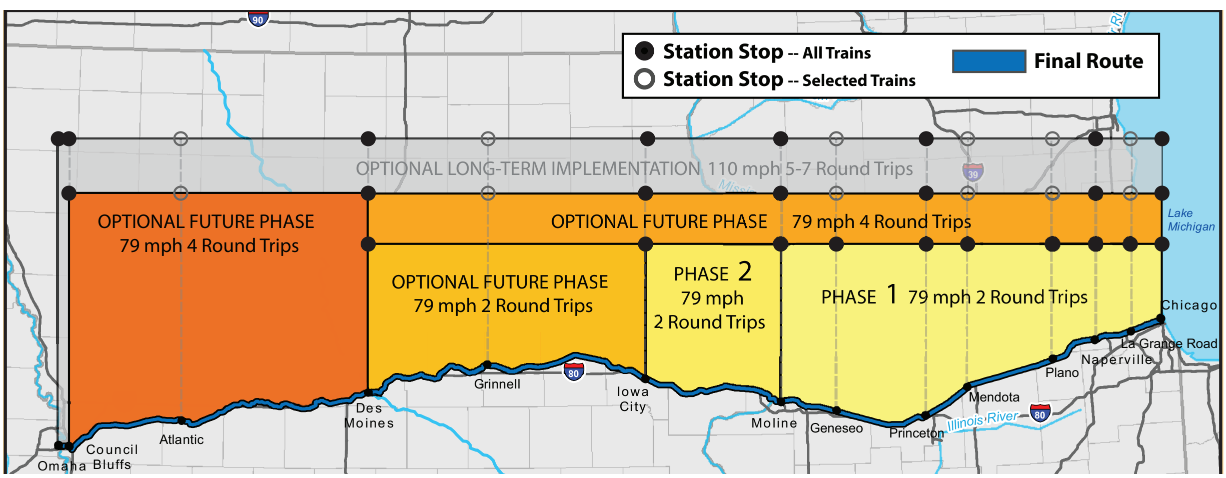
According to these documents, the Chicago to Council Bluffs-Omaha Passenger Rail service would be implemented in several phases from east to west. As currently proposed, it would provide up to five round-trips per day between Chicago and Omaha, and seven between Chicago and Des Moines, operating at a maximum speed of 110 mph. The proposed service would be a component of the MWRRS centered on Chicago.

3.3.1.2 SERVICE PLAN

3.3.1.2.1 Phased Implementation

The 2013 Draft Service Development Plan assumed the service would be implemented incrementally in five initial phases that extended to Council Bluffs only. The first two phases would be Chicago to Moline and Moline to Iowa City, which are already under development or study. Phase 3 would extend the service to Des Moines. Phase 4 would increase frequency from two to four roundtrips per day. Phase 5 would extend the four daily roundtrips to Council Bluffs. A summary of the potential phased implementation identified in the 2013 Draft Service Development Plan appears in Figure 3.4 and Table 3.1 below.

Figure 3.4: Potential Long-Term Phased Implementation in the Chicago — Council Bluffs-Omaha Corridor



Source: Iowa Department of Transportation

Table 3.1: Potential Phased Service Implementation Chicago-Council Bluffs as Identified in Draft Service Development Plan, 2013

PHASE	SERVICE	ROUND-TRIPS DAILY	SPEED	INITIATION OF SERVICE
1	New service between Chicago and Moline, Illinois (Quad Cities)	2	79 MPH	2015
2	Extension of service from Moline to Iowa City	2	79 MPH	2017
3	Extension of service from Iowa City to Des Moines	2	79 MPH	2022
4	Increase frequencies between Chicago and Des Moines	4	79 MPH	2025
5	Expansion of service from Des Moines to Council Bluffs	4	79 MPH	2030

Source: Draft Service Development Plan, 2013

With a maximum speed of 79 mph, average travel times over the 475-mile route between Chicago and Council Bluffs would be 7 hours and 48 minutes.

The long-term goal for the corridor is to implement 110 mph maximum speed service and extend the western terminus from Council Bluffs to Omaha, with seven round trips between Chicago and Des Moines, and five round trips between Chicago and Omaha. Average travel times over the route would be reduced to approximately 5 hours and 40 minutes.

From Chicago to Council Bluffs, the route would use track owned by Amtrak at Chicago Union Station; by BNSF between Chicago and Wyanet; and by IAIS between Wyanet and Council Bluffs. In addition, the service would use short segments of BNSF trackage in the Quad Cities and UP trackage in Des Moines. A route between Council Bluffs and Omaha has not been selected.

3.3.1.2.2 Equipment

The proposed service as currently proposed would be powered by conventional diesel-electric locomotives. Passenger cars would be bi-levels, like those already operating or that will soon be constructed and operating on other Midwest intercity passenger rail corridors. The standard trainset or consist for the various phases of implementation are listed in Table 3.2 below. A layout of a typical bi-level coach car appears in Figure 3.5 below.

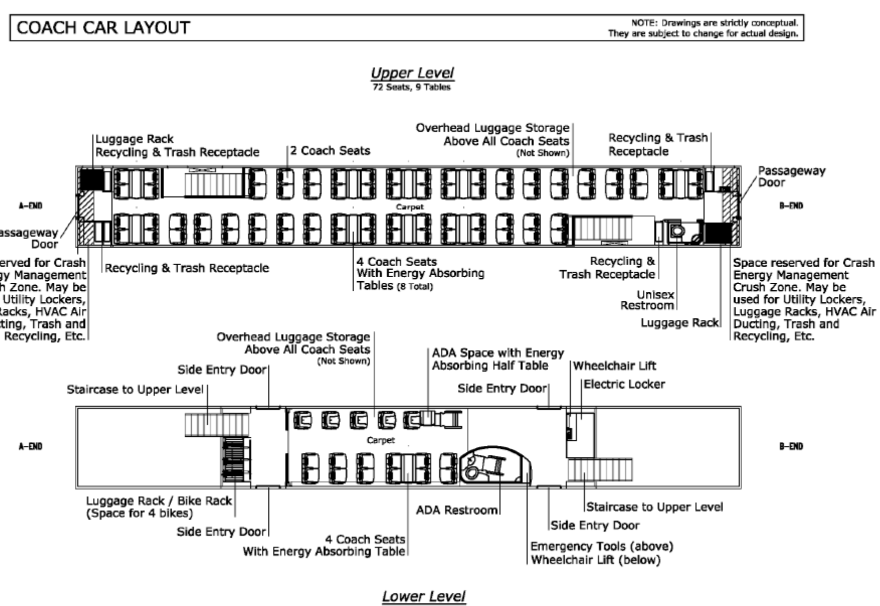
Table 3.2: Train Consists

PHASES 1 AND 2	PHASES 3, 4, AND 5
1 locomotive (west end)	1 locomotive (west end)
2 coach cars	2 coach cars
1 café/lounge car	1 café/lounge car
1 coach car	2 coach cars
1 coach/cab-car (east end)	1 locomotive (east end)

Source: Draft Service Development Plan, 2013

Over time, the train consists are anticipated to grow longer to handle increasing ridership. Trainsets in later phases may have an additional locomotive to improve travel time and reliability.

Figure 3.5: Bi-Level Coach Car Layout for Midwest Intercity Service



Source: PRIIA 305-001/Amtrak 962 Technical Specification Revision C.1

3.3.1.2.3 Stations

The proposed service would make use of both existing stations already serving other Amtrak intercity and long-distance trains in Illinois and new stations in Illinois and Iowa. These are shown in Table 3.3 below.

Table 3.3: Stations Planned for the Chicago — Council Bluffs Service

EXISTING ILLINOIS STATIONS	PLANNED NEW STATIONS
Chicago Union Station	Geneseo Station (Illinois)
La Grange Road Station	Moline Station (Illinois)
Naperville Station	Iowa City Station (Iowa)
Plano Station	Grinnell Station (Iowa)
Mendota Station	Des Moines Station (Iowa)
Princeton Station	Atlantic Station (Iowa)
	Council Bluffs Station (Iowa)

Source: Draft Service Development Plan, 2013

3.3.1.2.4 Maintenance and Layover Facilities

The proposed service would require an overnight train layover and light maintenance facility at each route terminus. The first of such facilities will be built in Moline, a second in Iowa City, a third in Des Moines, and a fourth in Council Bluffs as the service is expanded. These facilities will provide track on which trains can be stored and receive cleaning, servicing, and light maintenance. Over time, facilities in Moline and Iowa City may be closed, as trains will no longer overnight there.

3.3.1.2.5 Rail Infrastructure Improvements

Implementation of the Chicago-Omaha service, as proposed, would require infrastructure improvements to comply with federal law, deliver the required on-time performance for passenger trains, and mitigate effects on freight and other passenger train operations in the corridor.

IAIS will host the service over the longest segment between Wyanet and Council Bluffs, with the exception of small portions of the route through Des Moines, where UP trackage will potentially be used, and through the Quad Cities, where BNSF trackage will potentially be used. IAIS trackage is mostly single track with welded rail, maintained to FRA Class 3 (with maximum freight speeds of 40 mph). The trackage will have to be upgraded to handle higher speed passenger trains, and track sidings will need to be extended or added at the appropriate intervals to allow for freight trains and passenger trains to meet and pass each other, and to mitigate effects of the passenger service on freight service. In addition, a Centralized Traffic Control (CTC) wayside signal system and a Positive Train Control system (PTC) overlay will need to be installed and grade crossing signal and surface improvements will be required.

BNSF will host the service over the second longest segment between Chicago and Wyanet, which already handles Metra commuter trains between Chicago and Aurora and existing Amtrak intercity and long-distance trains for other services between Chicago and Wyanet. The Draft Service Development Plan deemed the infrastructure on BNSF sufficient to accommodate the proposed service, with the addition of a bypass track around Eola Yard in west suburban Chicago (under construction at present to improve the Chicago-Quincy, Illinois, service), a new connection between BNSF and IAIS in Wyanet, and installation of PTC. BNSF is currently implementing PTC on the line.

Furthermore, any BNSF trackage in the Quad Cities and UP track in Des Moines needed for the service will require upgrades.

3.3.1.2.6 Ridership, Revenue, and Costs

Table 3.4 below shows the key metrics generated by a pro forma evaluation of the Chicago to Council Bluffs-Omaha service. The table captures performance starting in 2017, the year in which the *Draft Service Development Plan* assumed two round-trips would extend from Moline to Iowa City (Phase 2). By 2025, with the extension of the trains westward to Des Moines (Phase 3) and the addition of two round-trips (Phase 4), ridership and revenue increase to about three times that predicted for 2017. Expenses and subsidies (expenses less revenues) also increase, but at lesser rates, resulting in improving fare box recovery ratios (revenues divided by expenses). The revenue, ridership, and fare box recovery continue to improve through to the horizon year for the evaluation. The service's fare box recovery in 2037 of 49 percent would be comparable to Amtrak's long distance service fare box recovery of 53 percent in Fiscal Year 2014.

Table 3.4: Pro Forma Metrics for Chicago — Council Bluffs Passenger Rail Service

KEY METRIC	PHASE 2: SERVICE TO IOWA CITY	PHASE 3: SERVICE TO DES MOINES	PHASE 4: 2 ADDITIONAL ROUND-TRIPS	PHASE 5: SERVICE TO COUNCIL BLUFFS	HORIZON YEAR
	2017	2022	2025	2030	2037
Ridership	186,109	346,973	547,624	737,492	847,146
Revenue (millions)	$5.0	$11.1	17.8	$24.0	$27.5
Expenses (millions)	$21.0	$32.2	$45.1	$59.8	$59.8
Subsidy (millions)	$16.0	$21.1	$27.3	$34.2	$30.4
Fare Box Recovery	24%	35%	39%	43%	49%

Source: Draft Service Development Plan, 2013

Note: Service implementations identified in the table above are from the 2013 Chicago to Council Bluffs-Omaha Draft Service Development Plan and are subject to completion of future planning and engineering activities as well as funding availability.

Revenues include ticket revenues and revenues from onboard services, including the sale of food and beverages on the trains. Expenses include all operating costs related to the service, inclusive of payments to the host railroads, fuel, crew labor, mechanical labor, station maintenance, and other direct costs.

The plan identified the total cost for implementation at $1.2 billion for Phases 1 (service from Chicago to Moline) through 5 (the final extension to Council Bluffs). The total cost identified in the Draft Service Development Plan to implement, operate, and maintain passenger rail service in the corridor is a preliminary planning estimate. Further study and consultation with host railroads would be required in future study to better understand these costs.

3.3.1.3 FUNDING PLAN

As noted earlier in this section and in the Draft Service Development Plan, Phases 1 and 2 are already partially, but not totally, funded. Phase 1 is in the process of being implemented by Illinois DOT. Implementation of Phase 2 is currently in the preliminary engineering and Tier 2 EIS phase, under the management of Iowa DOT.

Current planning anticipates that federal funding will need to be made available for implementation of Phases 2 through 5. A formula for federal, state, and local funding shares has yet to be determined. The new service would begin only after a funding source for ongoing operations is found.

The current concept for funding ongoing operations between Chicago and Council Bluffs-Omaha is as follows:

- The states of Illinois and Iowa would provide 100 percent of funding for operations and maintenance costs of the service not recovered through fare box revenue and onboard food and beverage sales.
- Municipalities from Geneseo, Illinois, to Council Bluffs, Iowa, inclusive would be responsible for 100 percent of funding for the operation and maintenance of stations.
- For Chicago Union Station and other stations shared with Chicago's Metra commuter rail service, costs will be shared by Amtrak and Metra.

Cost allocation formulas for cost sharing between the states will be determined.

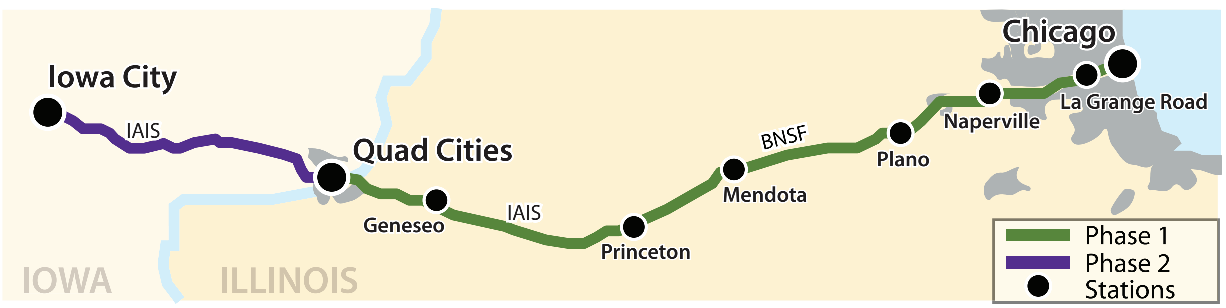
3.3.1.4 ADDITIONAL POTENTIAL SERVICE IMPLEMENTATIONS AND ENHANCEMENTS
Over time, the states may wish to increase speeds on the line from a maximum of 79 mph to 110 mph, add more service frequencies, and extend the service across the Missouri River from Council Bluffs to Omaha.

3.3.1.5 NEXT STEPS
Implementation of two daily roundtrip passenger trains on the Chicago-Moline segment (Phase 1) of the Chicago to Council Bluffs-Omaha corridor is under development by the state of Illinois, as of mid-2016. However, Phase 1's development was under administrative review during 2015-2016 while the state of Illinois addressed comprehensive budgeting for all state programs, and an anticipated implementation date for the Phase 1 service is not known as of mid-2016.

After completion of the Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study in 2013, the state of Iowa commenced additional study of the Moline-Iowa City segment (Phase 2) of the corridor for implementation of passenger rail service, as an extension of the Chicago-Moline (Phase 1) service under development by Illinois. The Quad Cities-Iowa City Extension Program will conduct preliminary engineering and service development planning and Tier 2 environmental studies for implementation of the two daily roundtrip service to Iowa City. Anticipated completion of the study is 2017.

Detail of the Phase 1 and Phase 2 service territories is identified in Figure 3.6 below.

Figure 3.6: Phase 1 and Phase 2 Corridor Services

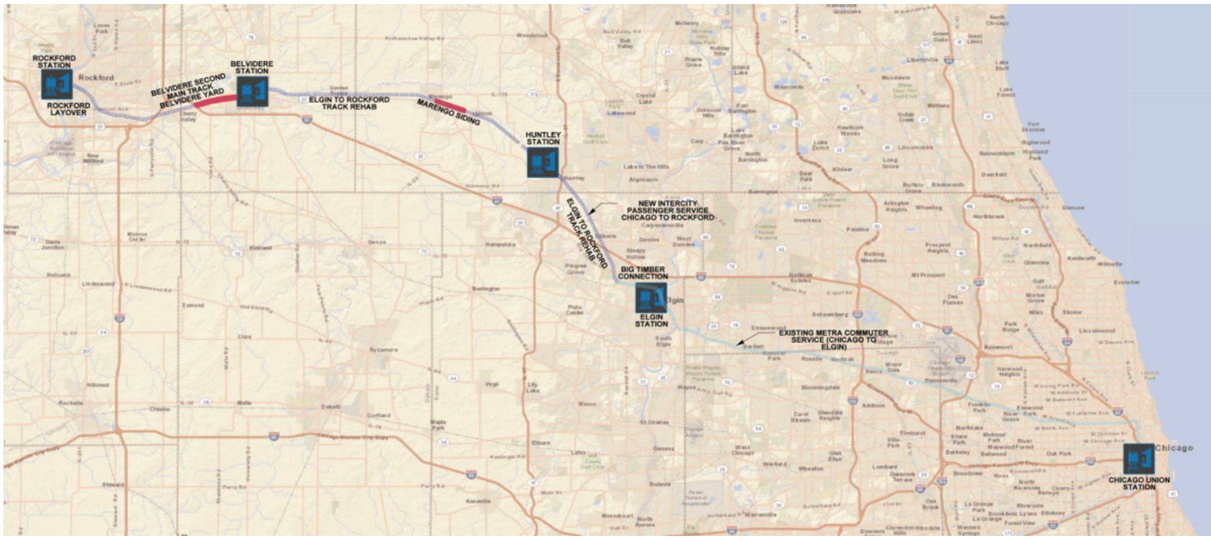


Source: Iowa DOT

Study and implementation of additional service phases in the corridor may occur in the future, as demand grows and funding becomes available.

3.3.2 Chicago to Dubuque
Passenger rail service between Chicago, Illinois, and Dubuque, Iowa, was operated by Amtrak until it was discontinued in 1981. The Chicago to Dubuque project aims to restore intercity passenger rail service in the corridor incrementally. In the first phase, service would be implemented from Chicago to Rockford, Illinois, by utilizing Metra (the Chicago Area commuter rail network) and Union Pacific routes. Improvements would include: upgrading tracks, capacity improvements, a layover facility, a UP/Metra connection, bridge improvements, and new stations. It is anticipated that the proposed service will be provided by Amtrak, with future plans to extend service west to Freeport and Galena, Illinois, and Dubuque, Iowa, in a second phase. Figure 3.7 below identifies the route of the first implementation phase in the corridor between Chicago and Rockford.

Figure 3.7: Chicago-Dubuque Corridor: First Implementation Phase



Source: Illinois Passenger Rail website

This project received $223 million from the Illinois Jobs Now! Capital Program in 2014. The money is to be used to upgrade the UP between Rockford and a new connection with Metra at Elgin, a western suburb of Chicago. The service would then share tracks with Metra from Elgin to Chicago Union Station. Plans called for corridor improvements to be completed and start-up of state-sponsored Amtrak service in 2016, but the project is now on hold and under administrative review while the state of Illinois addresses comprehensive budgeting for all state programs.

The Chicago-Dubuque service arose two other times in recent past, before evolving into the concept outlined above.

In October 2009, Illinois DOT submitted a grant application for Chicago — Dubuque service, seeking $140 million in American Recovery and Reinvestment Act (ARRA) funding under the High Speed Intercity Rail (HSIPR) discretionary program. The funding request was to support environmental impact analyses, track structure improvements, layover facility construction, equipment acquisition, and station improvements. Total capital costs were estimated at $147 million, and ridership was forecasted at 82,700 per year. The application was not selected for award. That proposal assumed use of a Canadian National Railway line between Dubuque and Chicago.

Earlier, in 2007, Amtrak studied the route. Its report, Feasibility Report on Proposed Amtrak Service, Chicago-Rockford-Galena-Dubuque, explored four routing options in the corridor. The differences in the routes were on the Chicago — Rockford segment. West of Rockford, all routes assumed the use of CN to Dubuque.

One round trip daily was assumed, with a 5:00 AM departure from Dubuque and a 6:15 AM departure from Chicago, running at a maximum speed of 79 mph. The differences among the four routes were:

- Route mileage ranged from 181.0 to 188.6 miles.
- Host railroads over which the passenger service would operate ranged from two to five.
- Transit time estimates ranged from 5 hours and 10 minutes to 5 hours and 42 minutes.
- Ridership ranged from 53,600 to 74,500 passengers per year.
- Fare box recovery ranged from 24 percent to 34 percent.

The route with the shortest transit time and fewest host railroads had both the highest ridership and the highest fare box recovery. This 182.2-mile route used the CN almost entirely from Chicago to Dubuque: 180.6 miles on CN and 1.6 miles on Amtrak at Chicago Union Station. The 2009 ARRA application submitted by Illinois DOT assumed this route, shown below in Figure 3.8 below.

Figure 3.8: Potential CN Route from Chicago to Dubuque

Source: Chicago-Rockford-Dubuque Corridor Intercity Passenger Rail Service Development Plan, Illinois DOT, 2009

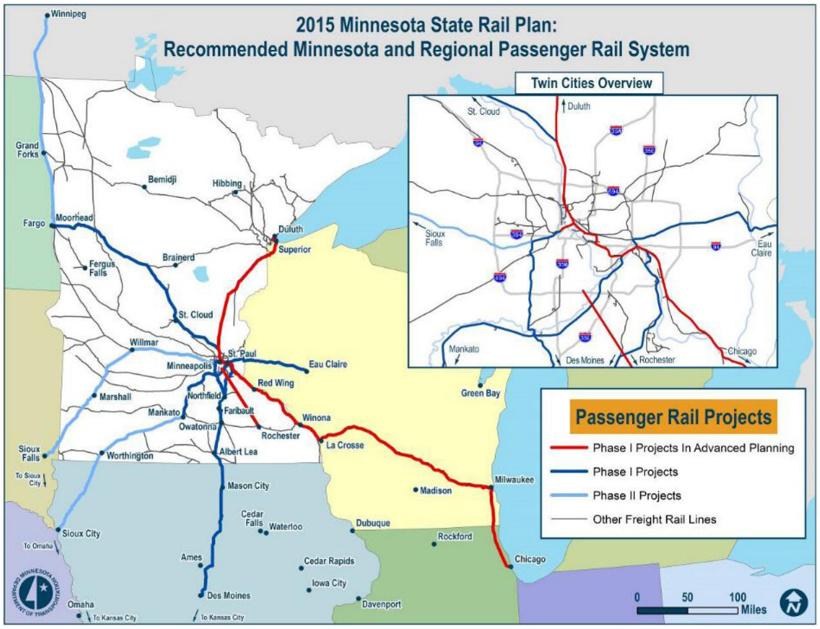
3.3.3 Dubuque to Sioux City

As seen in Figure 3.8 above, this conceptual route would be a 328-mile extension of the Chicago — Dubuque service westward to Sioux City, Iowa. The route would use the CN across the northern tier of Iowa, with station stops in Waterloo and Fort Dodge. Additional station stops could include Iowa Falls, which could provide a connection to a service proposed between Minneapolis/St. Paul, Minnesota; Des Moines, Iowa; and Kansas City, Missouri, on the UP "Spine Line." At Sioux City, the route would serve residents in nearby northwestern Nebraska and southeastern South Dakota. This route potential remains to be studied.

3.3.4 Twin Cities to Des Moines

The March 2015 Draft Minnesota GO State Rail Plan identified a potential intercity route from either Minneapolis and/or St. Paul, Minnesota, to Des Moines, Iowa (see Figure 3.9 below). The plan assumed up to four round trips per day traveling at maximum speeds of 79 mph. The Minnesota plan envisioned possible extension southward to Kansas City with connections there to other cities. The Minnesota plan included implementation costs for the service between the Twin Cities and Albert Lea, Minnesota, just north of the Minnesota/Iowa state line. The plan identified the route to Des Moines as a Phase I project, that is, a project that is in a 0-20 year implementation horizon. The route into Iowa and on to Des Moines and Kansas City has yet to be evaluated.

Figure 3.9: Potential New Minnesota Passenger Trains to Serve Iowa



Source: Minnesota GO State Rail Plan, 2015

3.3.5 Twin Cities to Sioux City

The Minnesota rail plan also envisioned service between the Twin Cities and Sioux City, Iowa. The route would be on the UP via Mankato and Worthington, Minnesota, and Sheldon and Le Mars, Iowa, as seen in Figure 3.9 above. The Twin Cities to Mankato segment of the route is identified as a Phase I project. The Minnesota plan envisioned up to four daily round trips at a maximum speed of 79 mph. The extension south to Sioux City is identified as a Phase II project, that is, a project with a 20+ year implementation horizon. In Iowa, the trains would traverse the UP from just north of Sibley, Iowa, to Sioux City. The Minnesota plan envisioned extension southward to Omaha and Kansas City in subsequent phases. The Minnesota plan developed implementation cost estimates for the service between the Twin Cities and Mankato. The route into Iowa and on to Sioux City has yet to be evaluated.

3.3.6 Twin Cities-Des Moines-Kansas City

Another concept articulated by Iowa DOT for the Iowa State Rail Plan is a corridor service linking three major metropolitan (and two state capitols) on a 478-mile north-south route through Iowa. The service could provide for daytime/early evening service between St. Paul, Des Moines, and Kansas City. The concept has a working title, the Tri-State Rocket, in the tradition of the former CRI&P's Twin Star Rocket, which followed the route until it ceased operations in 1969.

For comparative purposes, 2015 ridership for nearby corridor services having route lengths greater than 200 miles and frequencies of two to four trains per day are identified in Table 3.5 below. Given the cities served, it seems possible that average daily riders per Tri-State Rocket would be similar to ridership levels achieved on these other corridor services. To confirm ridership, as well as operating and financial performance, an in-depth feasibility analysis would be required.

Table 3.5: Comparative Corridor Services

CORRIDOR SERVICE	END POINTS	ROUTE LENGTH IN MILES	FREQUENCIES OR ROUND TRIPS (RT)	ANNUAL RIDERSHIP FOR FY 2015	AVERAGE RIDERSHIP PER TRAIN
Missouri River Runner	Kansas City-St. Louis	283	2 RT	178,915	122

Lincoln Service	St. Louis-Chicago	284	4 RT	576,705	197
Carl Sandburg/ Illinois Zephyr	Chicago-Quincy	258	2 RT	208,961	143
Illini/Saluki	Chicago-Carbondale	309	2 RT	292,187	200
Wolverine	Chicago-Pontiac	304	3 RT	465,627	212

Sources: Amtrak Monthly Performance Report for September 2015, Amtrak System Timetable, and CDM Smith

3.3.7 FRA Midwest Regional Rail Study

As noted in Chapter 2, the FRA will initiate either in 2016 or 2017 an update and expansion of the 2004 MWRRS. The FRA effort, titled the Midwest Regional Rail Plan, will look at new services making stops in 12 Midwestern states, including Iowa.

3.4 Proposed Commuter Rail Services

Commuter rail is a mode of passenger rail transportation typically involving diesel-electric locomotives and passenger coaches on corridors shared with freight trains. As noted earlier, the services are concentrated on weekdays, with most trains operating in the peak commute period in the peak commute direction, with station stops several miles apart. The trains link outlying residential suburbs with downtown work centers. In most cases, the tracks are owned by freight railroads, who have agreed to share their tracks with the commuter operators, but some commuter operators do own their track. Some systems, as in Chicago and the New York area, are electric systems. A diesel-based technology, called diesel multiple units (DMUs) or self-propelled railcars, have been gaining popularity around the county. DMUs now operate in Oregon, Texas, and South Florida and will operate soon in the San Francisco Bay Area.

Commuter rail concepts have been explored in two parts of Iowa since 1995. These are discussed below.

3.4.1 Cedar Rapids-Iowa City Area Commuter Service

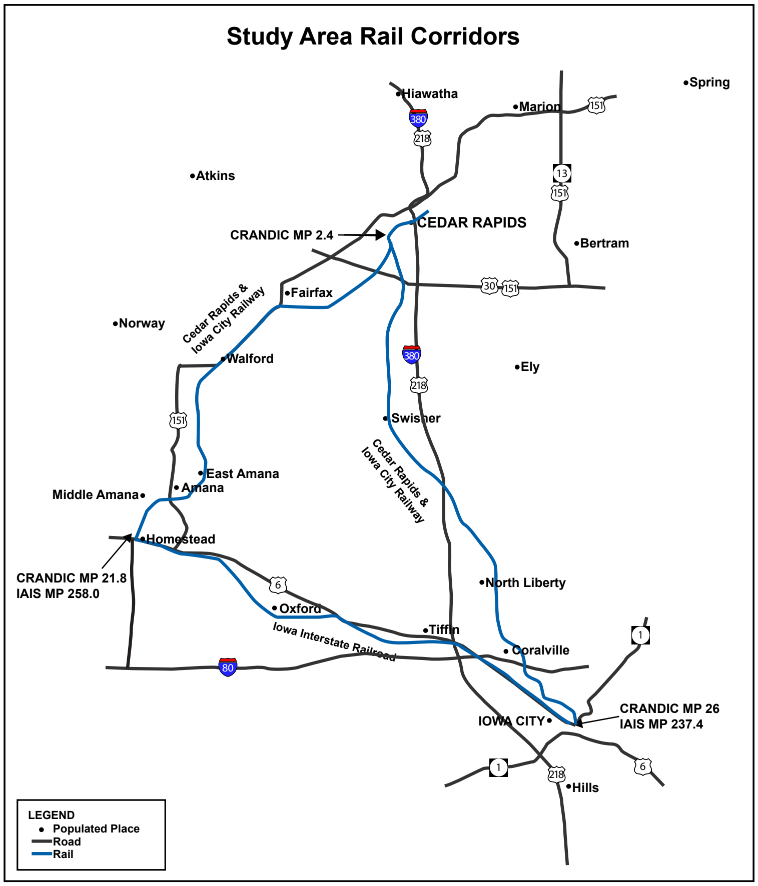
Passenger rail service between Cedar Rapids and Iowa City, Iowa, was discontinued in 1953. The concept of new passenger services between the growing Cedar Rapids and Iowa City metropolitan areas has been reviewed four times in the last 20 years. These studies mainly looked at passenger use of the Cedar Rapids and Iowa City (CRANDIC) Railway's Cedar Rapids — Iowa City line, most of which, south of Cedar Rapids, is lightly used for freight rail service today.

3.4.1.1 EAST CENTRAL IOWA COMMUTER RAIL FEASIBILITY STUDY (1995)

This 1995 study, sponsored by the East Central Iowa Council of Governments (ECICOG), identified the capital improvements required to support passenger rail service and included a forecast of the ridership potential and an evaluation of various rolling stock types appropriate for the service and for the corridor. The study focused mostly on the CRANDIC's line between Cedar Rapids and Iowa City, which was studied again in 2006, 2014, and 2015, as discussed in the sections that follow. The line can be seen in Figure 3.10 below, a map developed for the 2006 study.

The 1995 study investigated two rail alternatives, along with an express bus alternative using mostly Interstate 380. Both rail alternatives assumed use of self-propelled DMUs. A rendering of a DMU, which will run on track shared with freight rail operations (as would be the case on the CRANDIC Cedar Rapids-Iowa City line), is shown in Figure 3.11 below. The DMU, to be operated by Sonoma Marin Area Rail Transit (SMART) north of San Francisco, is anticipated to start revenue service in late 2016.

Figure 3.10: 2006 CRANDIC Rail Network and Study Corridors



Source: Cedar-Iowa River Rail Transit Project Feasibility Study, November 2006, with modification to show Eastern Iowa Airport at Cedar Rapids

Figure 3.11: Diesel Multiple Unit in Northern California

Source: Sonoma Marin Area Rail Transit

The results of the evaluation of the three transit alternatives are summarized in Table 3.6 below. Cost and revenue estimates are in 1995 dollars.

Table 3.6: Cedar Rapids — Iowa City Transit Options Evaluation

MEASURE	PRIMARY RAIL	SECONDARY RAIL	EXPRESS BUS
Level of service on weekdays	Peak hour headways: 20 minutes	Peak hour headways: 20 minutes	Peak hour headways: 20 minutes
Ridership (weekday)	1,670	1,336	100
Fare revenue (annual)	$340,000	$272,000	$133,000
Fare box recovery	5%	3%	9%
Running time	32 minutes	48 minutes	35 minutes
Route miles	27.1 miles	28 miles	26 miles
Rolling stock	DMU	DMU	Highway motor coach
Operating costs (annual)	$6.5 million	$7.8 million	$1.5 million
Capital costs	$84.4 million	$51.6 million	$3.3 million

Source: East Central Iowa Commuter Rail Feasibility Study, 1995

Capital cost estimates were inclusive of mainline improvements, signalization, rolling stock, and eight stations in the corridor. All options would depart from downtown Cedar Rapids, east of the Cedar River. The primary rail alternative would head straight west, on a new bridge over the Cedar River and thence by street running to reach the UP's east-west mainline in southwest Cedar Rapids, before heading south to the CRANDIC line and Iowa City, thus triggering higher capital costs. The secondary rail alternative assumed trains would depart first northbound from Cedar Rapids on the UP Cedar Rapids Industrial Lead and cross the Cedar River on an existing bridge to reach the UP east-west mainline in southwest Cedar Rapids before heading south to the CRANDIC line and Iowa City, thus generating a longer transit time and higher operating costs. On an ongoing basis, ticket revenue from neither of the alternatives would cover more than 9 percent of operating costs (the recurring costs for running the system: train crews, management, insurance, maintenance, fuel, etc.), with the bus option doing better than either of the rail options. More typically rail and bus transit services achieve far higher ticket revenue-to-operating cost returns, i.e., fare box recovery.

The study did not recommend further analysis of any option at the time, but did recommend that ECICOG consider examining rail passenger and bus service options on a regular basis as part of its long-range planning process.

The study did uncover the potential for a development of rail transit service on the corridor segment between North Liberty and Iowa City, which was explored in subsequent analyses. It also pointed to the potential for operating a vintage trolley for tourists on the CRANDIC's line between Cedar Rapids and the Amana Colonies at Amana, Iowa, also seen in Figure 3.10 running southwest from Cedar Rapids.

3.4.1.2 CEDAR-IOWA RIVER RAIL TRANSIT PROJECT FEASIBILITY STUDY (2006)

In 2006, Five Seasons Transportation and Parking, a private sector bus charter and rental firm, and the Johnson County Council of Governments sponsored this study, which revisited commuter rail options on the CRANDIC's line between Cedar Rapids and Iowa City.

The study focused on two commuter rail options. The options studied are:

1. Between the Eastern Iowa Airport in Cedar Rapids (see Figure 3.10 above) and Iowa City
2. Between North Liberty and Iowa City

Because of relatively heavy freight traffic near downtown Cedar Rapids, the Eastern Iowa Airport south of Cedar Rapids (approximately 6 miles south of downtown Cedar Rapids) was selected as the northern terminus for the first option. The line south of downtown Cedar Rapids to Iowa City sees relatively light freight train movements, a condition that would facilitate the implementation of commuter rail there. Characteristics of the two options are summarized in Table 3.7 below.

Table 3.7: Cedar Rapids — Iowa City Commuter Rail Service Options

CHARACTERISTICS	EASTERN IOWA AIRPORT – IOWA CITY 2006	EASTERN IOWA AIRPORT – IOWA CITY 2030	NORTH LIBERTY – IOWA CITY 2006	NORTH LIBERTY – IOWA CITY 2030
Level of service: AM peak	2 trains southbound; 2-hour frequency	6 trains southbound; 30-minute frequency	Continuous service from 6 AM to 7 PM; hourly frequencies	Continuous service from 6 AM to 9 PM; 20-minute frequencies
Level of service: mid-day	None	90-minute frequency		
Level of service: PM peak	2 trains northbound; 2-hour frequency	6 trains northbound; 30-minute frequency		
Ridership (weekday)	837 passenger trips	1,991 passenger trips	742 passenger trips	1,336 passenger trips
Running time	50 minutes	33 minutes	20 minutes	15 minutes
Route miles	20 miles	20 miles	9 miles	9 miles
Rolling stock	Traditional or DMU	Traditional or DMU	Traditional or DMU	Traditional or DMU
Operating costs (annual)	\$5.0 million	\$12.0 million	\$4.1 million	\$6.8 million
Capital costs	\$21.4 million	\$35.2 million	\$18.7 million	\$28.0 million

Source: Cedar-Iowa River Rail Transit Project Feasibility Study, November 2006

The study looked at each option at the year of implementation (2006) and also in the year 2030. The 20-mile Eastern Iowa Airport — Iowa City option aimed at providing commuter service between the two main population centers on the corridor: Cedar Rapids and Iowa City. The option assumed a bus connection between the airport and downtown Cedar Rapids. In 2006, the service would be bi-directional and focused in the morning and evening peaks. In 2030, more weekday trains and mid-day service along with reduced weekend service would be added. The 9 mile North Liberty — Iowa City option would provide bi-directional, continuous service through most of the day on weekdays. In 2030, more weekday trains and reduced weekend service would be added; also, the service period would be extended for two hours in the evening, from 7 PM to 9 PM on weekdays.

Potential stations for the corridor from north to south were:

- Eastern Iowa Airport (Cedar Rapids)
- Swisher
- North Liberty
- Coralville
- Riverside Drive (Iowa City)
- Court Street (Iowa City)

Both services were envisioned to use either DMUs or traditional equipment: one trainset would include a diesel-electric locomotive and trailing coaches operating in a push-pull mode obviating the need to turn the trainsets.

The study concluded that, given the ridership and the capital and operating costs involved, the two commuter rail concepts would not easily qualify for federal funding at the time. However, the study recommended monitoring demographic changes in the corridor, which might begin to favor a commuter rail implementation over time.

The CRANDIC's Cedar Rapids — Amana corridor was also investigated, but was not deemed a candidate for commuter rail.

3.4.1.3 IOWA COMMUTER TRANSPORTATION STUDY (2014)

This study was completed by Iowa DOT in 2014 pursuant to a directive from the Iowa State Legislature to identify the existing and future commuter needs in the Interstate 380 corridor and to determine the viability of various commuter transportation improvements to address those needs. Based on U.S. Census data, the study found there were approximately 7,500 commuters in the corridor between Cedar Rapids and Iowa City.

The study looked at various solutions. These included:

- Public bus transportation, including express options
- Private bus transportation or subscription services
- Vanpooling
- Carpooling
- Intercity bus transportation
- Commuter rail

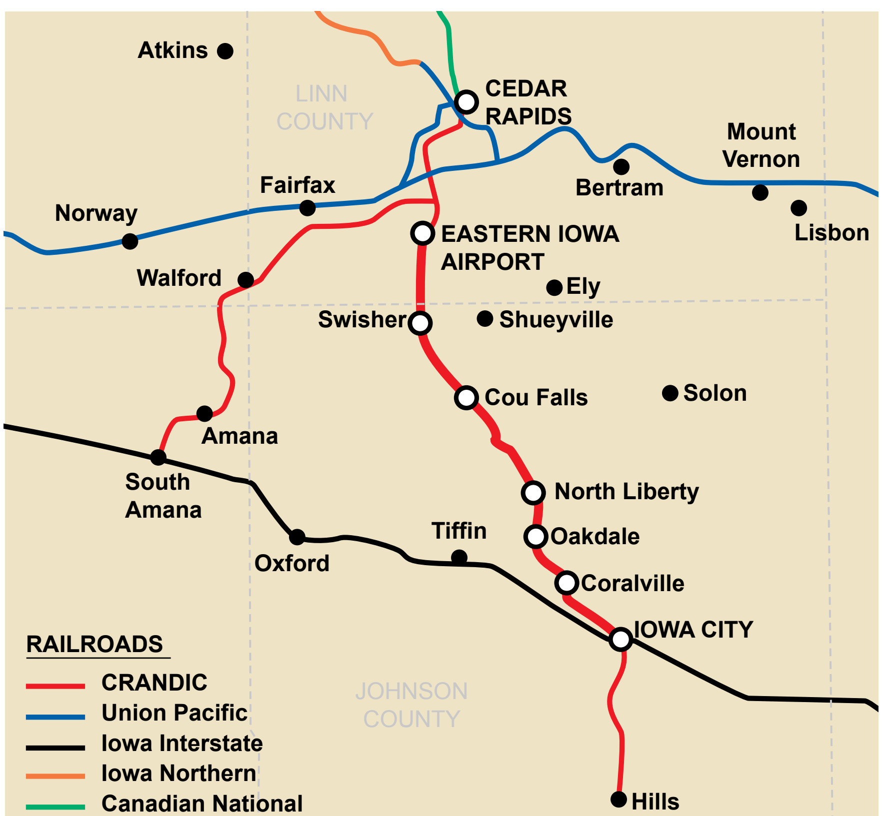
The study assumed findings from the 2006 commuter rail study. Costs were updated from 2006 to 2014. The study concluded that the cost per rider of commuter rail service is significantly greater than the comparable public express bus service options and therefore, commuter rail service was not recommended for short- or mid-term implementation.

3.4.1.4 IOWA CITY — CEDAR RAPIDS PASSENGER RAIL CONCEPTUAL FEASIBILITY STUDY (2015)

This 2015 study sponsored by CRANDIC, Iowa DOT, and other local stakeholders revisited potential passenger rail implementation options for the CRANDIC's Cedar Rapids-Iowa City corridor. The purpose was to provide stakeholders with an understanding of the different modes that are available for passenger rail service in the corridor, to understand probable capital and operating and maintenance costs for each mode, and to consider service frequencies, service capacities, and the regulatory and funding environment for implementing a passenger rail service in the corridor.

The study area comprised the CRANDIC's Cedar Rapids-Iowa City line between the Eastern Iowa Airport in Cedar Rapids and Iowa City, a total of 20.5 miles, as shown in the bold red line in Figure 3.12 below.

Figure 3.12: 2015 CRANDIC Corridor Study Area



Source: HDR Engineering and Iowa Department of Transportation

3.4.1.4.1 Modal Options Considered

The report discussed the three different modal options — streetcar, light rail transit, and commuter rail — and provided some high-level, conceptual capital and operating and maintenance cost information. No recommendations were made.

The report explained that streetcar mode tends to operate like a downtown people mover, linking downtown visitors, employees and residents to jobs, shopping and entertainment venues, and sometimes connecting to remote parking facilities. The vehicles have steel wheels operating on steel tracks typically sharing a travel lane with automobiles. The cars are generally powered electrically by an overhead power supply. Street car systems typically have frequencies of 5 to 15 minutes and closely spaced stops of between 0.25 and 0.5 miles. The concept of streetcars is well over 100 years old, but the cars began to disappear from city streets in the years following World War II as city dwellers found homes in the suburbs. However, the mode has experienced a resurgence in the last 20 years. In many cases, streetcars have evolved into an urban development tool. A typical streetcar is seen in Figure 3.13 below.

Figure 3.13: Typical Modern Streetcar Operation

Source: HDR Engineering

Light Rail Transit (LRT) operates singly or in short, usually two or four-car trains, on fixed rails. LRT often runs in its own dedicated right-of-way, but it can also run in city streets, if needed, to pass through downtown business districts and residential neighborhoods. LRT vehicles are typically driven electrically with power drawn from overhead wires. Stop spacing is somewhat longer than for streetcars, ranging from 0.5 to 1 mile in shared rights-of-way and between 0.5 and 2 miles in exclusive rights-of-way. An LRT trainset is shown in Figure 3.14 below.

Figure 3.14: Typical LRT Operations in Dedicated Right-of-Way

Source: HDR Engineering

As previously noted, commuter rail generally links downtown work centers with more remote residential areas. Frequencies are mostly in peak commute periods and peak commute direction oriented, with station spacing varying between 1 and 4 or more miles. Trains mostly are powered by diesel-electric locomotives, with commuters riding in coaches. A typical commuter rail trainset is seen in Figure 3.15 below. Some commuter systems are powered electrically, for example, in Chicago and on Long Island, New York. Furthermore, some commuter rail systems have deployed DMUs, as noted previously and seen in Figure 3.14 above. Figure 3.16 below shows a DMU that can operate on a rail line over which freight trains do not operate or that do so on a temporally separated basis, in which passenger and freight trains have exclusive occupancy of the corridor at different times of day. These DMUs are sometimes called light DMUs, as they are not engineered to robust FRA crashworthiness requirements for operation on track shared with freight trains and other traditional locomotive-hauled passenger trains with no temporal separation.

Figure 3.15: Typical Commuter Rail Operation

Source: HDR Engineering

Figure 3.16: DMU Vehicle in Austin, Texas

Source: HDR Engineering

A summary comparison the typical characteristics of the rail options studied appears in Table 3.8 below.

Table 3.8: Summary Comparison of CRANDIC Corridor Passenger Rail Options

CHARACTERISTICS	STREETCAR	LIGHT RAIL TRANSIT	COMMUTER RAIL
Frequency of service	Every 5 to 15 minutes	Every 5 to 15 minutes	Every 30 minutes
Station spacing	0.25 miles to 0.5 miles	0.5 miles to 2 miles	1 to 4 miles
Typical route length	Up to 4 miles	Up to 20 miles	Up to 50 miles
Avg. operating speed	5-8 MPH	30-35 MPH	40 MPH
Capacity per trainset	60	225	Over 250

Source: Iowa City-Cedar Rapids Passenger Rail Conceptual Feasibility Study, 2015

3.4.1.4.2 Modal Options Conceptual Costs

The development of typical representative conceptual capital costs included assumptions of rehabilitated track and structures; new rolling stock; upgraded signaling and communications systems, including PTC for commuter rail; a layover and maintenance facility; and electrical power distribution systems for streetcars and LRT; among other things. Also, six stations were assumed over the 20.5-mile route. Typical representative conceptual cost estimates appear in Table 3.9 below.

Table 3.9: CRANDIC Corridor Typical Representative Conceptual Capital Cost Estimates by Mode in 2015 Dollars

MEASURE	STREETCAR	LIGHT RAIL TRANSIT	COMMUTER RAIL
Capital cost per mile	\$52 - \$80 million	\$42 - \$65 million	\$12 -\$25 million
Total capital cost for 20.5-mile route	\$1.07 - \$1.64 billion	\$860 million - \$1.33 billion	\$250 million to \$520 million

Source: Iowa City-Cedar Rapids Passenger Rail Conceptual Feasibility Study, 2015

For all modes, annual operations and maintenance costs were estimated at between \$275,000 and \$325,000 per mile and between \$5.6 million and \$6.7 million per year for the 20.5-mile route.

3.4.1.4.3 Phased Implementation

The study further considered a phased implementation of the passenger service on the corridor. Phase 1 could be between Iowa City and North Liberty, and Phase 2 between North Liberty and the Eastern Iowa Airport at Cedar Rapids.

Additional phased implementation could include more frequencies and more stations, and even a Phase 3 which would take the service from the Eastern Iowa Airport north to downtown Cedar Rapids.

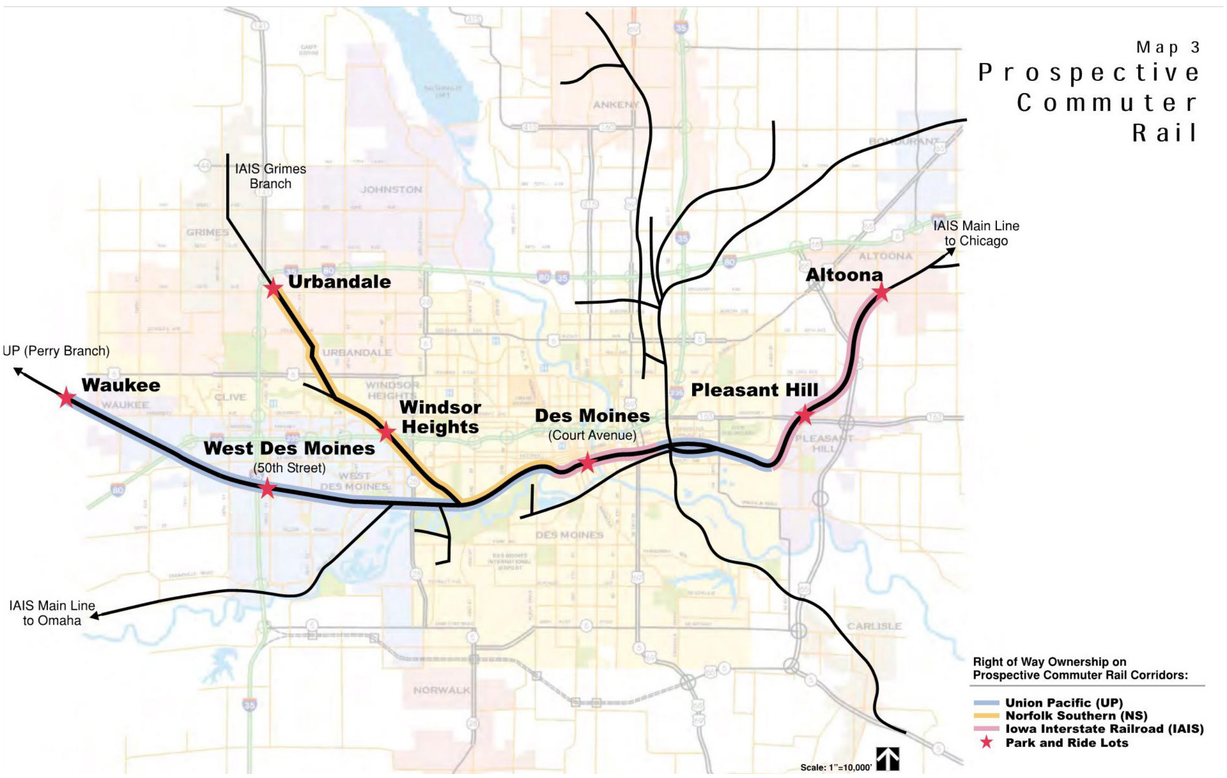
The study stopped short of recommending a modal option. Such a recommendation would typically require further refinement of costs, estimates of ridership and revenue, an evaluation of funding strategies, an environmental assessment, and a public outreach effort to test which option the potential users of the service would be most likely to support.

Project stakeholders will use the 2015 study to determine the feasibility of further study of the potential for implementation of passenger rail service in the CRANDIC corridor.

3.4.2 Des Moines Area Commuter Service

The June 2000 Commuter Rail Feasibility Study for the Des Moines, Iowa Metropolitan Area investigated a commuter rail concept using an east-west route through the state capital, linking outlying suburban areas with downtown Des Moines. The route is seen in Figure 3.17 below.

Figure 3.17: Proposed Des Moines Area Commuter Rail Service



Source: Commuter Rail Feasibility Study for the Des Moines, Iowa Metropolitan Area

From the east, commuter trains, each consisting of a reconditioned locomotive and at least two reconditioned coach cars, would depart Altoona and Pleasant Hill on the IAIS Newton Subdivision during the morning peak for the Des Moines Station at Court Avenue in the Central Business District (CBD). From the west, trains would depart Urbandale and Windsor Heights on the IAIS Grimes Branch, as other trains depart Waukee and West Des Moines on the UP's Perry Subdivision for the CBD. The trains would reverse their trips during the evening peak.

Ridership forecasts were developed assuming 15-, 30-, 45-, and 60-minute peak period, peak direction frequencies. The forecasts calculated 1,300 passenger trips per weekday assuming 45-minute peak period frequencies, and 1,800 passenger trips per weekday assuming 30-minute frequencies in 2005.

A cost estimate for implementation, based on the 45-minute frequency scenario, was $63.2 million (2000 dollars). The total covers the cost of track improvements, stations, grade crossing protection, rolling stock, and feeder buses and park-and-ride facilities.

Estimated operating costs — the recurring costs for running the system (train crews, management, insurance, maintenance, fuel, etc.) — for the 45-minute frequency scenario totaled $7.5 million a year, while the annual ticket revenue would be $533,000. The fare box recovery ratio would be just 7 percent, and the annual subsidy requirement would be $7.0 million.

The study pointed out that the 7 percent fare box recovery ratio is far below what comparable commuter rail operations generate (the range varied between 23 percent for the Tri-Rail commuter operation in Miami to 48 percent for the Metrolink commuter rail operation in Los Angeles). The study also calculated a subsidy per passenger trip of $21 in Des Moines as opposed to subsidies of less than $5 - $7 for the comparable services in Los Angeles, San Francisco, Miami, and Northern Virginia-Washington DC.

The study concluded that based on these performance measures, commuter rail in Des Moines is not feasible from an economic perspective, at least not at that time. The study recommended keeping options open, monitoring demographic and traffic trends, and preserving rail corridors which may become important for passenger rail in the future.

3.5 Proposed Special Event Trains and Tourist Excursion Trains

Special event and tourist excursion passenger trains operate or have operated in Iowa in recent years, and there is the potential for the continuation and enhancement of existing services and the implementation of new services in the state. Past studies have identified the potential of some additional services for Iowa.

3.5.1 Special Event Trains

Special passenger trains for college football games and other major local and state events have been an Iowa tradition for generations and continue to operate for the public today.

The *Hawkeye Express* began passenger railroad operations over the Iowa Interstate Railroad in 2004 between Iowa City's Kinnick Stadium and outlying parking areas in nearby Coralville to transport football fans during University of Iowa Hawkeyes home games. The *Hawkeye Express* train is owned by the Iowa Northern Railway, leased to the University of Iowa, and operated by Iowa Interstate Railroad. In recent years, the *Hawkeye Express* has used a locomotive and reconditioned Chicago commuter rail bi-level coaches to make several push-pull shuttle runs between the stadium and the parking areas before and after each game, as shown in Figure 3.18 below. The train accommodated approximately 5,000 Iowa football fans for each of the seven home games during the 2013 season[1]. The train operated during the 2014 and 2015 football seasons and plans are for it to operate again in 2016.

1 *http://www.iowanorthern.com/pdf/hawkeye_express_2014_flyer.pdf*

Figure 3.18: Hawkeye Express Special Train in Iowa City

Source: Iowa Northern Railway

IANR also operates a Holiday Express Train in December over various segments of its core network between Manly, Waterloo, and Cedar Rapids, Iowa.

Other special event trains have operated over the Iowa railroad network in recent years. In 2006, IAIS acquired two Chinese-built steam locomotives, which have been used on numerous special passenger trains on its system across Iowa and Illinois in subsequent years.

Proceeds from some special trains operated by IANR and IAIS have been used to support flood relief efforts or to benefit local fire departments in Iowa. Some special trains have also been operated for events held by railroad historical organizations at Cedar Rapids, Waterloo, and elsewhere in Iowa.

The potential for additional special trains for sporting and other events in the state — including the annual Iowa State Fair in Des Moines, for example —could be explored in the future. The aforementioned 2006 Cedar-Iowa River Rail Transit Project Feasibility Study suggested special event excursion service and another excursion service in Iowa using vintage railroad equipment. The services could run on any of the three lines in the Iowa City-Cedar Rapids region study area shown in Figure 3.18 above. An example of a special event train would be on a weekend day in late September for Oktoberfest. An excursion train could run between the Eastern Iowa Airport at Cedar Rapids and Iowa City via the CRANDIC, then via the IAIS between Iowa City and the Amana Colonies. Equipment could be traditional locomotive-hauled trainsets, with crews provided by the host railroads.

3.5.2 Tourist Excursion Trains

The Iowa railroad network hosted tourist excursion trains in the 1980s and 1990s, which are not presently operating. Some of these services included the Iowa *Star Clipper Dinner Train* that operated out of Osage, Waverly, and Cedar Falls, Iowa, and other points on the Cedar Valley Railroad (today, owned by CN) starting in 1985, and the *Madison County Zephyr* between Chicago, Illinois, and Earlham, Iowa, that operated over IAIS in Iowa during 1996.

The Boone and Scenic Valley Railroad operates historic railroad equipment on daily excursions from spring through fall as well as a *Dinner Train*, *Picnic Train*, and other special tourist excursion services locally at

Boone, Iowa, which use privately owned railroad museum trackage only and not a host railroad on the Iowa railroad network.

The aforementioned 1995 East Central Iowa Commuter Rail Feasibility Study and the 2006 Cedar-Iowa River Rail Transit Project Feasibility Study both noted the potential for tourist operations. The 1995 study suggested vintage trolleys on the CRANDIC Cedar Rapids — Amana Colonies line. Trolleys are electric powered and would require overhead electric power lines and the supporting infrastructure. No details of such a concept were included in the study.

Tourist railroad excursions using vintage railroad equipment were also identified in the 2006 report. Such equipment could include historic steam or diesel-electric locomotives, historic coaches, and even self-propelled (non-electric) rail interurban-style rail cars. Tourist rail operations could potentially occur on any of the corridors in the Cedar Rapids/Iowa City study area. Crews would likely consist of volunteers. Typical tourist train vintage equipment is shown for the Boone and Scenic Valley Railroad, along with riders, on a late summer afternoon in Figure 3.19 below.

Figure 3.19: Riders Aboard a Vintage Day Coach on the Boone and Scenic Valley Railroad

Source: Prime Focus

Unlike commuter rail, special event and/or tourist excursion passenger rail operations typically run at a profit or at least cover their costs. Accordingly, such operations are likely more possible in the near term.

Any arrangement between a host freight railroad and a third party for the operation of future passenger excursion trains in Iowa would be subject to agreement between the parties.

3.6 iTRAM Ridership Forecasting Model

iTRAM (Iowa Travel Analysis Model) is a state-of-the-art travel demand model developed for the Iowa DOT. The model consists of several key components and numerous subcomponents. The key parts are:

- Statewide Traffic Model
- Passenger Rail Model
- Freight Rail Model

This section will describe what the Passenger Rail Model is, and how the model can be applied. The iTRAM model was developed with assistance from the federal High Speed Intercity Passenger Rail (HSIPR) capital grant program for states.

3.6.1 Statewide Passenger Rail Model

The iTRAM Passenger Rail Model is designed to estimate the intercity rail demand for existing and new rail lines for the Iowa Statewide Model Area. The model is a market area logit model that has an independent rail network that is coordinated with the highway network by designating specific nodes within the iTRAM highway network as rail passenger stations. The model uses the long distance work and long distance non-work trip tables from the iTRAM Travel Demand Model as input.

3.6.2 Typical Applications

Possible applications of the Passenger Rail Model might include estimating current year and future year volumes for proposed new intercity passenger rail passenger services.

IOWA DOT

Iowa State Rail Plan Final

Chapter 4

Proposed Freight Rail Improvements and Investments

IOWA DOT

Contents

4.1 Introduction

The purpose of Chapter 4 of the Iowa State Rail Plan is to:

- Identify recent improvements and investments made or being made to the Iowa railroad network by the state's railroads and the state and investment trends generally, to the extent known through coordination with railroads and Iowa DOT and through analysis of publically available data during development of the Iowa State Rail Plan.
- Describe possible future railroad improvements and investments that could address the freight rail and rail safety needs of Iowa, as identified through railroad and stakeholder outreach and internal Iowa DOT coordination during development of the Iowa State Rail Plan.

Many of these potential future projects focus on the opportunity for enhanced access to the state's rail network for shippers; fixing rail service gaps; options for improvements to infrastructure and the capacity, safety, and efficiency of rail service and operations; climate change adaptation and environmental sustainability; and economic development. Capital projects that may provide opportunities for improved coordination, integration, and operations of passenger rail services in the state will also be identified. Specific potential future freight rail projects will be identified, described, and prioritized for short-term and long-term implementation in the Iowa Rail Service and Investment Plan featured in Chapter 5 of the Iowa State Rail Plan.

The chapter concludes with a description of iTRAM, an Iowa DOT travel demand model that can be used to forecast the ridership potential of freight rail services.

4.2 Class I Railroad Improvements

Class I railroad companies in Iowa must use private financing to cover the cost of equipment acquisition (that is, locomotives and railcars) and infrastructure improvements aimed at renewing, upgrading, or expanding the state rail network (that is, rail, ties, bridges, signal systems). Railroads rely on a regulatory framework that provides sufficient return on investment as a means to accommodate these capital expenditures. Some programs administered by the state of Iowa — notably the Iowa Railroad Revolving Loan and Grant Program (RRLG) and Linking Iowa's Freight Transportation System Program (LIFTS) — are available to Class I railroads to help fund rail network improvement projects, targeted job creation projects, and more; however, the available funding amounts available are seldom attractive nor sufficient for significant Class I projects. The potential for this funding and its applicability to Class I railroad improvement projects in Iowa is identified in Chapter 5.

Capital investment in rail infrastructure in the state of Iowa by the Class I railroads has been generally robust and continuous since the 1980s. Historically, most projects were aimed at developing the capacity necessary to efficiently handle traffic originating and terminating in Iowa and the rail traffic traveling through Iowa (notably the surge of coal shipments out of Wyoming's Powder River Basin that began in the 1970s, and an intermodal traffic increase that began in the 1980s), to upgrade track structure and bridges to accommodate railcars with a maximum allowable gross weight of 286,000 lbs., and to expand and create new terminal facilities.

Funds are budgeted by the Class I railroads each year to facilitate ongoing capital investment in the state's rail network. Systemwide capital expenditure budgets are reported by the Class I railroads annually, and may or may not identify specific rail projects by state or their estimated capital cost.

The Class I railroads have continued to invest heavily in their networks during the last 5 years in order to solve ongoing factors constraining the capacity, efficiency, and velocity of the high volumes of through traffic in Iowa; to eliminate or mitigate operational chokepoints; to handle various upgrades associated with maintenance and safety (including implementation of federally mandated Positive Train Control [PTC] systems, which reduce the likelihood of train over-speed incidents and collisions between trains); to implement various other technologies that improve the safety, economic efficiency, and environmental sustainability of railroad operations generally; and to accommodate routine infrastructure renewal. Iowa's Class I railroads will also continue to upgrade bridges and other infrastructure on branch lines in the state as required, in order to be able to accommodate railcars with a maximum allowable gross weight of 286,000 lbs. (the heavier cars are replacing the lighter 268,000 lb. cars and are becoming the industry standard; Class I railroad segments of the Iowa rail network incapable of handling these heavier loads are identified in Chapter 2 of the Iowa State Rail Plan). The Class I railroads have also identified some ongoing projects for the state. Class I needs were discussed with each of the carriers during the stakeholder outreach process conducted for the Iowa State Rail Plan.

4.2.1 Class I Main Line Capacity Analysis

In Chapter 2 of the State Rail Plan, a planning level capacity analysis was conducted to assess the degree of congestion on major higher volume Class I main lines of BNSF Railway (BNSF) and Union Pacific Railroad (UP) in Iowa. The main lines investigated, and the results of the analysis, are identified in Section 2.2.5 of Chapter 2.

In general, over the BNSF and UP lines analyzed, it appeared as if the present estimated train volumes could be accommodated without consuming the practical capacity of the lines as they presently exist on all but two short segments. The potential capacity constraints were identified on the UP Overland Route in western Iowa. Single track segments of the UP Blair Subdivision between California Junction and Missouri Valley, Iowa, and the UP Omaha Subdivision between North Council Bluffs and Missouri Valley, Iowa, constrict volume to the point where current volumes appear to be consuming the practical capacity of the lines.

Previous Analysis

Iowa DOT's 2014 Iowa Freight Mobility Survey identified bottlenecks of several types on the Iowa rail network through a survey it sent to the state's Class I, II, and III railroads, Metropolitan Planning Organizations, Regional Planning Affiliations, and Iowa DOT District Transportation Planners for inputs. Capacity constraints identified through the survey were generally attributable to:

- Insufficient capacity to accommodate carload interchange between railroads.
- Insufficient capacity for staging, switching, and storing rail cars in yards.
- Slow operating speeds in urban terminal areas.
- Insufficient vertical and/or horizontal clearances for handling high-wide loads.
- Delays to railroad operations attributed to the opening of bridges over the Mississippi River during barge navigation season.

The types and locations of the bottlenecks identified through the survey — some of which may result from insufficient capacity and other constraints — were previously identified in Section 2.3.1.3 of Chapter 2.

Iowa DOT has developed a forecasting tool called the Iowa Traffic Analysis Model (iTRAM) that is used to estimate present and future intercity passenger and freight rail demand in a modeling area consisting of Iowa and portions of adjacent states. A summary of iTRAM is provided later in this chapter.

Any intersections between the results of the capacity analysis conducted for the State Rail Plan, the Iowa DOT freight mobility survey and iTRAM tool, and the railroad improvements discussed in this chapter will be identified.

4.2.2 Class I Railroads Planned Improvements

BNSF Railway

BNSF identified some capital investments in its Iowa network made in the last 5 years.

Capital investment undertaken by BNSF on its total network during 2014 was $5.5 Billion and included maintenance and upgrading of existing track and bridges, adding new track capacity, and improvements to network and facility efficiency[1]. Approximately $61 Million of this investment was made in Iowa. BNSF did not identify estimated capital costs for all of the projects identified.

1 *BNSF Corporate Responsibility and Sustainability Report, 2014*

Table 4.1 below identifies some specific projects completed by BNSF in Iowa during 2010-2014. These projects were intended by BNSF to address main line and yard capacity constraints and operating efficiency issues within its Iowa network and to implement a PTC system to comply with a federal safety mandate.

Table 4.1: BNSF Capital Projects in Iowa, 2010-2014

PROJECT	TYPE OF IMPROVEMENT	LOCATION	ESTIMATED CAPITAL COST
Burlington (Mississippi River) Bridge Replacement Project	Capacity, Economic Development, Safety	Burlington, Iowa-Gulf Port, Illinois	Approximately $124 Million[2] (Constructed 2009-2011)
Ottumwa Subdivision Crossover Improvements Project[3]	Capacity, Safety	Near Beckwith, Ottumwa, Osceola, and Afton, Iowa	Approximately $17.3 Million[4] (Completed 2013)
Positive Train Control (PTC) Implementation[5]	Safety	Statewide	BNSF was expected to invest an additional $200 Million on PTC implementation on its total network (including on lines in Iowa) in 2015.

Source: BNSF

Some capital projects on BNSF identified in the table above have also demonstrated opportunities for improved coordination, integration, and operations of passenger rail services, as all regularly scheduled Amtrak passenger rail services in Iowa operate over BNSF lines. These synergies include:

- **Burlington Bridge Replacement Project** — The project, which included the replacement of a legacy swing span bridge with a new vertical lift span over the Mississippi River, improved capacity and safety for BNSF operations and also enhanced the on-time performance and reliability of Amtrak's daily roundtrip California Zephyr service (Chicago-Omaha-Denver-San Francisco Bay Area), which operates over the bridge between Gulf Port, Illinois, and Burlington, Iowa.
- **Ottumwa Subdivision Crossover Improvement Project** — The primary purpose of the project was to improve the on-time performance, reliability, and safety of Amtrak's California Zephyr on the BNSF route across southern Iowa using FRA high-speed rail funding awarded to Iowa DOT. BNSF also realized a benefit from the project in terms of enhanced operating capacity, mitigation of bottlenecks and freight congestion, and reduced delays to trains and freight transported in Iowa.
- **PTC Implementation** — BNSF projects to implement PTC on its principal lines in Iowa will provide another safety measure for Amtrak passenger rail operations by preventing collisions between trains, and other potential accidents. Amtrak trains operating over principal BNSF lines in Iowa that will be PTC-equipped include the daily California Zephyr and the daily roundtrip Southwest Chief service (Chicago-Kansas City-Los Angeles).

BNSF reported that it anticipated investing approximately $6 Billion in capital expansion and maintenance on its total network in 2015[6].

BNSF identified one key project for Iowa for 2015:

- **Sioux City, Iowa:** Construct a new bypass track on the Sioux City Subdivision[7].

2 Project funding included appropriations from the Truman-Hobbs Act which provided federal funding for bridges discovered to be unreasonably obstructive to navigation and is managed by the U.S. Department of Homeland Security and the U.S. Coast Guard, and funding from BNSF. Source: https://www.bnsf.com/media/news/articles/2009/09/2009-09-23a.html

3 Project included installation of double crossovers between the two main tracks and islands of Centralized Traffic Control (CTC) wayside signaling to control their use at four locations on the BNSF Ottumwa Subdivision in Iowa.

4 Project funded by a FRA High-Speed Intercity Passenger Rail Program grant awarded to Iowa DOT in 2009.

5 Note: Installation of PTC hardware and software, wayside PTC infrastructure, and PTC technology on locomotives is ongoing. The U.S. Congress passed the Surface Transportation Extension Act of 2015, under which U.S. railroads will have until December 31, 2018, to fully implement PTC.

6 BNSF's 2015 $6 Billion Capital Plan: http://www.bnsf.com/media/pdf/2015-capital-expansion-map.pdf

7 Ibid

BNSF reported that it planned to invest approximately $4.3 Billion on its total network in 2016[8]. Projects will generally include maintenance of the core network and infrastructure, PTC implementation, and locomotives and equipment.

Current bottlenecks and specific future capital investment projects for its network in Iowa were not identified by BNSF during development of the Iowa State Rail Plan.

Canadian National Railway
CN identified some capital investments in its Iowa network made in the last 5 years. Specific projects and their respective capital costs were not identified.

The total investments by CN for general rehabilitation of its network infrastructure in Iowa during the last 5 years are as follows[9]:

- 2014 — Approximately $16.2 Million
- 2013 — Approximately $13.4 Million
- 2012 — Approximately $12.8 Million
- 2011 — Approximately $17.8 Million
- 2010 — Approximately $11.3 Million

CN reported that it planned to make a capital investment of approximately $2.7 Billion in 2015 to maintain and improve rail infrastructure to enhance capacity, safety, and efficiency on its total network and to make improvements to its equipment[10]. These investments generally include:

- **Track and Bridge Infrastructure** — Includes replacement of rail and ties, improvements to bridges, and upgrades to some branch lines that have realized an increase in traffic volumes.
- **Safety** — Includes installation of additional wayside asset protection devices, such as hot wheel detectors, wheel impact load detectors, signaled sidings for broken rail detection, and implementation of new track geometry testing and joint bar inspection technology.
- **Growth and Productivity Initiatives** — Includes improvements to yards, intermodal terminals and transload and distribution facilities, and information technology.
- **Equipment** — Includes acquisition of new high-horsepower locomotives and investment in and rehabilitation of freight rail cars.

For 2016, CN reported that it planned to invest approximately $2.1 Billion in its total network[11]. These investments include:

- Network Investments — $1.2 Billion
- PTC Implementation — $285 Million
- Rail Equipment — $428 Million

Current bottlenecks and specific future capital investment projects for its network in Iowa were not identified by CN during development of the Iowa State Rail Plan.

Canadian Pacific Railway
CP identified some capital investments and projects in its Iowa network made in the last 5 years.

8 2016 Capital Expenditures: Don't Panic; Railway Track and Structures, February 2016
9 Annual Report of Chicago Central and Pacific Railroad Company to the Iowa Department of Revenue and Finance Property Tax Section, Schedule 800 (System Indicators), 2010-2014; and Annual Report of Cedar River Railroad Company to the Iowa Department of Revenue and Finance Property Tax Section, Schedule 800 (System Indicators); 2010-2014. Note that CN operates in Iowa through its subsidiaries CC&P and CEDR.
10 http://www.cn.ca/en/media/2015/05/pressrelease_20150505100224_7356
11 2016 Capital Expenditures: Don't Panic; Railway Track and Structures, February 2016

CP reported that it made capital investments in its total network of approximately $1.4 Billion in 2014[12]. These investments generally include:

- **Track and Roadway** — Includes replacement and enhancement of track structure, renewal of bridges and signals, and PTC implementation.
- **Rolling Stock** — Includes locomotives and freight cars.
- **Information Systems**
- **Buildings and Facilities** — Includes intermodal and automotive facilities.

Capital investment undertaken by CP for its network in Iowa during 2014 was approximately $51.5 Million. Specific projects and their respective capital costs were not identified.

CP reported for 2015 that it continued to make capital investments that support business growth, build capacity, and enhance its ability to operate safely on its network[13].

CP selected its Ottumwa Subdivision (Nahant-Ottumwa, Iowa) for a pilot PTC implementation program and anticipated that it would receive FRA approval to begin revenue service test runs of the system by the end of 2015. CP did not identify the specific capital cost for the project. CP anticipates that it will next implement a PTC system in Iowa on its connecting Davenport Subdivision (Nahant-Sabula, Iowa) and Laredo Subdivision (Ottumwa, Iowa-Iowa / Missouri state line near Sewal, Iowa); however, neither the schedule nor specific capital cost for the projects were identified by CP.

For 2016, CP reported that it planned to invest approximately $785 Million on its total network[14]. Specific investment categories and allocations were not identified.

Current bottlenecks and specific future capital investment projects were not identified by CP for its network in Iowa during development of the Iowa State Rail Plan.

Kansas City Southern Railway
KCS accesses Iowa via haulage rights over BNSF and UP only and does not own any lines in the state. Therefore, no bottlenecks or future capital projects were identified by KCS for Iowa during development of the Iowa State Rail Plan.

Norfolk Southern Railway
NS did not identify capital investments in its Iowa network made in the last 5 years.

NS reported that it planned to make a capital investment of approximately $2.4 Billion in 2015 to enhance capacity and service and to support business growth on its total network[15]. These investments generally include:

- Renewal of rail, ties, ballast, and bridges.
- Improvements to infrastructure and facilities.
- Investment in locomotives and freight cars.
- Investment in PTC and technology initiatives.

For 2016, NS reported that it planned to invest approximately $2.1 Billion on its total network[16]. Specific investment categories include:

- Roadway — $817 Million

12 *Canadian Pacific Railway Annual Report, 2014*
13 *Ibid*
14 *2016 Capital Expenditures: Don't Panic; Railway Track and Structures, February 2016*
15 *Norfolk Southern's 2015 $2.4 Billion Capital Plan: http://nscorp.com/content/nscorp/en/norfolk-southerns201524billioncapitalplan.html*
16 *2016 Capital Expenditures: Don't Panic; Railway Track and Structures, February 2016*

- Infrastructure — $89 Million
- Facilities and Terminals — $222 Million
- Other Investments — $163 Million

No bottlenecks or specific future capital investment projects were identified by NS for its network in Iowa during development of the Iowa State Rail Plan.

Union Pacific Railroad

This section identifies the UP infrastructure projects in Iowa funded by capital expenditure and completed during the last 5 years. UP's capital investment in Iowa by year is as follows:

- 2014 — $59.8 Million
- 2013 — $79.0 Million
- 2012 — $87.4 Million
- 2011 — $92.8 Million
- 2010 — $40.0 Million

Table 4.2 below identifies some specific capital projects completed in Iowa during the 2010-2014 period. These projects were generally intended by UP to address main line and yard capacity constraints and operating efficiency issues within its Iowa network and to implement a PTC system to comply with a federal safety mandate.

Table 4.2: UP Capital Projects in Iowa, 2010-2014

PROJECT	TYPE OF IMPROVEMENT	LOCATION	ESTIMATED CAPITAL COST
Boone Run-through Track	Capacity	Boone	$10.6 Million
Beverly Yard — Extend Yard Leads	Capacity	Cedar Rapids	$6.9 Million
Remote Control Switches — Short Line Yard	Capacity	Des Moines	$1.9 Million
Hull Avenue Yard Expansion	Capacity	Des Moines	$12.4 Million
Carnes Siding — Centralized Traffic Control Switches	Capacity	Carnes	$1.3 Million
Sheffield Siding — Centralized Traffic Control Switches	Capacity	Sheffield	$2.0 Million
Le Mars — Centralized Traffic Control Switch (Note: Under construction in 2015)	Capacity	Le Mars	$2.6 Million
PTC Implementation	Safety	Statewide	UP's 2015 investment in PTC on its network includes principal lines in Iowa

Source: UP

In its 2015 capital program, UP was anticipated to invest approximately $4.3 Billion in the total UP network. UP reported that it planned to invest approximately $109 Million on its network in Iowa in 2015, including[19]:

- $105 Million for track maintenance
- $1.5 Million for signal system enhancements
- $2.8 Million for bridge maintenance and replacement

17 Note: Installation of PTC hardware and software, wayside PTC infrastructure, and PTC technology on locomotives is ongoing. The U.S. Congress passed the Surface Transportation Extension Act of 2015, under which U.S. railroads will have until December 31, 2018, to fully implement PTC.

18 UP invested approximately $2 Billion on PTC implementation on its total network through January 1, 2016, including over principal line segments in Iowa. . UP's total estimated investment in PTC is about $2.9 Billion. Source: http://www.up.com/media/media_kit/ptc/about-ptc/index.htm#

19 http://www.up.com/media/releases/0504_iowa-rail.htm

UP's key projects for 2015 were focused on the Mason City and Clinton subdivisions — which are components of two of UP's most heavily trafficked lines in Iowa — and include the following[20]:

- **Bradford, Iowa — Mason City, Iowa, Segment — Mason City Subdivision ($18.3 Million):** Replace about 34 miles of rail, repair surfaces at 37 road crossings, and replace seven switches.
- **Garden City, Iowa, Area — Mason City Subdivision ($13.3 Million):** Replace about 23 miles of rail, repair surfaces at 30 road crossings, and replace nine switches.
- **Ames, Iowa-Belle Plaine, Iowa, Segment — Clinton Subdivision ($12.0 Million):** Replace 83,300 railroad ties, install 25,100 tons of crushed rock ballast, and repair surfaces at 67 road crossings.

For 2016, UP reported that it planned to invest approximately $3.75 Billion on its total network[21]. Specific investment categories include:

- Infrastructure — $1.825 Billion
- Locomotives and Equipment — $965 Million
- Capacity and Commercial Facilities — $395 Million
- Technology — $190 Million
- PTC Implementation — $375 Million

The UP identified a bottleneck on its network in Iowa during development of the Iowa State Rail Plan: openings of the Mississippi River Bridge at Clinton, Iowa, which delays trains and hampers rail capacity on the UP Geneva and Clinton subdivisions in Iowa during river barge navigation season.

Future capital investments undertaken by UP for its network in Iowa were not identified by UP during development of the Iowa State Rail Plan.

4.3 Class II and Class III Railroads Past and Planned Improvements

Class II and Class III railroads generally face a different set of challenges meeting their needs than the Class I railroads do, since they often may not possess the capital and technical resources, operating capacity and flexibility, or modern infrastructure of the larger Class I railroads.

Class II and Class III railroads typically rely upon private funding, public funding, or some combination of these sources to cover the capital cost of equipment acquisition and general infrastructure improvements. Some programs administered by the state of Iowa — notably the Iowa Railroad Revolving Loan and Grant Program (RRLG) and Linking Iowa's Freight Transportation System Program (LIFTS) — are available to Class II and Class III railroads to help fund rail network improvement projects, targeted job creation projects, and more. The potential for this funding and its applicability to Class II and Class III railroad improvement projects in Iowa are discussed in Chapter 5.

Typically, the largest constraints on Class II and Class III railroads in the U.S. involve accommodating railcars with a maximum allowable gross weight of 286,000 lbs. (the heavier cars are supplanting the lighter cars and are becoming the industry standard) and operational chokepoints caused by insufficient operating capacity on main lines, in rail yards, and locations where railroads interchange with each other.

Railcars with larger loading capacity provide greater operating efficiency by reducing labor, fuel, and maintenance costs while increasing capacity and synergy for rail operations and rail shippers. Most Class III railroads have a legacy infrastructure suited to low-density operations and railcars of lighter weight (268,000 lbs. or less). Class II and Class III railroads that are unable to make the appropriate upgrades may be at a competitive disadvantage and lose business to transportation competitors, namely to trucks or nearby Class I railroads that are capable of handling the 286,000 lb. cars.

20 Ibid
21 2016 Capital Expenditures: Don't Panic; Railway Track and Structures, February 2016

Several of the lines operated by Class II and Class III railroads in Iowa, however, have been the recipients of capital investments to bridge and other infrastructure upgrades in the last two decades in order to be 286,000 lbs. compliant (segments of the Iowa rail network incapable of handling these heavier loads are identified in Chapter 2 of the Iowa State Rail Plan).

Class II and Class III railroad chokepoints are often attributed to legacy infrastructure tailored to historical railroad practice, which can limit capacity and hamper the efficiency and flexibility of modern operations. Such factors include yard capacity that is insufficient for building trains; switching; and staging cars and sidings that are of inadequate number, length, or location to accommodate the demands of present-day train operations, meet-pass events, and schedules. Some Class II and Class III railroads are further constrained by delays that stem from interchanging railcars with another carrier or in the use of trackage rights to access an isolated segment of their network. These deficiencies not only compromise rail transit times and operational safety and cause main line and yard congestion, they have the unintended consequence of affecting the quality of life for adjacent communities. Among other things, chokepoints and their resultant operational impacts can lead to protracted delays for motorists and emergency vehicles at blocked highway-rail grade crossings, and also affect air quality due to increased emissions from idling vehicles and trains.

One key recent example of an investment targeted at updating or supplanting legacy rail infrastructure in Iowa was demonstrated by Class II, IAIS. The railroad's legacy, primary rail yard and locomotive maintenance facility at Iowa City was located in a residential neighborhood adjacent to the city's central business district. It had limited capacity and flexibility for IAIS' expanding modern operations and for accommodating increasing volumes of interchange with the CIC, which resulted in yard congestion, impacts to operations on the connecting IAIS network, and delays to vehicles at grade crossings near the yard. In 2012, IAIS relocated to a newly constructed rail yard with greater capacity and a modern locomotive maintenance facility 25 miles west of Iowa City, in a rural area near South Amana, where the IAIS mainline across Iowa meets with CIC's connecting line to Cedar Rapids. The South Amana facility is today used for switching, staging, and meeting trains; facilitating more efficient interchange with CIC; and for maintaining IAIS' fleet of modern, high-horsepower locomotives, while the old yard facility in Iowa City remains and is used primarily for staging railcars for local rail shippers. All Class II and Class III railroads in Iowa were sent survey forms soliciting their needs during the development of the State Rail Plan. The forms provided the railroads the opportunity to verify the details of the physical and operating characteristics of their respective networks.

Of the 12 Iowa regional and short line railroads, 10 completed the surveys. Appendix A in Chapter 2 presents the information provided by these railroads. Iowa's Class II and Class III railroads were further queried during the stakeholder outreach process undertaken for the Iowa State Rail Plan about the specific challenges they face now and for the future in terms of capacity constraints, infrastructure needs and upgrades, railroad regulation, capital funding needs, and strategies for mitigating climate change adaptation. As previously mentioned, Class I railroads have the capital resources to make investments in improvements, while Class II and Class III railroads typically do not. Potential projects of the Class II and Class III railroads identified through the survey and the stakeholder outreach process are identified and described in Iowa DOT's Rail Service and Investment Program, which is the subject of Chapter 5 of the Iowa State Rail Plan.

4.4 Other Past and Planned Improvements

One additional ongoing capital project undertaken with federal and state funds that provided an investment in state's railroad network has also demonstrated opportunities for improved coordination, integration, and operations of freight railroads in the multimodal environment.

The Council Bluffs Interstate System Improvement Program (CBIS) was an innovative solution to complex, interlaced infrastructure in the Council Bluffs urban area. Railroad infrastructure consists of a nationally significant terminal where freight trains are collected, classified, and dispatched from all four directions. Railroad traffic consists of flows from Canada, Mexico, the Gulf, Pacific, and Atlantic Coasts, and regional manufacturing and agricultural and processing centers. The railroad infrastructure is a hub, with 10 main lines of four Class I railroads (including BNSF; CN; KCS via haulage agreement over BNSF and UP; and UP) and one regional railroad (IAIS) radiating in all directions, as well as a locally important short line (CBEC) that delivers coal to a large generating station. The highway infrastructure consists of the interchange of nationally significant Interstate Highways 29 and 80, as well as local road networks. The railroad and highway infrastructure is interlaced vertically and horizontally, and is complicated by urban housing, commercial, and industrial activity in Council Bluffs.

The CBIS project, originally an Interstate Highway reconstruction and improvement project, sought to streamline and improve all three aspects of the Council Bluffs infrastructure: railroad, highway, and urban use; and to develop economies that enabled capital cost, functionality, and urban development improvement beyond the original project vision. Through cooperative discussions among all stakeholders, the highway, railroad, and urban uses of the area were coordinated and their needs and requirements were expressed creatively, enabling cost reductions in the highway project, improvements for residents and businesses in Council Bluffs, and streamlined and consolidated railroad infrastructure including grade crossing closures. The rail-related segment of CBIS is being conducted under the Iowa DOT Railroad Relocation Grading Project began in 2015 and estimated for completion in 2017. The $13.2 Million rail segment of CBIS is funded by the Iowa Highway Improvement Program, which is a part of the Iowa Transportation Improvement Program (TIP). The anticipated completion of the total CBIS project is 2022.

4.5 Improvements to Intermodal Connections

Iowa's rail system is a component of a comprehensive multimodal transportation network, which includes linkages to highway, river, and air modes. The opportunity for enhanced multimodal transportation opportunities could be met through investments targeted to promote interconnectivity, capacity, and environmental sustainability. Such investments could include construction or rehabilitation of existing rail connections between principal railroad lines and river port properties; enhancement or construction of transload and intermodal facilities; and additional sidings, spurs, or yard tracks for switching, staging, and storing railcars at or near port, transload, or intermodal facilities.

Potential projects aimed at improving intermodal connections and captured through the survey and the stakeholder outreach process are identified and described in Iowa DOT's Rail Service and Investment Program, which is the subject of Chapter 5 of the Iowa State Rail Plan.

4.6 Highway-Rail Crossing and Safety Improvements

Iowa DOT spends approximately $7.3 Million per year on highway-rail crossing improvements to enhance safety. Funding comes from the Iowa Highway-Railroad Grade Crossing Safety Program (supported by the Federal Highway Safety Improvement Program; formerly Section 130 funds), the Iowa Highway-Railroad Grade Crossing Surface Repair Program, and the Iowa Primary Road-Highway-Railroad Grade Crossing Repair Program. Iowa DOT strives to consolidate projects were possible (e.g., a combination of closures and warning device installation as one project). Refer to Section 2.1.5 of Chapter 2 for further details about these federal and state funding sources and Section 2.1.6.3 in Chapter 2 for a rail crossing inventory and safety data for Iowa.

Iowa DOT anticipates spending approximately $5.7 Million annually via the Federal Highway-Railroad Crossing Safety Program to upgrade crossings with passive warning devices including crossbucks to active warning devices including flashing light signals and gate arms; upgrade existing signals; improve crossing surfaces; and provide low-cost improvements such as increased sight distance, medians, widened crossings, or to close crossings. Iowa DOT will also receive an additional $2.9 Million in Federal Highway Safety Improvement Program funding for 2016 that is yet to be programmed to specific projects. Projects recommended for 2015-2017, along with the anticipated total capital investment for each year's projects, include[22]:

- **2015 ($5,710,000)** — 32 total projects:
  - 20 projects upgrading crossings with passive warning devices including crossbucks to active warning devices including flashing light signals and gate arms

22 *http://www.iowadot.gov/iowarail/assistance/130/federalaid.htm*

  - 7 projects upgrading crossing with flashing light signals only to flashing light signals and gate arms
  - 5 projects upgrading circuitry in a crossing protected by flashing light signals and gate arms
  - Contribution to crossing closures statewide
- **2016 ($5,735,000)** — 30 total projects[23]:
  - 23 projects upgrading crossings with passive warning devices including crossbucks to active warning devices including flashing light signals and gate arms
  - 7 projects upgrading crossing with flashing light signals only to flashing light signals and gate arms
  - Contribution to crossing closures statewide
- **2017 ($5,720,000)** — 28 total projects:
  - 23 projects upgrading crossings with passive warning devices including crossbucks to active warning devices including flashing light signals and gate arms
  - 5 projects upgrading crossing with flashing light signals only to flashing light signals and gate arms
  - Contribution to crossing closures statewide

A list of the State Highway-Railroad Crossing Surface Repair Program improvement projects in Iowa for 2015 and 2016 and those recommended for 2017, and the anticipated capital cost of each, is listed in Appendix E of the Iowa State Rail Plan.

Iowa DOT anticipates spending about $900,000 annually via the State Highway-Railroad Crossing Surface Repair Program to promote safety through surface replacement programs at public highway-railroad grade crossings. Owing to a large existing backlog in surface repair projects, in 2016 through 2020, an additional $500,000 annually in Federal Highway Safety Improvement Program funding will be allocated to surface repair projects not yet identified. Projects recommended for 2015-2016, along with the anticipated total capital investment for each year's projects, include[24]:

- **2015 ($961,027)** — 14 total projects
- **2016 ($919,140)**[25] — 10 total projects
- **2017 ($1,060,800)** — 15 total projects

A list of the State Highway-Railroad Crossing Surface Repair Program improvement projects in Iowa for 2015 and 2016 recommended for 2017, and the anticipated capital cost of each, is listed in Appendix E of the Iowa State Rail Plan.

For the long term, Iowa DOT identified specific goals for rail safety and estimated the costs for achieving these goals, beyond highway-rail crossing and safety improvements. The goals and estimated costs are discussed in Chapter 5 of the Iowa State Rail Plan.

The Iowa Highway Grade Crossing Safety Fund has covered a portion of maintenance costs for traffic control devices, activated by the approach or presence of a train (such as flashing light signals, flashing light signals with cantilever assemblies, and flashing light signals with automatic gate arms), installed under the Highway-Railroad Crossing Safety Program since 1973. The annual funding level is $700,000. The fund is administered by Iowa DOT.

4.7 RRLG Projects

The Iowa Railroad Revolving Loan and Grant Program (RRLG) administered by Iowa DOT, provides annual financial assistance to improve rail facilities that will create jobs, spur economic development, and improve the Iowa Rail network[26]. Projects are generally classified as targeted job creation projects, rail network improvements, or rail-port planning and development studies. Entities eligible for RRLG funding include

23 An additional $2.4 Million in additional projects will be programmed with the additional Federal Highway Safety Improvement Program funding Iowa DOT received in 2016.

24 2016-2020 Iowa Transportation Improvement Program

25 An additional $500,000 in additional projects will be programmed with the additional Federal Highway Safety Improvement Program funding Iowa DOT received in 2016.

26 http://www.iowadot.gov/iowarail/assistance/rrlgp.htm railroads, businesses, local governments, economic development agencies, and non-profit organizations.

Table 4.3 below identifies specific rail-related projects awarded RRLG loan and/or grant funding, as approved by the Iowa Transportation Commission, for Fiscal Years 2015 and 2016, and includes additional information about awards made back to FY 2006[27]. An additional $4 Million of available funding will be awarded to yet undetermined projects in FY 2016.

Table 4.3: Projects Funded by RRLG Loans and Grants, FY 2006-2016

RAILROAD REVOLVING LOAN AND GRANT PROGRAM *INCLUDES FISCAL YEAR 2011 AWARDS FOR RAIL PORT DEVELOPMENT (A $7.5 M SPECIAL APPROPRIATION)* FUNDED PROJECTS SUMMARY *FISCAL YEARS 2006 THROUGH 2016* SUMMARY (SINCE ORIGINATION OF RRLGP)		
SUMMARY (SINCE ORIGINATION OF RRLGP)		
APPLICATIONS	$109	unique project applications (omits multiple applications for essentially the same project)
	$81,286,994	requested in grants and loans for unique projects
	$303,248,549	cost of proposed rail infrastructure improvements associated with unique projects
	3846	new jobs (FY2006-2010) or new & retained jobs (FY2011-FY2012) supported by proposed projects1
	$3,807,511,869	other capital investment associated with proposed projects 2
AWARDS	60	total awards
	$37,200,362	total awards
	$114,086,143	estimated cost of rail infrastructure improvements associated with awards
	$1,823	new jobs (FY2006-2010) or new & retained jobs (FY2011) supported by projects 1
	$659,589,418	other capital investment associated with awards 2
1 Certain projects have no requirement for associated job creation or retention (i.e., direct legislative apporpriation, rail network or branch line assistance projects, flood restoration grants, windport projects or planning grants) 2 Does not include public funds or other investments for flood restoration over and above the grants		

FISCAL YEAR	APPLICANT	LOCATION	GRANT	LOAN	AWARDED TOTAL
2006	Absolute Energy LLC	Mitchell Co.	$246,000	$254,000	$500,000
2006	Cascade Lumber Company	Pleasantville	$214,000	$320,000	$534,000
2006	Eastern Iowa Industrial Center	Davenport	$450,000	$310,791	$760,791
2006	Green Plains Renewable Energy	Shenandoah	$126,000	$154,000	$280,000
2006	Iowa Cold Storage	Altoona	$120,000	$259,500	$379,500
2006	Iowa Renewable Energy LLC	Washington	$168,000	$132,000	$300,000
2006	Metzler Automotive	Keokuk	$60,000	$-	$60,000
2007	Siemens Wind Power**	Fort Madison	$326,000	$-	$326,000
2008	Norfolk Iron & Metal**	Durant	$810,000		$810,000
2008	City of Newton/Trinity Towers**	Newton	$165,795	$-	$165,795
2009	Burlington Junction Railway	Track restoration-flooding	$-	$71,000	$71,000
2009	Cedar Rapids and Iowa City Railway Co.	Track restoration-flooding	$-	$320,000	$320,000
2009	Iowa Interstate Railroad Ltd.	Track restoration-flooding	$-	$772,000	$772,000
2009	Iowa Northern Railway Co.	Track restoration-flooding	$-	$681,000	$681,000
2009	Iowa River Railroad	Track restoration-flooding	$-	$184,000	$184,000

27 *Ibid*

2009	Iowa, Chicago and Eastern Railroad Corp. (now owned by CP)	Track restoration-flooding	$-	$1,417,000	$1,417,000
2009	Keokuk Junction Railway Co.	Track restoration-flooding	$-	$554,000	$554,000
2010	Ia Northern/UP Bridge Replacement	Waterloo	$1,000,000	$-	$1,000,000
2010	Burlington Junction RR Industrial Park Line Rehabilitation	Burlington	$25,000	$30,400	$55,400
2010	CRANDIC Railway Walford Bridge Replacement	Walford	$-	$700,000	$700,000
2010	Schau Recycling Industrial Spur Construction	Ida Grove	$30,000	$195,000	$225,000
2010	Shine Brothers Industrial Track Rehabilitation	Spencer	$105,000	$206,071	$311,071
2010	Waterloo (on behalf of Secor Specialty)	Waterloo	$126,000	$-	$126,000
2011	Lincoln Way Rail Port	Clinton	$443,800	$-	$443,800
2011	Manly Terminal Wind Rail Port	Worth County	$3,000,000	$-	$3,000,000
2011	Southbridge Rail Yard	Sioux City	$3,000,000	$-	$3,000,000
2011	Wind Energy Supply Chain Ind. Park	Iowa City	$1,056,200	$-	$1,056,200
2011	Eastern Iowa Industrial Center	Davenport	$2,000,000	$-	$2,000,000
2011	Nypro Kánaak	Mount Pleasant	$51,183	$122,839	$174,022
2012	Burlington Junction Rail Spur Rehab.	Burlington	$-	$157,948	$157,948
2012	Butler Cross Dock	Butler County	$282,000	$423,621	$705,621
2012	Cherokee Industrial Corp. Rail Spur	Cherokee	$-	$617,454	$617,454
2012	CRANDIC Iowa River Crossing South Bridge	Iowa County	$-	$2,000,000	$2,000,000
2012	North Central Iowa Rail Corridor	Forest City to Belmond	$-	$400,000	$400,000
2012	Valley Distribution Corp. Rail Spur	West Burlington	$-	$218,652	$218,652
2012	Waverly GMT Rail Spur	Waverly	$204,000	$185,676	$389,676
2013	BJRY Rail/Truck/Barge Planning Study	Burlington	$40,000	$-	$40,000
2013	Central Iowa Transloading Facility Feasibility Study	Central Iowa	$100,000	$-	$100,000
2013	CRANDIC Iowa River Crossing North Bridge	Iowa County	$-	$1,500,000	$1,500,000
2013	Iowa Falls/Hardin County Rail Port Planning Study	Iowa Falls/Hardin Co.	$100,000	$-	$100,000
2013	Iowa Falls UP/CN Connector	Iowa Falls	$300,000	$600,000	$900,000
2013	Mills/Pottawattamie County Rail Port Study	Mills & Pottawattamie Co.	$78,400	$-	$78,400
2013	Rail One	Clinton/Clinton Co.	$372,000	$744,000	$1,116,000
2013	Souix City Rail Study Phase II	Sioux City	$100,000	$-	$100,000
2014	HF Clor-Alkali LLC	Eddyville	$150,000	$174,000	$324,000
2014	Iowa Corn Processors	Glidden	$174,000	$245,000	$419,000
2014	Owen Industries	Carter Lake	$108,000	$-	$108,000
2014	Heartland Co-op	Fairfield	$-	$1,450,000	$1,450,000
2014	CRANDIC - Millrace and Price Ck. Bridge	Amana	$-	$725,000	$725,000
2014	Red Rock Industrial Park Study	Knoxville	$94,400	$-	$94,400

2015	West Charles Street Viaduct	Olwein	$327,158	$196,295	$523,452
2015	Iowa Crossroads of Global Innovation	Fort Dodge	$-	$1,600,000	$1,600,000
2015	Des Moines Rail Port	Des Moines	$-	$1,700,000	$1,700,000
2015	KJRY Track Enhancements	Keokuk	$-	$228,800	$228,800
2015	Sioux Center Rail Port Study	Sioux Center	$100,000	$-	$100,000
2016	BSV Ind. Park Phase I	Boone	$330,000	$226,050	$556,050
2016	Iowa Traction Transload	Mason City	$59,653	$35,792	$95,445
2016	A to Z Rail Enhancment	Osage	$-	$200,000	$200,000
2016	ADM "S" Curve	Clinton	$-	$165,600	$165,600
2016	KJRY Yard Enhancements II	Keokuk	$-	$280,285	$280,285
		TOTALS	**$16,442,589**	**$20,757,774**	**$37,200,362**

***Acepted grant, declined loan* *Source: Iowa DOT*

Iowa DOT anticipates making additional RRLG loans and/or grants available for investment in the state on an annual basis in future years. Amount of funding is dependent on annual state appropriations and loan repayments.

4.8 LIFTS Projects

The Iowa Linking Iowa's Freight Transportation System Program (LIFTS) is a new grant funding opportunity to make improvements to the Iowa multimodal freight network. The program is administered by the Iowa DOT and it seeks to address gaps in multimodal funding and to promote effective and efficient freight transportation. Eligible grant funding is not limited to a particular transportation mode[28].

Some examples of rail-related projects that could be funded by LIFTS include:

- Transload and intermodal facilities
- Port-Rail improvements
- Removal of height clearance restrictions on existing infrastructure that inhibits the movement of freight
- Increase maximum allowable gross railcar weight to 286,000 lbs. on lines that are not capable of doing so at present
- Expansion or reconfiguration of rail yards to increase capacity
- Safety improvements to increase freight capacity

The 2016 LIFTS program was supported by a one-time funding source of approximately $2.6 Million in unused State Infrastructure Bank funding (Federal loans that had been paid back to the state of Iowa.). The state may offer additional rounds of the LIFTS program in the future, if additional funding is made available.

In late 2015, DOT received 25 project applications for the 2016 LIFTS funding, with grant requests totaling $17.2 Million[29]. Included were rail-related projects related to the expansion of existing and construction of new transload facilities (13 applications), rail and capacity upgrades and improvements (nine applications), and a planning study for a multimodal container facility (one application)[30].

Table 4.4 below shows the funding recommendations made by DOT and approved by the Iowa Transportation Commission in Fiscal Year 2016[31]. Five out of the six projects awarded full or partial funding by LIFTS have a rail mode component.

28 *http://www.iowadot.gov/iowarail/assistance/lifts.htm*
29 *http://www.iowadot.gov/iowarail/assistance/documents/2016_01_12_LIFTS%20Commission%20Recommendation.pdf*
30 *http://www.iowadot.gov/iowarail/assistance/documents/2016_LIFTS_website_summary.pdf*
31 *http://www.news.iowadot.gov/newsandinfo/2016/02/more-than-26-million-awarded-from-linking-iowas-freight-transportation-system-program.html*

Table 4.4: LIFTS Projects Funded in 2016

PROJECT NAME / LOCATION	DESCRIPTION	FUNDING REQUEST	LIFTS GRANT AWARD
Port of Muscatine (Muscatine)	Conduct a planning study for establishing a multi-modal container port facility on the Mississippi River (rail access to CP)	$80,000	$80,000
Hall Towing (Fort Madison)	Construction of a warehouse and transload dock on the Mississippi River for a barge to truck transload project (not a rail-related project; BNSF adjacent to facility)	$479,812	$479,000
Council Bluffs Transload Facility (Council Bluffs)	Expansion of an existing transload facility to include additional rail capacity for direct rail to truck and truck to rail transloading (rail access to IAIS)	$702,225	$500,000
Iowa Traction Railway Propane Terminal (Mason City)	Construction of two risers, a permanent storage tank, and truck loading facility to transload propane from rail to a storage tank and from a storage tank to truck (rail access to IATR)	$544,631	$544,000
Standard Distribution Company (Waterloo / Cedar Falls)	Increase facility size and track capacity (rail access to CN)	$1,450,000	$584,000
Eastern Iowa Logistics Park (Cedar Rapids)	Construct a direct transfer transload facility in Cedar Rapids (rail access to CIC)	$2,116,500	$500,000
	Total 2016 LIFTS Funding	**$5,373,168**	**$2,687,000**

Source: Iowa DOT

4.9 Concepts from Stakeholder Outreach

Various rail needs and potential project concepts, including rail studies, were identified by the participants of public and stakeholder outreach conducted for the State Rail Plan. This outreach was facilitated through an the Issues-Based Workshop on September 24, 2015; High Leverage Stakeholder Committee meetings on November 18, 2015, and February 24, 2016; interviews and coordination with representatives of the state's Class I, II, and III railroads; interviews with railroad shippers; and the on-line survey provided on the Iowa State Rail Plan webpage on the Iowa DOT website. Outreach conducted as part of the Iowa State Rail Plan will be described in detail in Chapter 6.

Potential projects identified during the outreach included the following general categories. Specific potential projects will be identified, described, and prioritized for short-term and long-term implementation in the Iowa Rail Service and Investment Plan featured in Chapter 5 of the Iowa State Rail Plan.

4.9.1 Proposed Freight Rail Project Categories

Stakeholders generally identified the potential for freight rail-related projects, studies, or initiatives to address:

- Bottlenecks associated with capacity on rail lines and in rail yards
- Congestion on the state's railroad network in urban areas
- Development of a major intermodal hub and additional transload facilities
- Enhanced railroad access and multimodal connectivity (i.e. truck/rail and river barge/rail)
- Opportunities for economic development and maintaining Iowa's competitiveness in the global marketplace
- Availability of additional state funding for railroad improvement projects
- Availability of railcars of sufficient capacity for lease or purchase
- Availability of rail shipping containers
- Improved network efficiency
- Maintenance and/or replacement of aging rail infrastructure
- Improvement of the state of good repair of the state's freight transportation network

Specific projects identified through the survey and the stakeholder outreach process, and any opportunities for improved coordination or integration with current and potential future passenger rail services in the state, are included in Iowa DOT's Rail Service and Investment Program, which is the subject of Chapter 5.

4.9.2 Proposed Safety and Security Project Categories

Stakeholders generally identified the potential for freight rail-related projects or initiatives to address:

- Positive Train Control implementation
- Grade crossing safety, improvements, and reduction by closure and/or grade separation
- Protecting the integrity of Iowa's freight
- Improved awareness of hazardous materials transportation by rail and improved training and response to hazardous materials incidents

Specific project concepts identified through the survey and the stakeholder outreach process, and any opportunities for improved coordination or integration with current and potential future passenger rail services in the state, are included in Iowa DOT's Rail Service and Investment Program, which is the subject of Chapter 5.

4.10 iTRAM Travel Demand Model Summary

iTRAM (Iowa Travel Analysis Model) is a state-of-the-art travel demand model developed for the Iowa DOT Division of Planning, Programming, and Modal Division. The model consists of several key components and numerous subcomponents. The key parts are:

- Statewide Traffic Model
- Passenger Rail Model
- Freight Rail Model

This summary will describe what the Freight Rail Model is, and how the model can be applied.

4.10.1 Statewide Freight Rail Model

The iTRAM Freight Rail Model was designed to conduct rail investigations by individual commodity or for all commodities that travel through the state of Iowa. A base year of 2010 and a future year of 2040 were used along with data from the Freight Analysis Framework (FAF), the Surface Transportation Board (STB) Rail Waybill Sample, and other sources to develop trip tables and flows for the model.

4.10.2 Typical Applications

The iTRAM Freight Rail Model can be used to gauge changes to the Iowa rail network and freight traveling over the state's rail network. Some examples include:

- Diversion of rail commodities given rail traffic blockage incidents (e.g., a line washout, bridge collapse, or movable bridge span failure on a principal rail line, which could potentially force freight trains to an alternate route).
- Change in track configurations, Method of Operation, or train speeds on a rail corridor.
- Change in ownership on a rail corridor.

Iowa State Rail Plan Final

Chapter 5

Iowa's Rail Service and Investment Program

IOWA DOT

Contents

5.1 Introduction

This chapter describes Iowa's Rail Service and Investment Program (RSIP). The RSIP consists of three major parts. First is Iowa's long-term State Rail Vision for rail service, supported by Goals, Objectives, and ultimately by the state's program of rail projects. Second, the RSIP explains how the State Rail Vision is integrated with other state, regional, and national rail planning initiatives; and it describes the related financial and physical impacts of the proposed program of projects. Lastly, the state's potential future rail projects, including studies, are identified. The projects are organized as short-range (2016 to 2019) and long-range (2020 to 2040).

5.2 Iowa's Vision, Goals, and Objectives

5.2.1 State Rail Vision

The development of Iowa's Rail Vision was informed by an extensive public and stakeholder outreach process (described in Chapter 6 of the State Rail Plan) and by a review of rail plan vision statements of other states. These efforts identified common themes relevant for setting a direction for rail planning in Iowa. Based on a consensus of the Iowa State Rail Plan High Leverage Stakeholder Committee members, the Rail Vision statement is as follows.

Iowa Rail Vision Statement

> *"A safe, secure and efficient Iowa rail system that ensures Iowa's economic competitiveness and development by maintaining the rail infrastructure and providing rail access and connectivity for people and goods in an environmentally sustainable manner."*

5.2.2 Supporting Goals and Objectives

In Table 5.1 below six Goals supportive of Iowa Rail Vision are set forth. Attached to each Goal are multiple Objectives which serve to define the Goal. Furthermore, specific Actions that Iowa DOT will undertake in support of its rail service Goals and Objectives are listed in the table.

Table 5.1: State Rail Goals, Objectives, and Actions

GOALS	OBJECTIVES	ACTIONS

Enhance Safety and Security of the Rail System	• Minimize accidents, injuries and fatalities at highway-rail at-grade crossings in Iowa
	• Continue grade crossing safety improvement actions
	• Provide public education programs
	• Continue to build upon coordination with and between railroads
	• Reduce track-caused accidents
	• Monitor crude oil and ethanol routes for safety
		• Improve highway-rail crossing safety
		  ◦ Repair and upgrade existing crossing passive warning devices and active traffic control systems
		  ◦ Rehabilitate existing crossing surfaces
		  ◦ Encourage crossing closures
		  ◦ Build new grade separations and rehabilitate existing systems
		• Monitor rail track, equipment and security operations
		  ◦ Continue the track inspection program
		  ◦ Analyze and monitor the movement of hazardous materials
		• Promote rail safety
		  ◦ Support and promote Operation Lifesaver activities and programs
		  ◦ Provide education and marketing information for rail safety issues
		  ◦ Continue to work closely with law enforcement to promote active enforcement of traffic laws relating to crossings and private property rights related to trespassing

Maintain the Rail Infrastructure	• Upgrade rail line segments and bridges to accommodate heavier railcars and address aging infrastructure to meet current/future needs of modern rail transport • Upgrade passenger stations to comply with ADA requirements and ensure a state of good repair • Leverage public-private partnerships for funding rail improvements	• Improve the physical infrastructure of the rail system in partnership with Iowa's shippers and railroads ◦ Rehabilitate branch lines ◦ Build or improve spur tracks ◦ Build or improve rail transfer facilities ◦ Build or improve rail yards, terminals, sidings, connections, and passing tracks ◦ Serve as an information/advocacy role for federal programs that benefit rail transportation (passenger and freight) ◦ Initiate rail station improvement activities ◦ Rehabilitate bridges • Preserve rail service ◦ Promote economic development that is served by rail transportation ◦ Acquire rail rights-of-way for future rail use ◦ Advise communities/shippers of options when rail service is at risk
Provide Access and Connectivity	• Passenger rail ◦ Improve access to existing station facilities ◦ Encourage multimodal integration with transit, air, and highway travel ◦ Continue to study the implementation on enhanced passenger rail service and new service on intercity corridors ◦ Support a federal funding program for passenger rail initiatives • Freight rail ◦ Continue to promote the research opportunities for intermodal and transload facilities ◦ Continue to promote rail shipping options for new and existing customers ◦ Improve access to the national rail network via new or enhanced industrial leads and spurs	• Promote the importance of passenger rail transportation ◦ Continue outreach with stakeholders ◦ Provide information on our website and social media outlets • Promote the importance of freight rail transportation ◦ Coordinate activities with the rail users and providers ◦ Take a leadership role in regional and national coalitions ◦ Develop and present education and marketing information ▪ Provide tools that assist shippers in using railroads (e.g., Rail Toolkit) ▪ Conduct studies on the impact of lost rail lines on highways and economic benefit of rail to the state
Improve Efficiency	• Invest in capacity improvements, especially on short lines • Promote yard and interchanges improvements	• Maintain safe, secure rail infrastructure • Promote opportunities for railroads to attract new business • Provide tools that allow the railroad to be more efficient
Ensure Economic Competitiveness and Development	• Encourage new and enhanced industrial spurs or industrial parks when suitable • Continue to support efforts that attract and sustain business in Iowa • Encourage economic development in Iowa through investment in rail system	• Promote rail as a possible transportation option • Communicate information about using the rail system
Sustain the Environment	• Reduce transportation-related congestion and air pollution through investments in rail infrastructure ◦ Provide assistance for rail infrastructure ◦ Promote the environmental benefits of rail transportation (passenger and freight) ◦ Promote use of emission reduction technologies	• Encourage shippers to use more environmentally supportive modes whenever practical to do so • Encourage travelers to choose rail versus automobiles wherever practical to do so

Ultimately, the specific improvement projects in Section 5.8 of this chapter will underlie and support the State Rail Plan Vision, Goals, Objectives, and Actions.

5.3 Program Coordination

5.3.1 Integration with other State Planning Efforts

This Iowa State Rail Plan is intended to integrate with and expand upon other Iowa transportation plans including:

- Iowa's 2016 State Freight Plan developed concurrently with the State Rail Plan;
- Iowa In Motion 2040 State Transportation Plan;
- Iowa Transportation Improvement Program (2016-2020);
- Iowa Rail Toolkit (2014);
- Continuing work on:
  - Implementation of the Chicago to Council Bluffs-Omaha intercity passenger rail initiative, employing a phased approach; and
  - Rail transit alternatives in the Iowa City-Cedar Rapids corridor.

5.3.2 National and Regional Rail Planning Integration

As Iowa shares rail corridors and services with other states, it is essential to coordinate with other states through both direct interaction and through comprehensive review and analysis of state or regional rail plans prepared by or in cooperation with other states in the region. Iowa will submit its Draft State Rail Plan to neighboring states for their review and comment.

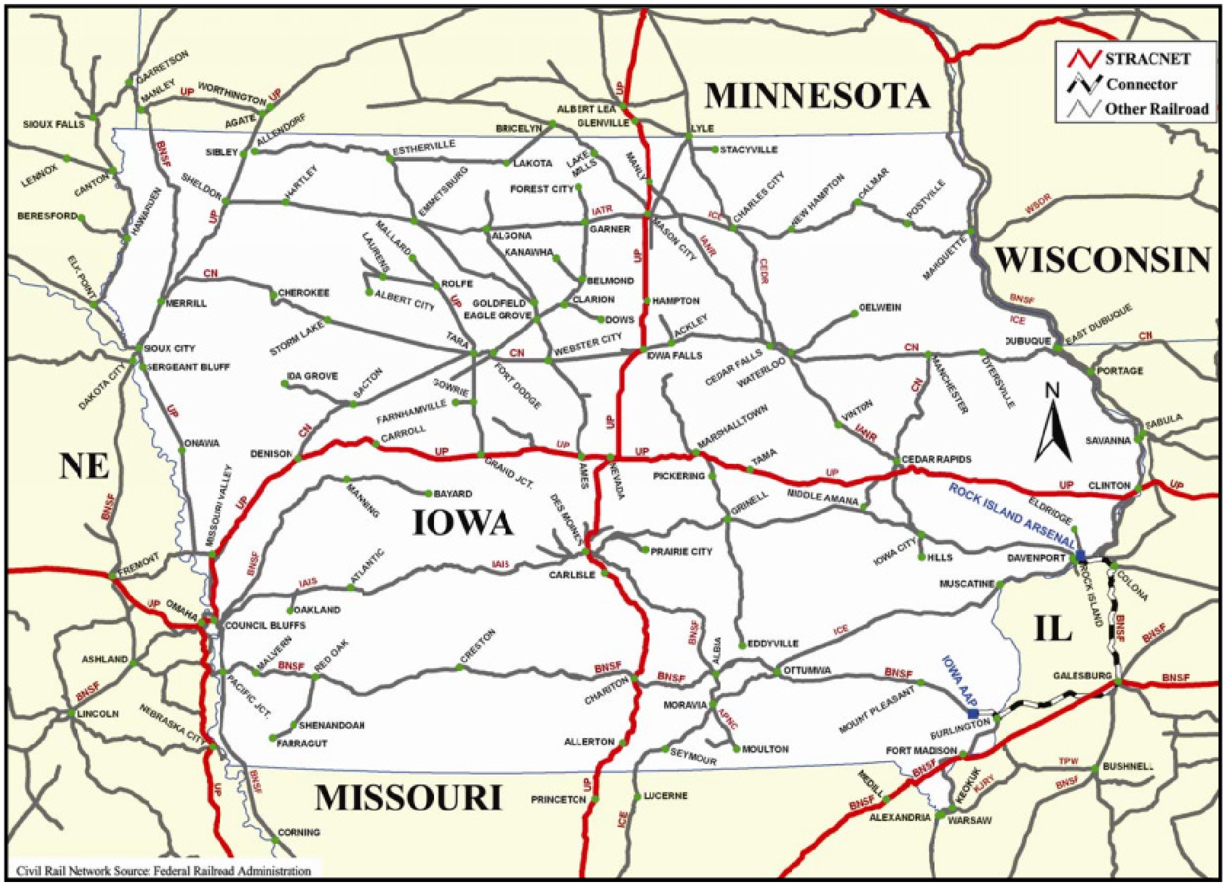
The 2008 Passenger Rail Investment and Improvement Act (PRIIA) directed FRA to develop a Preliminary National Rail Plan to address the rail needs of the U.S. The preliminary plan, published in October 2009, provided objectives for rail as a means of improving the performance of the nation's transportation system, which included:

- Increased passenger and freight rail performance;
- Integration of all transportation modes to form a more complementary transportation system;
- Identification of projects of national significance; and,
- Providing for increased public awareness

Since 2009, the concept of developing a National Rail Plan has evolved toward capturing state rail planning findings, and reflecting the issues and priorities addressed in various state rail plans. An outgrowth of this process is expected to be development of regional rail plans and multi-state corridor plans inclusive of solutions for freight and passenger service issues on a regional rather than state-by-state basis. Iowa DOT will work with FRA and other states in the region to ensure that the region's rail perspectives and issues are adequately addressed within the national rail planning process.

In addition to the need to coordinate Iowa's State Rail Plan with a National Rail Plan process and the existing freight rail network, Iowa will also coordinate as necessary with the U.S. Military Surface Deployment and Distribution Command's Transportation Engineering Agency, which oversees the federal National Strategic Rail Corridor Network (STRACNET). The STRACNET is comprised of a 32,000-mile national, interconnected network of rail corridors and associated connector lines most important to national defense. Figure 5.1 below depicts the STRACNET system within Iowa, including principal routes identified as red lines and connector routes identified in black and white hatched lines. The lines shown provide main line corridor throughput capability as well as access to major defense contractors, logistics sites and military facilities critical to national defense.

Figure 5.1: Iowa's Strategic Rail Corridor Network



Source: STRACNET

5.4 Rail Agencies

As noted in Chapter 1 of the State Rail Plan, Iowa DOT's Office of Rail Transportation is primarily responsible for rail planning for the state. This State Rail Plan does not recommend any changes to the Office, nor does it recommend the creation or abolition of any other agencies or authorities.

5.5 Intended Program Effects

Appearing in Section 5.8 of this chapter is Iowa DOT's proposed program of future capital projects and studies, i.e. its Rail Service and Investment Program, for the short-range (4 years, from 2021 to 2025) and for the long-range (21 years, from 2026 to 2046). The RSIP was developed from a list of potential future passenger and freight rail projects and studies identified during stakeholder outreach, railroad coordination, and Iowa DOT internal coordination undertaken during the development of the State Rail Plan. This list of potential projects and studies is included in later in this chapter. As Class I railroads are generally considered sufficiently capable of funding their own improvements, Class I railroad projects to the extent known through development of the State Rail Plan are identified in the list in later in this chapter.

The projects proposed are based largely on those activities that best protect the Class II and Class III railroads operating in the state, the reduction or elimination of major freight bottlenecks; rail capacity, efficiency, and safety; and rail passenger improvements that are based on preservation and improvement of existing service, the safety of passengers, and potential rail passenger service expansion. These projects offer substantial potential benefits.

As the majority of intercity rail passengers are diverted from the automobile, service improvements and expansion will result in a more extensive and diverse intercity transportation network, enhanced mobility, increased tourism and access to job opportunities, and increased energy efficiency.

For rail freight improvements, the benefits involve increased transportation competition resulting in lower cost to shippers, less highway congestion and damage, and reduced environmental and energy impacts. By their nature grade crossing improvement projects, as well as other rail-related improvements, also increase transportation safety.

5.6 Rail Project Impact and Financing Analysis

FRA's 2013 State Rail Plan Guidance requires states to describe how capital projects were analyzed, with regard to their impacts on passenger rail ridership, potential diversion from highway and air to rail, passenger rail revenues and costs, freight rail project benefits, etc. States are also required to describe their 4- and 20-year (or more) financing plans for passenger rail capital and operating costs. The RSIP developed for the Iowa SRP has a long-range horizon of 21 years (2040) in order to correspond with other ongoing long-range transportation planning in the state. Discussion of these analytical areas for both passenger and freight rail projects included in the RSIP are presented below.

5.6.1 Passenger Rail

5.6.1.1 PASSENGER RAIL PROJECT IMPACT ANALYSIS

Most significant rail intercity or commuter rail projects have a positive impact on overall rail passenger ridership, rail passenger miles traveled, modal diversion from highway and air, and increased rail passenger revenues and/or reduced costs.

Iowa currently has a limited amount of control over the rail passenger operations within the state. Amtrak operates intercity passenger rail operations, and as these services in Iowa are multi-state long distance routes, operations within the state represent only a portion of the total service area. These limitations also reduce the state's ability to significantly affect positive impacts on other modes or influence major modal diversion.

As noted in Chapter 3 of the State Rail Plan, Iowa DOT and other agencies in the state have conducted studies of potential new intercity and commuter passenger rail services which will allow it to evaluate the estimated ridership, revenues, and costs for new services or service extensions. These studies provide the benchmark information necessary to determine whether further analysis and potential investment in the proposed services are merited.

5.6.1.2 PASSENGER RAIL PROJECT FINANCING PLAN

Iowa is limited in the means available to increase the frequency and level of service of its long-distance passenger trains. Any capital investments related to the overall corridors must be made at the regional level with concurrence by Amtrak, other states served by the route, and the rail line owners.

Iowa DOT, however, does plan to contribute to the preservation, and possibly the eventual expansion, of these routes by taking advantage of and leveraging all available opportunities to increase ridership. The proposed improvements, such as improvements that will result in compliance with Americans with Disabilities (ADA) requirements for rail station standards, will provide increased access to the rail services. A number of additional projects have been proposed during the State Rail Plan's process that could benefit intercity rail services in the state.

Iowa's lack of direct control over these rail passenger corridors' physical and operational characteristics, as well as the current limited funding available for rail projects, require that public investments be limited to specific, strategic projects that help secure or improve service, increase ridership, and provide commensurate public benefits.

5.6.1.3 PASSENGER RAIL OPERATIONS FINANCING PLAN

Iowa's intercity passenger rail service is limited to Amtrak long-distance routes. Amtrak has sole fiscal responsibility for these long-distance routes. Amtrak service differs from state-supported intercity passenger corridor services where states have the financial responsibility for operating losses but also a voice in the expected performance and operation of the service. Amtrak operates most state-sponsored intercity service as a contractor to states.

The establishment of new corridor services without federal financial assistance would require Iowa to not only provide the financing for capital improvements necessary to upgrade routes to passenger service standards, but also to bear the responsibility for service operating losses in accordance with PRIIA legislation.

Therefore, in light of the current uncertainties with regard to prospective federal rail funding, decisions to move ahead with an aggressive passenger rail program must be supported by a comprehensive planning effort. The more detailed studies of expanded commuter and intercity rail will include a comprehensive examination of all potential financing sources and alternatives to ensure that the public is kept aware of the financial benefits and costs of each alternative.

5.6.1.4 PASSENGER RAIL ECONOMIC BENEFITS

Studies of new passenger services comprise the largest share of investment dollars in the short term, but there are improvements to existing Amtrak stations and services that will enhance the attractiveness, safety, and accessibility of intercity rail travel and thus enhance mobility. Long-range investments will go further, building intercity and possibly even commuter rail networks with the potential to facilitate economic growth and enhance the quality of life for Iowans.

5.6.2 Freight Rail

5.6.2.1 FREIGHT RAIL PROJECT IMPACTS ANALYSIS

The freight rail projects identified for the short- and long-range Rail Service and Investment Program pertain to improvements to the infrastructure of Iowa's railroads and grade crossing safety. Improvements to Class I rail infrastructure are included as a part of the program, even though Class I railroads are generally considered capable of funding their own capital projects; however, potential future investments to be made to the state's rail network that were identified through coordination with the state's Class I railroads are shown in the list of potential future passenger and freight rail projects and studies in the RSIP later in this chapter. Such self-funding is more challenging for Class II and Class III railroads, which have smaller physical plants and fewer shippers, severely limiting opportunities to generate revenue. Class II and Class III railroads typically earn a fee for picking up and delivering rail carloads from/to the Class Is. Some Class III railroads in Iowa have only one connecting Class I railroad. Accordingly, the internal cash flow for a Class II or Class III is often insufficient to enhance yard and line capacity to accommodate safer and more efficient train operations; provide improved rail access via enhanced or new transload facilities or industrial trackage; or upgrade legacy track and bridges to handle heavier loaded car weights of 286,000 pounds, which has become the standard for the national rail system. Many states, including Iowa, have opted to provide support to their Class II and Class III railroads to upgrade their lines. Such investments ensure that these railroads can continue to serve their shippers, thus helping to retain shipper employment and prevent the diversion of traffic from rail to truck and the consequent maintenance impacts to the state highway system.

Another key area for state investment is in at-grade crossing safety. Improvements include upgrades to warning devices and crossing surfaces, as well as appropriate crossing closures and grade separations. The impacts of such investments are reductions in accidental deaths and injuries at highway-rail crossings.

5.6.2.2 FREIGHT RAIL PROJECT FINANCING PLAN

The main financing mechanisms for state investments in rail lines and in crossing safety were identified in Chapter 2 of the State Rail Plan. These include:

- Railroad Revolving Loan and Grant Program
- Highway-Railroad Grade Crossing Safety Program
- Highway-Railroad Grade Crossing Surface Repair Program
- Primary Road Highway-Railroad Grade Crossing Repair Program
- Iowa Highway Grade Crossing Safety Fund
- LIFTS Program (Linking Iowa's Freight Transportation System Program)

All of these mechanisms, as well as various federal programs, can potentially support the planned investments in the state rail network noted in Section 5.8 of this chapter.

5.6.2.3 FREIGHT RAIL ECONOMIC BENEFITS

The public benefits of state investment in the state's rail network includes the transportation-related economic and socio-environmental benefits involved in providing competitive rail service itself, as well as the preservation and protection of irreplaceable rail assets. These rail lines have also steadily produced increased traffic levels which have resulted in former and new shippers receiving cost efficient service.

Through this State Rail Plan process, Iowa DOT has also developed a better understanding of the rail industry's plans for growth within the state and the projects deemed necessary to facilitate this growth. Therefore, private sector rail projects may receive increased public financial assistance in the future should additional funding become available.

As most proposed long-range projects have yet to be analyzed with regard to their economic feasibility, it is premature to identify any correlation between the level of public investment and benefits.

5.6.3 Rail Program Impacts Summary

As noted in Chapter 2 of the State Rail Plan, the impacts of freight and passenger rail services in Iowa are sizable in terms of cost savings and employment. Palpable benefits of rail improvements include lower transportation costs and enhanced mobility. Iowa's proposed short- and long-range rail investment plans are intended to have a high correlation between the public funding provided and their intended benefits.

The state's proposed short- and long-range projects are based largely on increasing the efficiency of rail operations of Iowa's railroads, enhancing rail access and expanding or constructing multimodal facilities for handling freight more economically and efficiently (transloads and intermodal facilities), enhancing safety at crossings, upgrading existing passenger rail stations, and the potential for expanding intercity passenger rail services. Typical benefits related to the increased operating efficiency of railroads include improved financial health of both the railroads and the shippers being served. New or improved passenger rail operations provide more cost effective travel alternatives to travelers.

In general, any improvements in operating efficiency and access to rail service for either rail passengers or freight users achieved through continued investment in the rail network would enhance the existing economic and socio-environmental impacts of the state's freight and passenger services.

5.7 Rail Studies and Reports

Analysis of Iowa's rail network, comments and recommendations provided at the State Rail Plan's outreach meetings, and via ongoing railroad coordination and internal Iowa DOT coordination resulted in a number of recommendations for studies to determine the feasibility of future projects or studies to improve rail operations and services in Iowa.

Potential rail studies which will be considered in the future, pending the available staff and/or financial assets required, center on the following areas:

- Enhancement of existing passenger rail services and facilities and development of new intercity passenger rail corridors and services;

- Integration of new intercity passenger rail corridor services and connections to these services provided by bus shuttles and other transportation modes;
- Commuter rail services for Iowa City, Cedar Rapids, and Des Moines; and
- Freight rail studies, including a commercial analysis of the state's rail network that could enable prioritized investments in the state's rail network and in facilities that provide rail access, and a study to provide an updated inventory of the state's grade crossings and to enable strategic and prioritized investments and to promote increased safety at the state's grade crossings.

These are discussed in more detail below. Section 5.8 in this chapter identifies these proposed studies and their estimated costs, to the extent known.

5.7.1 Integration and Connectivity Studies

State-sponsored intercity passenger rail service across the central tier of the state was an essential element of the Midwest Regional Rail System (MWRRS) proposed in 2004. Work on the Chicago-Omaha corridor continues with study of a first service implementation phase from Chicago to the Quad Cities and an extension of that service in a second implementation phase from the Quad Cities to Iowa City. The potential to expand the service to Des Moines and Council Bluffs in subsequent study phases will be dependent upon demand and funding availability.

However, other intercity service concepts have been identified, but they have not been studied to confirm their feasibility. A second frequency between Chicago and Omaha via Iowa on the existing Amtrak *California Zephyr* route could be studied. Other study concepts include a north-south corridor linking the Twin Cities of Minneapolis/St. Paul, Des Moines, and Kansas City. Another corridor could be from the Twin Cities, to Sioux City to Council Bluffs/Omaha and thence to Kansas City. An additional corridor could link Chicago with Dubuque, Waterloo, Fort Dodge, and Sioux City across the top tier of the state. Each of these intercity corridor options could be evaluated in order to determine if there is merit for future implementation.

It is worth noting that the FRA is embarking on a Midwest Regional Rail Study, which likely will explore some or all of these options starting in 2016. Iowa DOT will be a stakeholder in that effort.

5.7.2 Commuter Rail Studies

Commuter rail concepts have been studied in two areas of the state: the Des Moines Metropolitan Area and the Cedar Rapids — Iowa City (CRANDIC) corridor. The findings of these studies were detailed in Chapter 3 of the State Rail Plan. The 2000 Des Moines commuter rail study found that commuter rail would not be feasible from an economic perspective at that time. However, the study recommended that demographic and traffic trends be monitored and rail corridors be preserved. It is reasonable that the commuter rail concept there should be explored again in the short-term future.

As for the CRANDIC corridor, the most recent study, performed for Iowa DOT in 2015, was of rail transit alternatives that might be employed in the 20-mile segment between Iowa City and the Eastern Iowa Airport at Cedar Rapids. Various options were identified, including streetcars, light rail, DMUs, and commuter rail. Further study to determine the feasibility of commuter service in the corridor and a potential phased service implementation approach is also reasonable for the short-term future.

5.8 Passenger and Freight Rail Capital Program

This section identifies the short-range and long-range program of projects and studies, consistent with PRIIA requirements, with specific project detail appearing in the RSIP. The short-range projects and studies include those for which funding was made available by the state in 2016 to cover full or partial capital costs of implementation, and those that will likely be eligible based on past criteria for state funded rail projects and studies. Long-range projects include specific projects or prospective projects which could arise from various studies for which funding has not yet been committed, but have been identified as part of a multi-year program that exceed the four year short-range period. The projects and studies, anticipated cost estimates, and potential funding sources to the extent known, are listed in the RSIP. The projects and studies in the RSIP are prioritized in terms of short-range projects and studies, that is, those which will occur in the first four years (2021 to 2025); and long-range projects and studies, that is, those that will be considered between Years 5 and 21 (2026 to 2046).

Table 5.2 below provides a summarization of Iowa's Rail Service and Investment Program. It includes short- and long-range projects and studies and estimated costs for each, if known (projects and studies under consideration which do not have an estimated capital cost at this time have funding needs identified as TBD, or To Be Determined). They are listed by category (passenger and freight rail projects and studies) and time frame for potential implementation (short-range and long-range). The projects and studies selected for the RSIP are discussed in the narrative that follows. The projects and studies and their general benefits are also noted in the RSIP. The total cost identified in the RSIP to implement passenger rail service by corridor, if known, is a conceptual planning estimate only. Further study and consultation with freight railroads hosting passenger rail service would be required in future study to better understand these costs.

Table 5.2: Iowa Rail Service and Investment Plan

PROJECTS AND STUDIES	DESCRIPTION	GENERAL PROJECT BENEFITS	ESTIMATED CAPITAL COST, IF KNOWN (IN 2016 DOLLARS)	POTENTIAL FUNDING SOURCE
SHORT-RANGE STUDIES AND PROJECTS (YEARS 1-4; 2022-2026)				
SHORT-RANGE PASSENGER RAIL STUDIES				
Iowa Passenger Rail Economic Impact Study	Identify the economic impacts of expanding passenger rail corridors and services in Iowa.	Enable strategic and prioritized investments in passenger rail to optimize positive economic impacts.	$50,000	State sources
Iowa Five-Year Passenger Rail Strategic Planning Study	Develop a five-year passenger rail strategic plan to identify potential strategies for the enhancement to existing passenger rail services and corridors in the state and the development of new passenger rail services and corridors in the state.	Enable strategies to enhance and expand passenger rail services and corridors in the state.	$75,000	State sources
Chicago-Omaha Amtrak Intercity Passenger Rail Expansion Study	Identify the potential for implementation of a second intercity passenger rail service frequency between Chicago and Omaha via southern Iowa on the BNSF route presently used by Amtrak's *California Zephyr*.	Study alternative passenger transportation options; corresponding project noted in the passenger rail projects section above.	$75,000	State and local sources
Des Moines Metropolitan Area Commuter Rail Study	Study the potential for implementation of commuter rail service in the Des Moines Metropolitan Area, including a line from Des Moines to Ames.	Study alternative passenger transportation options; corresponding project noted in the passenger rail projects section above.	$75,000	State and local sources
Iowa Thruway Bus Study	Explore implementation of additional thruway bus services connecting to existing and potential future Amtrak services in Iowa and to promote multimodal connectivity (e.g. Osceola-Des Moines-Ames, and Mt. Pleasant-Iowa City-Cedar Rapids).	Study alternative passenger transportation options; corresponding project noted in the passenger rail projects section above.	$25,000	State and local sources
Iowa City-Des Moines Tier II Environmental Impact Study / Service Development Plan / Preliminary Engineering (two daily roundtrips service)	Conduct a Tier II level Environmental Impact Study / Preliminary Engineering / Service Development Plan to extend intercity passenger rail service from Iowa City to Des Moines.	Study alternative passenger transportation options; corresponding project noted in the passenger rail projects section above.	$5,000,000	Federal, state, and local sources
Subtotal:			$5,300,000	

SHORT-RANGE PASSENGER RAIL PROJECTS				
Phase 1 of Chicago-Omaha Intercity Passenger Rail Service Implementation: Chicago-Quad Cities (two daily roundtrips)	Establish passenger rail service between Chicago and the Quad Cities. Project in Illinois with benefits to the Quad Cities of Illinois and Iowa.	Implementation of new intercity passenger rail service will provide additional alternatives for passenger travel, will reduce highway and related impacts, and will provide economic development opportunities.	TBD (Note that project is in Illinois)	Federal, state, and local sources
Implementation of a Quad Cities to Iowa City Thruway Bus Service (two daily roundtrips)	Establish a temporary Thruway bus service connecting the Phase 1 Chicago-Quad Cities passenger rail service with Iowa City.	Implementation of a Quad Cities-Iowa City Thruway bus service will provide a temporary, dedicated connection to Iowa City, until passenger rail service can be extended from the Quad Cities to Iowa City in Phase 2 of the Chicago-Omaha passenger rail implementation.	$50,000	Amtrak
Phase 2 of Chicago-Omaha Intercity Passenger Rail Service Implementation: Chicago-Quad Cities-Iowa City (two daily roundtrips)	Extend the Chicago-Quad Cities passenger rail service to Iowa City.	Implementation of new intercity passenger rail service will provide additional alternatives for passenger travel, will reduce highway and related impacts, and will provide economic development opportunities.	$295,000,000 Note: Approximately $295 Million based on the 2020 Corridor Study.	Federal, state, and local sources
West Main Multimodal Corridor Revitalization Project	Multimodal Station Capital Improvements — Ottumwa Amtrak Station included	Perform necessary capital improvements including road, streetscape, municipal, utility and electrical infrastructure upgrades.	$18,800,000	State, Federal and Local
Subtotal:			$313,850,000	

SHORT-RANGE FREIGHT RAIL STUDIES				
Iowa Railroad Commercial Analysis Study	Conduct a commercial analysis of Iowa's railroad network. Analysis could include an understanding of general railroad business plans; identification of the economic impact of freight railroad transportation; analysis of the drivers and trends that potentially will impact the rail network in the state; an analysis of the capacity and adequacy of existing transload facilities and services, intermodal facilities and services, and industrial parks in the state and recommendations to strengthen the network of intermodal connectors; guidebook for rail users and local developers showing rail served facilities (including enhanced mapping); and use of the iTRAM modeling tool for long-term rail planning in the state. Study could optionally include an Iowa Rail Network Investment Needs Study which would conduct an independent examination of the investment needs of the state rail network and assessment of investment needs for future traffic and an Iowa Rail and Climate Change Impacts component that would identify impacts of environmental and climate change on the Iowa rail network and potential solutions for mitigating these effects.	Enable strategic and prioritized investments in the state's rail network and in facilities that provide rail access (including transload and intermodal facilities) to maximize potential market trends, optimize positive economic impacts, mitigate potential impacts of environmental and climate change, and leverage tools for long-range transportation planning.	$375,000 Note: $250,000 - $375,000 (varies depending upon selection of optional study components)	State sources
Iowa Rail Corridor Preservation Study	Explore the potential for preserving the existing rail system from abandonments and to identify the legislative ability for Iowa to hold rail lines at risk of abandonment.	Identify strategies for preserving existing rail corridors and rail service.	$50,000	State sources
Iowa Rail Database Update Technical Memorandum	Update the Iowa rail system inventory, rail database, and associated GIS mapping maintained by the state.	Enable updated resources to support Iowa DOT Office of Rail operations and transportation planning in the state.	$50,000	State sources
Iowa Grade Crossing Study	Identify and prioritize grade crossings for potential closure, grade separation, or improvement. Could include grade crossing evaluation with LIDAR, an analysis of full-crossing pavement markings where there are quad gates and / or limited queue space, evaluation of the B/C prioritization formula used by DOT, modification of the current methodology or development of a crossing evaluation methodology to improve selection of project candidates, and development of an easily understood means to communicate to railroads and highway authorities the relative risks of crossings under their jurisdiction.	Enable strategic and prioritized investments to promote safety and efficiency at the grade crossings on the state's rail network and coordination between state agencies and the railroads.	$1,000,000	State sources

Railroad / Highway Grade Crossing Signal Preemption	Develop Railroad / Highway Grade Crossing Signal Preemption document.	Enhance the safety and efficiency of the state's rail and highway networks.	TBD	State sources
FAST Act Rail Safety Action Plan	Develop a Rail Safety Action Plan for Iowa that is compliant with the requirements of the FAST Act.	Enhance rail safety.	TBD	State sources
Iowa iTRAM Modeling Capabilities Technical Memorandum	Identify the capabilities and recommended uses for the iTRAM modeling tool and how to integrate it with the freight optimization study and other long-term planning in the state.	Enable broader use of the iTRAM modeling tool in long-term planning in the state.	TBD	State sources
Subtotal:			$1,475,000	
SHORT-RANGE FREIGHT RAIL PROJECTS				
CRANDIC Smith-Dows Yard Expansion	Expansion of Smith-Dows (900) Yard	Install additional track space, locomotive staging area, scale, and crew reporting station in the Smith-Dows Yard located in southwest Cedar Rapids, IA.	$11,700,000	Federal, State, and Local sources
KJRY Rail Upgrade Project	Replace ties, resurface, and upgrade rail over 100 miles on the KJRY improving the track from excepted and Class I FRA track safety standard to Class II	Improve safety, capacity, and efficiency	$20,000,000	Federal and Private Sources
IANR — City of Cedar Falls Railroad Crossing Elimination/Rail Asset Relocation	Remove IANR's Cedar Falls Spur, Railroad Crossing Elimination of 22 rail crossings & relocation of rail assets	Increase Public Safety in downtown Cedar Falls area while also benefiting Public Safety in Butler County and protecting rail infrastructure	$14,455,876	Federal, Railroad and Local Sources
IANR - City of Waterloo - Railroad Crossing Elimination Study	Conduct Safety Study for crossing improvements between IANR's Linden and Bryant Yards	Provide plan for corridor improvement	TBD	Federal, State, Local Sources
IANR - Butler County/ Shell Rock Railroad Crossing Elimination and Road Realignment	Railroad Crossing Elimination and County road realignment	Increases Public Safety while modernizing county road configuration due to industrial growth	TBD	Federal, State, Local Sources
Clay County Railroad Crossing Elimination on the **CPKC** at County Road B24 in Clay County	The project will realign approximately 1/2 mile of County Road B24 (B24) to County Road M50 (M50) at a location North of the Railroad crossing on M50. The B24 RR crossing will be eliminated along with the reduced speed s-curves on B24.	The project goal is to reduce traffic accidents and eliminate traffic fatalities. By eliminating the crossing entirely, the two modes of transportation (Highway and Rail) will not have to cross each other's route on B24.	$4.8 million	Federal, Railroad, and Local Sources
SE Corporate Woods Drive Overpass at **Union Pacific Railroad** Project Ankeny, Iowa	Project will comprise replacing the existing at grade rail-roadway crossing with an overpass bridge over the Union Pacific Railroad. The SE Corporate Woods Drive roadway replacement required for constructing the overpass will extend from SE Convenience Boulevard to SE 72nd Street. The overpass bridge will accommodate four travel lanes, a recreational trail, and a sidewalk.	Improve safety, capacity, and efficiency.	$23,500,000	Federal, Local and Private Sources

CP Railway — Eliminate two crossings and construct a new bridge and access road over the railroad	Improve safety by eliminating crossings and building a bridge and access road over the railroad east of Nahant Rail Yard. The bridge and access road will allow safe access to the Davenport Regional Water Pollution Control Plant, Compost Facility, and Nahant Rail Yard. The bridge will be above 500-yr flood levels and allow freight to be moved along the rails with no interruptions from vehicular traffic.	The project will improve rail safety through grade separation and crossing eliminations. The project will also allow emergency access during frequent Mississippi River flood events and will also provide economic benefits, protect the environment by reducing emissions, and benefit the surrounding community.	$9,696,077	Feder, Local, and Private Sources
KJRY Yard and Main Track Enhancements	The project would expand the KJRY Twin Rivers Yard in Keokuk by adding new yard tracks and undertaking other major yard rehabilitation, including replacing damaged infrastructure from previous derailments and flooding. Improvements to the main track will also be undertaken from Hwy 136 Overpass to the Mississippi River Bridge.	The project will enhance operating capacity, efficiency and safety for the line. The project will also improve environmental impacts, as increased capacity in Keokuk will reduce the repetitive movements across the Mississippi River Bridge currently required to address the space limitations and reduce unnecessary burdens on the increasingly deteriorating bridge.	TBD	State, Local and Private Sources
IANR - Iowa Northern Education and Training Program	Development and delivery of virtual, and in-person education and training courses, development of a customized learning platform to deliver those courses, as well as remote and in-person locomotive simulator education and training.	Improve railroad safety, compliance with FRA regulations, enhance and expand work force development, and improve the efficiency of rail operations.	$6,781,830 (Funding through a FY20 CRISI Grant, 80/20 matching)	Federal Sources
IANR - Wayside Detector Equipment for Cedar Rapids and Manly Subdivisions	Install Hot Box and Dragging Equipment detectors every 20 miles on the IANR. Install a site with a Wheel Impact Load Dector., Acoustic Bearing Monitor, Truck Hunting and Weigh-in-Motion Scale in the vicinity of Shell Rock, Iowa.	Wayside Detectors provide a high level of protection from mechanical failures of rail cars and enhance safe operations at speeds of 40 MPH per recommendation of Association of American Railroads Recommended Operating Procedures.	$800,000	TBD
IANR - Expand Capacity at Manly Logistics Park	Expand track capacity, develop land and build access road entrance and exit to the Manly Logistics Park	Enhance multimodal capacity, transloading services, and rail system access.	TBD	Federal, State, and Local Sources
Bridge infrastructure Improvements to facilitate the handling of 286K Railcars without bridge speed restrictions at **IANR** Bridge 103.1, Bridge 124.9, Bridge 142.7, and Bridge 143.9 on the Cedar Rapids Subdivision.	Improve bridge infrastructure on the IANR Cedar Rapids Subdivision to allow for the handling of 286K Railcars at 40 MPH track speeds.	Improve safety, capacity and efficiency.	TBD	Federal and State
Add Interchange Track Capacity at Nora Springs Junction for **IANR/CP** interchange.	Increase track capacity at Nora Springs Interchange to enhance increasing traffic growth from Northeast Iowa Customers to Canadian Pacific origins and destinations.	Improve track capacity and operating efficiencies which delivers better customer service to Northeast Iowa Rail Customers.	TBD	Federal and State Sources

Mitigation measures in Flood Prone area along the Cedar River at **IANR** Cedar Rapids Subdivision, MP 101.2 to MP 100.9 at Linn Jct. near Cedar Rapids, Iowa.	Address flood prone area along the Cedar River by performing bank stabilization measures.	Increase operating efficiency and safety and mitigate against the potential for storm related damage to the rail network and delays in transportation to IANR traffic.	$500,000	Federal, State, and Local Sources
Constuct a rail served industrial park at Forest City, Iowa on **NCIRC (IANR)**	Provide IANR rail access to shippers at an established Industrial Park in Forest City, Iowa	Enhance IANR rail system access, provide for industrial rail access for Forest City, Iowa	TBD	Federal, State, and Local Sources
Construct a rail served industrial park in Garner, Iowa on **NCIRC (IANR)**	Provide IANR rail access to shippers at an established Industrial Park location in Garner, Iowa	Enhance IANR rail system access, provide for industrial rail access for Garner, Iowa	TBD	Federal, State, and Local Sources
Construct a rail served industrial park in Oelwein, Iowa on **IANR** Oelwein Subdivision	Provide IANR rail access to shippers at an established Industrial Park location in Oelwein, Iowa	Enhance IANR rail system access, provide for industrial rail access for Oelwein, Iowa	TBD	Federal, State, and Local Sources
Construct a rail served industrial park in Palo, Iowa on **IANR** Cedar Rapids Subdivision	Provide IANR rail access to shippers at an established Industrial Park location in Palo, Iowa	Enhance IANR rail system access, provide for industrial rail access for Palo, Iowa	TBD	Federal, State, and Local Sources
Continuous Welded Rail (CWR) Improvements	Install CWR over 27.3 miles of IANR Main Track.	Decrease maintenance cost, increase operating efficiencies	$14,300,000	Federal and Local Sources
IANR - Construction of Bypass Track	Construct a bypass track in Waterloo, Iowa to connect the CN Industrial lead to the IANR Oelwein Subdivision which would eliminate reverse moves and blocked crossings in Waterloo.	This connection will reduce the amount of time that crossings are blocked in Waterloo and increases efficiencies of rail movements through the city of Waterloo.	TBD	Federal, state and local sources
IANR - Advanced Switch Point Protection	Install advanced switch point protection on IANR Manly and Cedar Rapids Subdivisions to provide increased safety utilizing Locomotive PTC equipment.	Provide for protection of train operations encountering reversed Main Track Switches using PTC technology.	TBD	TBD
IANR - Remote Control Switches	Install Remote Control Switch Machines in Waterloo, Nora Springs Jct. and Plymouth Jct. on IANR	Expedite train movements between IANR and CN in Waterloo and between IANR and CP in Nora Springs	$200,000	TBD
BJRY Le Mars Transload Expansion	Construct improvements that expand the capacity of a transload operated by the BJRY in the Le Mars Industrial Park and allow it to handle additional commodities.	Enhance capacity, availability of transloading services, and rail system access.	TBD	State and local sources
ADM "S" Curve Improvement Project at Clinton	Reconfiguration of a rail spur at the ADM Plant in Clinton, in order to straighten the curve so that multiple cars can transit the spur.	Enhance operating safety, efficiency, and capacity.	$207,000 Note: Total capital cost for rail component of project $207,000; ADM awarded a $165,600 RRLG loan in 2016.	State and local sources
Construct Des Moines Rail Port Facility at Des Moines	Develop a new private railport / transload facility in Des Moines.	Enhance capacity, availability of transloading services, and rail system access.	TBD Note: Total capital cost TBD; $1.7 million in RRLG funding awarded to the Des Moines Rail Port in 2015.	State and local sources

Bridge infrastructure Improvements to facilitate the handling of 286K Railcars without bridge speed restrictions at **IANR** Bridge 177.3, Bridge 178.2, Bridge 202.6, and Bridge 208.7 on the Manly Subdivision.	Improve bridge infrastructure on the IANR Manly Subdivision to allow for the handling of 286K Railcars at 40 MPH track speeds.	Improve safety, capacity and efficiency.	TBD	Federal and State Sources
IANR - Bridge infrastructure Improvements to facilitate the handling of 286K Railcars between Garner and Forest City, Iowa by replacing Bridge 73.89 and Bridge 74.11 on the Garner Subdivision.	Improve bridge infrastructure on the NCIRC/IANR Garner Subdivision to allow for the handling of 286K Railcars between Garner and Forest Ctiy, Iowa.	Improve safety, capacity and efficiency.	$800,000	Federal and State
Construct Siding Track for Transload Facilities on **BNSF** at Pottawattamie and Mills Counties in the Council Bluffs Area	Develop a siding track for use in serving a transload facility under development near Council Bluffs on the BNSF Council Bluffs Subdivision.	Enhance capacity, availability of transloading services, and rail system access.	TBD	State and local sources
CN - Expand Transload Services in Williams	Convert the existing Alliant Energy coal transloading facility on the CN Waterloo Subdivision at Williams to a standard transload facility that could handle additional commodity and product types.	Enhance capacity, availability of transloading services, and rail system access.	TBD	State and local sources
Construct a Transload / Intermodal / Port Facility at Muscatine on **CP**	Construct a multimodal transload / intermodal / port facility on the CP Ottumwa Subdivision and the Mississippi River at Muscatine.	Enhance multimodal capacity, availability of transloading and intermodal services, and rail system access.	TBD Note: Total capital cost TBD; LIFTS planning study funding of $80,000 awarded to the City of Muscatine in 2016 (feasibility study to cost $100,000).	Federal, state, and local sources
CN - Standard Distribution Company Rail Transload Facility Expansion in Cedar Falls	Project will increase facility size, track capacity, and staff at a transload facility on the CN Osage Subdivision in Cedar Falls.	Enhance capacity, availability of transloading services, and rail system access.	$2,900,000 Note: Total capital cost $2.9 Million; Standard Distribution Company awarded $584,000 in LIFTS funding in 2016.	State and local sources
Construct an Intermodal Facility at Manly on **IANR**	Develop a new intermodal facility on the IANR Manly Subdivision at Manly.	Enhance multimodal capacity, availability of transloading and intermodal services, and rail system access.	$16,400,000	Federal, state, and local sources
CN - Iowa Falls / Hardin County Dual Rail Connection and Transload Facility at Iowa Falls	Project would construct a dual-rail connection track to the UP Mason City Subdivision and the CN Waterloo Subdivision, four yard tracks and a siding each near CN and UP interchanges, and a transload / terminal facility.	Enhance capacity, availability of transloading services, and rail system access.	TBD	State and local sources
CN -A to Z Drying Rail Enhancement in Osage	Project will construct a new rail spur to serve the A to Z Drying campus utilizing the existing switch off the CN Osage Subdivision.	Enhance capacity and rail access.	$419,357 Note: Total capital cost $419, 357; A to Z awarded a RRLG loan of $200,000 in 2016.	State and local sources

Boone Industrial Park Rail Line Upgrade on **BSV**	Install a new, 1700-foot siding track including grading, ties, and ballasting and install ballast on a spur into an existing industrial park on the BSV in Boone in order to continue serving one rail customer and to serve one new rail customer; the upgrades on this segment will allow BSV to accommodate 286K railcars.	Enhance rail system access, capacity, and safety; segment of BSV will be upgraded to handle 286K railcars.	$736,050 Note: Total capital cost $736,050; RRLG loan and grant funding totalling $556,050 awarded in 2016.	State and local sources
Big Soo Terminal Rail Expansion in Sioux City	Construct a new industrial spur to supplement the existing rail capacity at the Big Soo Terminal Facility in Sioux City.	Enhance rail system access and capacity.	TBD	State and local sources
Kemmin Industries Rail Delivery Addition in Des Moines	Construct a rail spur, bulk storage, and pumping station in Des Moines to supply local manufacturers via rail.	Enhance rail system access and capacity.	TBD	State and local sources
CP - Pattison Sand Unit Train Capacity Expansion near Garnavillo	Project will cover Phases 1 and 2 of a six-phase project to expand the unit train capacity for Pattison Sand on the CP Marquette Subdivision near Garnavillo.	Enhance capacity, availability of transloading services, and rail system access.	TBD	State and local sources
CP - Fauser Rail Terminal Rail Access at New Albin	Construct a rail spur to serve Kermin Industries located on the CP Marquette Subdivision at New Albin.	Enhance rail system access and capacity.	TBD	State and local sources
KJRY Yard Enhancements II in Keokuk	Two phase project to expand the KJRY Twin Rivers Yard in Keokuk by adding track capacity through track and switch improvements.	Increase operating capacity and efficiency.	$350,357 Note: Total capital cost $350,357; $280,285 in RRLG funding awarded to KJRY in 2016 for KJRY Yard Enhancements II.	State and local sources
Construct Bypass Track on **CIC** at Cedar Rapids	Rail traffic currently moves through ADM Plant in Cedar Rapids, affecting the efficiency of operations. Project could construct a track that bypasses ADM that would allow CIC trains to travel around the plant, thus promoting efficiency and minimizing potential operating conflicts for CIC trains.	Increase operating capacity, efficiency, and safety.	TBD	State and local sources
BNSF - Merrill Grade Crossing Study	Conduct a feasibility study of highway-rail grade crossing safety upgrades and a potential highway-rail grade separation at the intersection of U.S. Highway 75 in Merrill, Iowa, along with two other adjacent highway-rail grade crossings.	Improve safety and efficiency and reduce highway congestion.	$675,000	Federal, state, and private sources
Statewide Grade Crossing Improvement and Upgrade Projects (Federal Highway-Railroad Crossing Safety Program)	Includes anticipated annual funding from the Federal Highway-Railroad Crossing Safety Program (approximately $5.31 Million per year) to upgrade crossings with passive warning devices including crossbucks to active warning devices including flashing light signals and gate arms; upgrading existing signals; improve crossing surfaces; and to provide low-cost improvements such as increased sight distance, medians, widened crossings, or to close crossings.	Improve grade crossing signals and surfaces, safety, and efficiency and reduce highway congestion through routine infrastructure investment.	$21.24 Million Note: Approximately $5.31 Million per year on average, based upon current program funding. For years 1-4 inclusive funding would be approximately $21.24 Million.	Federal and state sources

Statewide Grade Crossing Improvement and Upgrade Projects (State Highway-Railroad Surface Repair Program)	Includes anticipated annual funding from the State Highway-Railroad Crossing Surface Repair Program (approximately $900,000 per year) to promote safety through surface replacement programs at public highway-railroad grade crossings.	Improve grade crossing surfaces, safety, and efficiency and reduce highway congestion through routine infrastructure investment.	$3,600,000 Note: Approximately $900,000 per year on average, based upon current program funding. For years 1-4 inclusive funding would be approximately $3.6 Million.	Federal and state sources
Statewide Grade Crossing Safety Fund	Includes funding for a portion of the maintenance costs for traffic control devices activated by the approach or presence of a train installed under the Highway-Railroad Crossing Safety Program.	Improve grade crossing safety and efficiency through routine infrastructure investment.	$2,800,000 Note: Approximately $700,000 per year on average, based upon current program funding. For years 1-4 inclusive funding would be approximately $2.8 Million.	Federal and state sources
UP - Add yard/working track support at Boone	Support switching operations at location to handle increased local business.			
UP - Add yard/working track support at Marshalltown	Support switching operations at location to handle increased local business.			
BSV - Industrial Park Upgrade Phase II	Upgrade 4200' of rail through city of Boone to 286k standard to increase track availability to stage cars for customers. Increase capacity at UP interchange to prevent inbound and outbound cars from creating a bottleneck. Install new 900' spur to allow for improved sorting of customer railcars.	Enhance rail system access and capacity. Several grade crossings will be improved as a part of this project, improving the quality of life for local residents.	TBD	State and local sources
Subtotal:			$156,861,547	
Short-Range Rail Studies and Projects:			**$477,486,547**	
LONG-RANGE STUDIES AND PROJECTS (YEARS 5-21); 2027-2047)				
LONG-RANGE PASSENGER RAIL STUDIES				
Chicago-Iowa City-Des Moines Tier II Environmental Impact Study/Service Development Plan/ Preliminary Engineering (to increase roundtrip train frequencies from two to four daily roundtrips)	Conduct a Tier II level Environmental Impact Study/Preliminary Engineering/Service Development Plan to increase intercity passenger rail service between Chicago and Des Moines from two daily roundtrips to four daily roundtrips.	Study alternative passenger transportation options; corresponding project noted in the passenger rail projects section above.	$500,000	Federal, state, and local sources
Des Moines-Council Bluffs Tier II Environmental Impact Study/Service Development Plan/ Preliminary Engineering	Conduct a Tier II level Environmental Impact Study/Preliminary Engineering/Service Development Plan to extend intercity passenger rail service from Des Moines to Council Bluffs.	Study alternative passenger transportation options and enhanced services; corresponding project noted in the passenger rail projects section above.	$5,000,000	Federal, state, and local sources

Council Bluffs-Omaha Tier II Environmental Impact Study/Service Development Plan/ Preliminary Engineering	Conduct a Tier II level Environmental Impact Study/Preliminary Engineering/Service Development Plan to extend intercity passenger rail service from Council Bluffs to Omaha.	Study alternative passenger transportation options; corresponding project noted in the passenger rail projects section above.	TBD	Federal, state, and local sources
St. Paul-Mason City-Des Moines-Kansas City Passenger Rail Study	Study the potential for implementation of intercity passenger rail between St. Paul, Des Moines, and Kansas City.	Study alternative passenger transportation options; corresponding project noted in the passenger rail projects section above.	TBD	Federal, state, and local sources
Chicago-Dubuque-Waterloo-Sioux City Passenger Rail Study	Study the potential for implementation of intercity passenger rail between Chicago, Dubuque, Waterloo, Fort Dodge, and Sioux City.	Study alternative passenger transportation options; corresponding project noted in the passenger rail projects section above.	TBD	Federal, state, and local sources
St. Paul-Sioux City-Council Bluffs/Omaha-Kansas City Passenger Rail Study	Study the potential for implementation of intercity passenger rail between St. Paul, Sioux City, Council Bluffs / Omaha, and Kansas City.	Study alternative passenger transportation options; corresponding project noted in the passenger rail projects section above.	TBD	Federal, state, and local sources
Subtotal:			$5,500,000	
LONG-RANGE PASSENGER RAIL PROJECTS				
Phase 3 of Chicago-Omaha Intercity Passenger Rail Service Implementation: Chicago-Quad Cities-Iowa City-Des Moines (two daily roundtrips)	Extend the Chicago-Iowa City passenger rail service to Des Moines.	Implementation of new intercity passenger rail service will provide additional alternatives for passenger travel, will reduce highway and related impacts, and will provide economic development opportunities.	$342,900,000 Note: Approximately $342.9 Million (based upon the estimated capital cost in the 2013 Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study, escalated to 2016 dollars)	Federal, state, and local sources
Phase 4 of Chicago-Omaha Intercity Passenger Rail Service Implementation: Increase Number of Frequencies Chicago-Quad Cities-Iowa City-Des Moines (four daily roundtrips)	Increase the number of daily passenger train frequencies between Chicago and Des Moines from two to four.	Enhancement of new intercity passenger rail service will provide additional alternatives for passenger travel, will reduce highway and related impacts, and will provide economic development opportunities.	$12,300,000 Note: Approximately $123.3 Million (based upon the estimated capital cost in the 2013 Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study, escalated to 2016 dollars)	Federal, state, and local sources
Phase 5 of Chicago-Omaha Intercity Passenger Rail Service Implementation: Chicago-Quad Cities-Iowa City-Des Moines-Council Bluffs (four daily roundtrips)	Extend the Chicago-Des Moines passenger rail service to Council Bluffs.	Implementation of new intercity passenger rail service will provide additional alternatives for passenger travel, will reduce highway and related impacts, and will provide economic development opportunities.	$320,500,000 Note: Approximately $320.5 Million (based upon the estimated capital cost in the 2013 Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study, escalated to 2016 dollars)	Federal, state, and local sources

Phase 6 of Chicago-Omaha Intercity Passenger Rail Service Implementation: Chicago-Quad Cities-Iowa City-Des Moines-Council Bluffs-Omaha (four daily roundtrips)	Extend the Chicago-Council Bluffs passenger service to Omaha.	Implementation of new intercity passenger rail service will provide additional alternatives for passenger travel, will reduce highway and related impacts, and will provide economic development opportunities.	TBD	Federal, state, and local sources
Implementation of Intercity Passenger Rail Service Chicago-Dubuque	Establish intercity passenger rail service between Chicago and Dubuque. Most of corridor located in Illinois.	Implementation of new intercity passenger rail service will provide additional alternatives for passenger travel, will reduce highway and related impacts, and will provide economic development opportunities.	TBD	Federal, state, and local sources
Implementation of Intercity Passenger Rail Service St. Paul-Mason City-Des Moines-Kansas City	Establish intercity passenger rail service between St. Paul, Des Moines, and Kansas City.	Implementation of new intercity passenger rail service will provide additional alternatives for passenger travel, will reduce highway and related impacts, and will provide economic development opportunities.	TBD	Federal, state, and local sources
Implementation of Commuter Rail Service Iowa City-Cedar Rapids	Establish commuter rail service on the CRANDIC Corridor between Iowa City and Cedar Rapids.	Implementation of new commuter rail service will provide additional alternatives for passenger travel, will reduce highway and related impacts, and will provide economic development opportunities.	TBD	Federal, state, and local sources
Implementation of Commuter Rail Service in the Des Moines Metropolitan Area	Establish commuter rail service on existing rail corridors in the Des Moines Metropolitan Area, including a service from Des Moines to Ames.	Implementation of new commuter rail service will provide additional alternatives for passenger travel, will reduce highway and related impacts, and will provide economic development opportunities.	TBD	Federal, state, and local sources
Fort Madison Amtrak Station Improvements	Move from existing Amtrak station to new station facility and construct a new station platform at Fort Madison, served by the daily Chicago-Los Angeles *Southwest Chief*.	Provides updated facilities and amenities and improved access and intermodal efficiency.	TBD	Federal, state, and local sources

Osceola Amtrak Station Enhancements	Make improvements to the interior of the existing Amtrak station at Osceola, served by the daily *California Zephyr.*	Provides updated facilities and amenities and improved access and intermodal efficiency.	TBD	Federal, state, and local sources
Subtotal:			$675,700,000	
LONG-RANGE FREIGHT RAIL STUDIES				
Iowa Hazardous Materials Rail Transportation Study	Identify commodities, routing on the state rail network, future commodity and rail transportation trends, and key novel risks for each commodity.	Promote understanding of transporting hazardous materials by rail in the state and enhance safety.	TBD	State sources
Iowa Freight Rail Clearance Study	Identify vertical and horizontal clearance issues on the state rail network and any constraints on highway transportation resulting from insufficient clearances on railroad bridges.	Increase operating capacity, efficiency, and safety of the state rail and highway networks.	TBD	State sources
Subtotal:			$0	
LONG-RANGE FREIGHT RAIL PROJECTS				
Rehabilitation of the Railroad Bridge over Mississippi River	The project will rehabilitate the freight rail bridge spanning the Mississippi River in Keokuk, IA. The bridge, owned by the City of Keokuk, is in very poor condition, which has been worsened by major flooding in 2008 and minor flooding in subsequent years. Rehabilitation work to the bridge will include removing deteriorated masonry/concrete, installing new dowels/rebar, and place new encasement concrete on piers and abutments. Work will also include cleaning and spot painting of critical areas of the bridge structure with a rust penetrating sealer and topcoat.	This project will preserve the existing transportation network of an economically challenged rural region that spans portions of three states. The Keokuk Rail Bridge serves as a link in the supply chain between agricultural communities and processing facilities on both sides of the river and offers the ability to attract new industries to the area in the future. The bridge has recently offered a secondary benefit to the region by supporting a new broadband fiber line that connects Illinois and Iowa. This connection has enabled greater network reliability and provided the first-class data connections to regional network hubs in Chicago, St. Louis, Des Moines, and Omaha that the Keokuk region previously lacked.	$10,000,000	Federal, State, Local and Private Sources
BJRY Mt. Pleasant Transload Building	Construct a 6,000 SF transload building in Mount Pleasant, Iowa to be used for rail-to-truck and truck-to-rail cross-dock transloading.	Enhance capacity, availability of transloading services, and rail system access.	$670,000	Federal, State, Local and Private Sources
CN/CP - Construct an Intermodal Facility in the Dubuque Area	Develop an intermodal facility in the Dubuque Area with potential access to CN and CP.	Enhance multimodal capacity, availability of intermodal services, and rail system access.	TBD	Federal, state, and local sources
Construct a Transload Facility on **IAIS** at Wilton	Develop a transload facility on the IAIS Iowa City Subdivision at Wilton to serve Eastern Iowa.	Enhance capacity, availability of transloading services, and rail system access.	TBD	State and local sources
Construct a Transload Facility, Cross-Dock Facility, and Industrial Siding at Forest City on **NCIRC**	Construct a transload facility, cross-dock facility, and an industrial siding in an industrial park area on the NCIRC (operated by IANR) at Forest City.	Enhance capacity, availability of transloading services, and rail system access.	TBD Note: Total capital cost TBD; a feasibility study for the improvements could be conducted for approximately $45,000	State and local sources

Expand and Enhance the **KJRY** Transload Facility at Keokuk	Expand and enhance a KJRY transload facility at Keokuk to serve southeastern Iowa.	Enhance capacity, availability of transloading services, and rail system access.	TBD	State and local sources
CN/CP - Rail Access Improvement in Fort Dodge Area	Provide enhanced rail access to CN and UP in the Fort Dodge Area at a certified industrial site located in Tara, west of Fort Dodge. Options could potentially include an industrial spur and transload facility.	Enhance capacity, availability of transloading services, and rail system access.	TBD	State and local sources
Replace the Existing **UP** Mississippi River Bridge at Clinton	Replace the existing UP Mississippi River swing bridge at Clinton. This location has also been recognized as an operations bottleneck, owing to delays incurred by trains that are delayed as a result of the need to open and close the bridge for barge traffic on the Mississippi River.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources
Rehabilitate or Replace the Existing **CN** Mississippi River Bridge at Dubuque	Rehabilitate or replace the existing CN Mississippi River swing-bridge between Dubuque, Iowa, and East Dubuque, Illinois.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources
Replace Government Bridge over the Mississippi River at Davenport	Replace the existing Government Bridge over the Mississippi River between Davenport, Iowa, and Rock Island, Illinois, used by IAIS and CP.	Increase operating capacity, efficiency, and safety.	$380,000,000 Note; Total capital cost identified in study completed by Bi-State Regional Commission.	Federal, state, and local sources
Replace Crescent Bridge over the Mississippi River at Davenport	Railroad bridge functionally obsolete and cannot handle 286K car weights. Bridge used by BNSF and CP should be replaced.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources
Address Operating Bottleneck on the Existing **BNSF** Mississippi River Bridge at Fort Madison	Address operating bottleneck. The bridge closes for rail traffic to accommodate barge passage on the river during navigation season. The time typically required to stop trains, open the bridge for river traffic, return the bridge to its original position, and restore normal railroad operations cause delays to BNSF, Amtrak, and vehicular traffic that shares the bridge.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources
Address Operating Bottleneck on the Existing Mississippi River Bridge at Keokuk (used by **KJRY**)	Address operating bottleneck. The bridge closes for rail traffic to accommodate barge passage on the river during navigation season. The time required to stop trains, open the bridge for river traffic, return the bridge to its original position, and restore normal railroad operations cause delays to KJRY. Note also that the bridge cannot handle 286K railcars.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources
Terminal Capacity Improvements at Sioux City	To improve the safety and efficiency of train operations of BNSF, CN, DAIR, and UP at an at-grade crossing of several rail lines in the congested terminal area and to improve capacity for carload interchange between railroads.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources

Expand Capacity at **IANR** Bryant Yard in Waterloo	Expand yard capacity to accommodate the convergence of traffic from three IANR subdivisions (Cedar Rapids, Manly, and Oelwein) and provide sufficient trackage to classify trains at Waterloo.	Increase operating capacity, efficiency, and safety.	TBD Note: Total capital cost TBD; $75,000 for a project feasibility study	Federal, state, and local sources
Expand Capacity at Nora Springs, Iowa, on **IANR** Manly Sub	Expand capacity to better accommodate interchange between IANR and CP at Nora Springs.	Increase operating capacity, efficiency, and safety.	TBD	State and local sources
Expand Capacity to Address Bottleneck between Le Mars and Sioux City	Enhance capacity on the CN Cherokee Subdivision (owned by CN; maintained by UP) trackage shared by CN and UP between Le Mars and Sioux City.	Increase operating capacity, efficiency, and safety.	TBD	State and local sources
Make Track Geometry Improvements to Address Bottleneck on the Eighth Avenue Curve on **CIC** in Cedar Rapids	The current 18-degree curve on the CIC at Eighth Street in Cedar Rapids limits train size and motive power options for train operations, which increases the number of trains and the volume of congestion. Project could potentially improve the track geometry so that the curve is not as restrictive.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources
CIC/CN/IANR/ UP - Address Traffic Congestion and Safety in the Fourth Street Rail Corridor in Downtown Cedar Rapids	Note that this shared-use, mostly single-track urban corridor hosts operations of CIC, CN, IANR, and UP, and has several grade crossings.	Increase operating capacity, efficiency, and safety, and reduce highway congestion and emissions.	TBD	Federal, state, and local sources
Construct **IAIS** Bypass Track around **UP** Short Line Yard at Des Moines	Short Line Yard owned by UP; IAIS has trackage rights over UP between East Des Moines and Short Line Junction in Des Moines. Construct a bypass track for IAIS around UP Short Line Yard to add capacity and allow IAIS to operate through the terminal without restrictions.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources
Address Bottleneck for **CN** between Council Bluffs and Omaha	CN uses trackage rights over UP Mississippi River Bridge between Council Bluffs and Omaha, and experiences operating delays. CN traffic between Council Bluffs and Omaha is limited. Capacity improvements could be made to lessen CN operating delays.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources
Construction / Enhancements to the DuPont Rail Spur on **CIC** in Cedar Rapids	Construction / enhancements to the DuPont Rail Spur on CIC in Cedar Rapids to provide improved rail access for shipper.	Enhance access to the state rail network.	$1,700,000	State and local sources
Construct a Third Main Track on the **UP** Clinton Subdivision	Enhance line capacity by constructing a third main track on the UP Clinton Subdivision at terminal areas only in Clinton and Cedar Rapids.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources
Make Capacity Improvements on the **UP** Trenton Subdivision	Enhance line capacity by constructing additional sidings on the UP Trenton Subdivision between Des Moines and the Iowa/Missouri state line at Lineville.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources

Address Capacity Constraints on the **UP** Mason City Subdivision in the Mason City Area	Enhance operating capacity on the UP Mason City Subdivision in the Mason City Area, potentially through the closure and/or separation of grade crossings and enhancement of siding capacity.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources
UP - Make Capacity Improvements on the UP Sioux City and Worthington Subdivisions in Western Iowa	Enhance line capacity by constructing additional sidings on the UP Sioux City Subdivision between California Junction and Sioux City and on the UP Worthington Subdivision between Le Mars and the Iowa/Minnesota state line near Sibley, potentially through the enhancement of existing sidings and/or construction of additional siding capacity.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources
Add Yard Capacity to the **CP** in Dubuque	Enhance rail yard capacity near Garfield Avenue in Dubuque. Could potentially include the extension of additional yard tracks or the extension of existing yard tracks.	Increase operating capacity, efficiency, and safety.	TBD	State and local sources
Add Yard Capacity to the **CN** in Dubuque	Enhance rail yard capacity near South Port in Dubuque. Could potentially include the extension of additional yard tracks or the extension of existing yard tracks.	Increase operating capacity, efficiency, and safety.	TBD	State and local sources
Close and/or Grade Separate Three Urban Grade Crossings on the **UP** at Sioux City	Consider closing and/or grade separating the following crossings with UP in Sioux City: 11th Street, 18th Street, and 28th Street; coordination between UP and the City of Sioux City for potential projects is ongoing.	Increase operating capacity, efficiency, and safety.	TBD	Federal, state, and local sources
Track and Bridge Infrastructure Upgrades on the Iowa Rail Network to Accommodate 286K Railcars	Note that there are several segments of the Iowa rail network that were identified during the railroad outreach as being incapable of handling 286K railcars; however, no specific rail line segments were specifically identified for the upgrades by stakeholders during outreach undertaken for the State Rail Plan.	Improve the operating capacity, efficiency, and safety of the state rail network.	TBD	Federal, state, and local sources
Make Vertical Clearance Improvements to the Gordon Drive Viaduct on **BNSF** in Sioux City	Make clearance improvements at the Gordon Drive viaduct in Sioux City, which presently has a vertical clearance of 17'6" Above Top of Rail and does not allow for the passage of BNSF double-stack container trains.	Increase operating capacity, efficiency, and safety.	TBD	State and local sources
Bridge Modifications to Improve Clearances for Handling High-Wide Dimensional Loads on **IAIS** at Marengo, Colfax, Van Meter, and De Soto	These bridges restrict the movement of high-wide loads due to the truss construction. This affects movements between Des Moines and Council Bluffs, Iowa, and restricts movements from wind tower producers. Bridges include: Marengo (Newton Subdivision MP 268.6), Colfax (Newton Subdivision MP 329.5), Victor (Newton Subdivision MP 278.1), and De Soto (Council Bluffs Subdivision MP 380.45).	Increase operating capacity, efficiency, and safety.	TBD	State and local sources

Mitigation Measures in Flood Prone Areas on **IAIS** at Moscow, Colfax, Pleasant Hill, and Des Moines	Address the following flood prone areas: Moscow (Iowa City Subdivision MP 211.75-MP 212.75); Colfax (Newton Subdivision MP 334.25-MP 336.0); Pleasant Hill (Newton Subdivision MP 352.25-MP 353.0); and Des Moines (Council Bluffs Subdivision MP 359.04-MP 362.25).	Increase operating capacity, efficiency, and safety, and mitigate against the potential for storm-related damage to the rail network and delays to freight transportation.	TBD	Federal, state, and local sources
Mitigation Measures in Flood Prone Areas on **KJRY** in Keokuk Area	Address the flood prone area along the Mississippi River between Keokuk, Iowa, and Hamilton, Illinois.	Increase operating capacity, efficiency, and safety, and mitigate against the potential for storm-related damage to the rail network and delays to freight transportation.	TBD	Federal, state, and local sources
Mitigation Measures in Flood Prone Areas on **UP** at Cedar Rapids, Beverly, Montour, and Missouri Valley-Council Bluffs/ Omaha	Address flood prone areas on the UP Clinton Subdivision in Cedar Rapids, Beverly Yard, and Montour, and on the UP Omaha Subdivision between Missouri Valley and Council Bluffs/ Omaha.	Increase operating capacity, efficiency, and safety, and mitigate against the potential for storm-related damage to the rail network and delays to freight transportation.	TBD	Federal, state, and local sources
Statewide Grade Crossing Improvement and Upgrade Projects (Federal Highway-Railroad Crossing Safety Program)	Includes anticipated annual funding from the Federal Highway-Railroad Crossing Safety Program (approximately $5.7 Million per year) to upgrade crossings with passive warning devices including crossbucks to active warning devices including flashing light signals and gate arms; upgrading existing signals; improve crossing surfaces; and to provide low-cost improvements such as increased sight distance, medians, widened crossings, or to close crossings.	Improve grade crossing signals and surfaces, safety, and efficiency and reduce highway congestion through routine infrastructure investment.	$96,900,000 Note: Approximately $5.7 Million per year on average, based upon current program funding. For years 5-21 inclusive funding would be approximately $96.9 Million.	Federal and state sources
Statewide Grade Crossing Improvement and Upgrade Projects (State Highway-Railroad Surface Repair Program)	Includes anticipated annual funding from the State Highway-Railroad Crossing Surface Repair Program (approximately $900,000 per year) to promote safety through surface replacement programs at public highway-railroad grade crossings.	Improve grade crossing surfaces, safety, and efficiency and reduce highway congestion through routine infrastructure investment.	$15,300,000 Note: Approximately $900,000 per year on average, based upon current program funding. For years 5-21 inclusive funding would be approximately $15.3 Million.	Federal and state sources
Statewide Grade Crossing Safety Fund	Includes funding for a portion of the maintenance costs for traffic control devices activated by the approach or presence of a train installed under the Highway-Railroad Crossing Safety Program.	Improve grade crossing safety and efficiency through routine infrastructure investment.	$11,900,000 Note: Approximately $700,000 per year on average, based upon current program funding. For years 5-21 inclusive funding would be $11.9 Million.	Federal and state sources
IAIS - Construct rail served industrial parks in the Des Moines metro area	Expansion of rail access to customers in growing industrial areas such as West Des Moines, Altoona, and Mitchellville.		TBD	Federal, state, and local sources
IAIS - Council Bluffs transload	Expansion of existing tracks and laydown areas including paving and storm water management and improved roadway access.		TBD	Federal, state, and local sources

IAIS - Western Iowa sidings	Extend sidings on the IAIS Council Bluffs Subdivision to accommodate longer train lengths and increased traffic at Hillis, Atlantic and Booneville.		$2 Million Hillis, $2.5 Million Atlantic, $2 Million Booneville	State and local sources
Expansion of **IAIS** yard at Newton	Reconfigure and expand IAIS Newton yard to support increase in multimodal and transload opportunities including wind blades, truck to rail transloading, and additional grain capacity. Expand yard to support increased traffic. Longer tracks needed to improve interchange efficiency with Class I carriers.		$18,000,000	State and local sources
IAIS - Davenport elevated trainway	Height of railroad bridges restricts vehicle traffic in downtown Davenport. Existing railroad clearance of around 11 ft. could be improved to 13.5 ft. on three main bridges. Delays railroad traffic following vehicle strikes while waiting for inspection.		$16,000,000	State and local sources
BSV - Industrial Park Upgrade Phase III	Replace UP interchange to provide increased capacity. Install 1300' siding to improve car sorting	Increase operating capacity, efficiency, and safety.	TBD	State, local, and private sources
Subtotal:			$177,350,000	
Long-Range Rail Studies and Projects:			$858,550,000	
Rail Program Total:			**$1,336,036,547**	

Source: Iowa DOT

5.8.1 Short-Range Rail Investment Program

Proposed short-range projects and studies for which estimated capital costs are known at this time, totaling approximately $347 million, have been evaluated largely on the basis of their respective potential sources of funding eligibility and evaluation of benefits to be realized from the completion of the projects.

Projects identified for potential funding have been selected largely on the basis of preserving the state's past investments and improving the levels of service and financial performance of the state's railroads as well as the estimated benefits expected for projects in terms of freight and passenger system capacity, efficiency, and safety; rail network access; economic development and competitiveness; job creation and retention; transportation savings; energy and environmental benefits; and other program-specific benefits. The state's short-range grade crossing improvement program projects' primary intent is to provide or upgrade active warning devices and to make surface and safety improvements at grade crossing locations throughout Iowa.

5.8.1.1 PROPOSED SHORT-RANGE PASSENGER RAIL PROJECTS AND STUDIES

Iowa DOT's proposed short-range passenger rail projects and studies (Year 1 through Year 4) are aimed at improving existing intercity passenger rail services, identifying the potential for implementation of additional passenger rail and connecting bus services on new intercity corridors, and further study of the potential for commuter rail implementation.

Proposed passenger rail projects will focus on:

- The implementation of a bus service connecting the Chicago-Quad Cities intercity passenger rail service under development by the state of Illinois (Phase 1 of passenger rail implementation in the Chicago-Omaha corridor) with Iowa City.
- Implementation of intercity passenger rail service between the Quad Cities and Iowa City (Phase 2 of

passenger rail implementation in the Chicago-Omaha corridor).

The short-range program will also be directed at advancing passenger-related studies that are already in various planning stages. Existing commuter rail studies will be updated, and alternatives for potential service implementations will be explored. With regard to intercity passenger service, various projects and studies are identified. The estimated cost to complete these studies, to the extent presently known, is approximately $5.5 million. These studies include:

- A Tier II environmental impact study, service development plan, and preliminary engineering for Phase 2 of the Chicago-Omaha intercity passenger rail service implementation, between the Quad Cities and Iowa City.
- Implementation of a temporary thruway bus service connecting the Phase 1 Chicago-Quad Cities passenger rail service in the Chicago-Omaha corridor with Iowa City.
- A Tier II environmental impact study, service development plan, and preliminary engineering for Phase 3 of the Chicago-Omaha intercity passenger rail service implementation, between Iowa City and Des Moines.
- A study to identify the potential for implementation of a second intercity passenger rail frequency between Chicago and Omaha via southern Iowa on a route already used by Amtrak's *California Zephyr*.
- Studies to identify the feasibility for implementation of a commuter rail service in the CRANDIC corridor between Iowa City and Cedar Rapids, and for a commuter rail network in the Des Moines Metropolitan Area.
- Studies to identify the economic impacts of expanding passenger rail corridors and services in Iowa and to develop a five-year passenger rail strategic plan to identify potential approaches to implementation.

The Short-Range — Passenger Rail Projects and Studies category in the RSIP above includes details of the proposed projects.

5.8.1.2 PROPOSED SHORT-RANGE FREIGHT RAIL PROJECTS AND STUDIES

During the four-year short-range program period, the proposed freight rail projects mostly entail making improvements to the capacity and rail access on the state's railroads.

By category, proposed short-range freight rail projects include:

- Enhancement of existing transload facilities or construction of new transload facilities — 11 projects
- Enhancement of existing rail access or development of new rail access for shippers / receivers — 7 projects
- Development of a new intermodal facility — 3 projects
- Enhancements to the capacity of the state's rail network — 3 projects
- Improvements to track infrastructure — 2 projects
- Grade separation of highway/rail grade crossings — 1 project

Estimated capital costs of short-range projects, to the extent known during development of the Iowa State Rail Plan, total approximately $103.1 million. Note that some projects identified in the RSIP received some level of Iowa RRLG loan and/or grant funding or LIFTS funding in 2016, the first year of the short-range program.

The short-range program will also be directed at advancing freight-related studies. Estimated capital costs to complete these studies, to the extent known at this time, total approximately $1.6 million. These studies include:

- A comprehensive commercial analysis of Iowa's railroad network to enable strategic and prioritized investments in the state's rail network and in transload and intermodal facilities that provide rail access.
- A statewide grade crossing study to enable strategic and prioritized investments that promote safety and efficiency at Iowa grade crossings.
- Updates to the mapping of the state's rail network.
- Options for preserving rail corridors at risk for abandonment.

The Short-Range — Freight Rail Projects and Studies table in the RSIP above describes the above projects and studies in more detail.

Freight Rail Safety Projects

In addition to the short-range projects and studies identified above, Iowa DOT will also undertake a number of initiatives over the next four years to improve grade crossing infrastructure and safety.

Iowa DOT annually programs at-grade improvement projects on the basis of both project needs outlined in its Iowa Transportation Improvement Program (2016-2020) and priority projects identified from its crossing accident prediction formula results and corridor analyses. An estimated $7.3 million is programmed annually, primarily from the federal Highway-Railroad Crossing Safety Program, the State Highway-Railroad Crossing Surface Repair Program, and the Statewide Grade Crossing Safety Fund. Currently, 2016 programmed projects and 2017 recommended projects are identified in Chapter 4 of the Iowa State Rail Plan. Assuming approximately $7.3 million is programmed per year, the short-range program of four years includes approximately $29.2 million for grade crossing improvements.

5.8.2 Long-Range Rail Investment Program

Iowa's long-range RSIP is comprised of projects identified by Iowa DOT and other rail stakeholders to address rail passenger and freight needs, rail system access, infrastructure enhancement or replacement, and grade crossing safety. These projects, however, are not expected to be implemented within the next four years.

The long-range program includes prospective freight and passenger rail projects receiving support during the public outreach process, regardless of funding availability of analysis at this time, and other technical analysis. These projects are subject to additional feasibility analysis and evaluation of potential public and private benefits. Upon completion of these analyses, long-range program updates will reflect more current and accurate information, including capital cost estimates for implementation. Upon the availability of state or federal funding resources, projects selected for implementation may move to the short-range RSIP in the future.

5.8.2.1 PROPOSED LONG-RANGE PASSENGER RAIL PROJECTS AND STUDIES

For the long-range program (Year 5 through Year 21), projects previously identified in the short-range program will be further advanced toward implementation pending confirmation of construction and economic feasibility. Chief among these activities would be the advancement of Tier II environmental impact study, service development planning, and preliminary engineering for the proposed phased implementation of intercity passenger rail service in the Chicago-Omaha corridor from Iowa City west to Des Moines and Council Bluffs in a three-phase concept. As identified by the earlier 2013 Chicago to Council Bluffs-Omaha intercity passenger rail Service Development Plan developed by Iowa DOT, an estimated cost for these phases of work during the period is approximately $675.7 million for the three projects. Supplements to this amount could occur as plans progress.

Additional proposed projects include:

- Improvements to stations and facilities at existing Amtrak stations in Iowa, including Creston, Osceola, and Fort Madison.
- Implementation of intercity passenger rail service between Council Bluffs and Omaha (Phase 6 of passenger rail service implementation in the Chicago-Omaha corridor).
- Implementation of intercity passenger rail services in the Chicago-Dubuque and the Minneapolis/St. Paul-Des Moines-Kansas City corridors.
- Implementation of commuter rail services in the Des Moines Area and in the Iowa City-Cedar Rapids Area.

The long-range program will also be directed at advancing passenger-related studies that are already in various planning stages, as well as study of the potential for intercity passenger rail services on new corridors. Estimated capital costs to complete these studies, to the extent known at this time, total $5.5 million. These include:

- A Tier II environmental impact study, service development plan, and preliminary engineering for Phase 4 of the Chicago-Omaha intercity passenger rail service implementation, to increase passenger train frequencies between Chicago and Des Moines.
- A Tier II environmental impact study, service development plan, and preliminary engineering for Phase 5 of the Chicago-Omaha intercity passenger rail service implementation, between Des Moines and Council Bluffs.
- A Tier II environmental impact study, service development plan, and preliminary engineering for Phase 6 of the Chicago-Omaha intercity passenger rail service implementation, between Council Bluffs and Omaha.
- A study to identify the potential for implementation of intercity passenger rail service on the Chicago-Dubuque-Waterloo-Sioux City corridor.
- A study to identify the potential for implementation of intercity passenger rail service on the Minneapolis/St. Paul-Sioux City-Council Bluffs/Omaha-Kansas City corridor.

Estimated capital costs for many of the long-range rail passenger rail projects and studies are not known at this time. The projects and studies for which estimated capital costs are known at this time, total approximately $681.2 million, and are described in more detail in the Long-Range — Passenger Projects and Studies table in the RSIP above.

5.8.2.2 PROPOSED LONG-RANGE FREIGHT RAIL PROJECTS AND STUDIES

Projects proposed for public funding beyond the four-year short-range program period will be subject to funding availability as well as further analysis as to their viability and relative benefits to costs.

Similar to the short-range program, the objective of most long-range projects will be to improve the capacity, efficiency, and safety of the state's railroads, and particularly in yards and congested terminal areas; enhance rail access by expanding or constructing transload and intermodal facilities for handling freight more economically and efficiently; upgrade or replace legacy rail bridges over the Mississippi River; and improve flood mitigation measures.

By category, proposed long-range freight rail projects include:

- Enhancements to the capacity of the state's rail network — 19 projects
- Enhancement of existing transload facilities or construction of new transload facilities — 4 projects
- Improvements to bridge infrastructure — 4 projects
- Improvements to flood mitigation measures — 3 projects
- Improvements to track infrastructure — 2 projects
- Enhancement of existing rail access or development of new rail access for shippers/receivers — 2 projects
- Grade separation of highway/rail grade crossings — 1 project
- Improve traffic congestion and enhance safety in an urban rail corridor — 1 project
- Development of a new intermodal facility — 1 project

Estimated capital costs for the long-range rail passenger rail projects and studies are not known at this time. To the extent that Iowa DOT makes investments in support of these long-range projects identified, these investments will be included in future iterations of the RSIP. These projects are described in further detail in the Long-Range — Freight Rail Projects category in the RSIP above.

Freight Rail Safety Projects
In conjunction with and in addition to the short- and long-range proposed freight projects above, Iowa DOT has set long-range goals for the state's rail network and its public highway rail crossings.

Iowa DOT annually programs at-grade improvement projects on the basis of both project needs and priority projects identified from its crossing accident prediction formula results and corridor analyses. An estimated $7.3 million is programmed annually (in 2016 dollars), primarily from the federal Highway-Railroad Crossing Safety Program, the State Highway-Railroad Crossing Surface Repair Program, and the Statewide Grade Crossing Safety Fund. Assuming approximately $7.3 million is programmed per year, the long-range program of five to 21 years includes $124.1 million for grade crossings.

5.9 Rail Funding Shortfall

Through the planning process conducted for the State Rail Plan, Iowa DOT has facilitated a comprehensive stakeholder and public outreach to determine needs in the state, which are identified in the RSIP. Benefits of these projects and studies to Iowa and the region include:

- Improved rail access and service
- Improved reliability of the state's rail network
- Improved rail safety
- Improved mobility
- Enhanced rail network capacity
- Savings in transportation costs to shippers and receivers
- Enhanced multimodal connectivity
- Diversion of freight from truck to rail
- Improved environmental benefits such as decreased fuel consumption, traffic congestion, and air emissions
- Reduced road maintenance and "build sooner" costs
- Enhanced economic development
- Enhancement of Iowa's position in the global marketplace

Present and anticipated short-term federal and state funding availability is presently insufficient to support implementation of the studies and projects identified and described for Iowa in the RSIP. Additional federal and state funding to realize these benefits to Iowa will be essential for the implementation of these projects and studies.

IOWA DOT

Iowa State Rail Plan Final

Chapter 6

Coordination and Review

IOWADOT

Contents

6.1 Introduction

This chapter describes how the Iowa Department of Transportation (Iowa DOT) involved stakeholders in the coordination necessary to develop the Iowa State Rail Plan.

The Iowa State Rail Plan was developed in conjunction with the Iowa State Freight Plan. Developing these plans together offered an opportunity for Iowa DOT to comprehensively define what the rail and freight systems in the state look like today and what it should look like in the future. Due to the subject matter, there is natural overlap of information, data and analysis of rail and freight in both plans; because of this, stakeholder and public input efforts were combined. This made efficient use of time and effort for both Iowa DOT staff and stakeholders, and helped ensure feedback was integrated appropriately into both plans.

Stakeholders are identified as individuals, organizations, and groups affected or have an interest in particular projects or actions. For the rail and freight plans, stakeholders include shippers, modal operators, transportation academics, logistics organizations and service providers, current and potential rail passenger users, various industrial and manufacturing sectors, state, regional, county and city government agencies, elected and appointed public officials, economic development and business interests, special interest and advocacy groups, and the general public. Stakeholder involvement included participation in freight and rail planning activities, validating the freight vision and goals for Iowa and providing input for the draft rail vision and goals for Iowa, identifying issues, needs and potential investments for freight and rail, and helping to define policies and performance metrics for freight and rail to ensure improved freight and rail service into the future.

Specific, targeted outreach efforts were undertaken to ensure participation from key rail and freight stakeholder groups. Stakeholders received email invitations and phone calls that corresponded with each outreach activity. Issue-Based Workshop and High Leverage Stakeholder attendees received an email invitation from the Iowa DOT. In addition, notifications included outreach through the Iowa DOT's blog and LinkedIn. Those who participated in the shipper interviews received notification through phone calls and emails.

6.2 Stakeholder Engagement

Stakeholder engagement activities were important in order for the team to understand current rail and freight movements throughout the state and to gain an understanding of critical issues.

Outreach efforts included an Issues-Based Workshop, the creation of a High Leverage Stakeholder Committee, hosting a website for both plans, developing a Speakers Bureau presentation and presenting to identified stakeholder groups, holding committee and public meetings, conducting focused interviews of specific stakeholders, managing an online survey and coordinating with neighboring states. Each of these elements and issues identified are described below.

6.2.1 Issues-Based Workshop

An Issues-Based Workshop marked the beginning of stakeholder engagement activities and was held to introduce the details of both the State Rail Plan and State Freight Plan to attendees, explain their role in the development process, answer any questions, and receive comments. The one-day workshop was held on Thursday, September 24, 2015, in Des Moines, Iowa. The Iowa DOT developed a database of stakeholders from around the state that included private sector rail and freight infrastructure owners, freight, public planning agencies, transit operators, rail authorities, railroad and freight organizations and passenger rail stakeholders. Thirty-eight stakeholders attended the workshop, including representatives from the DOT, industries related to freight and rail transportation, special interest groups, and an elected official representative.

The workshop consisted of an introduction from Iowa DOT Director of Office of Rail Transportation Tammy Nicholson, two presentations and three interactive exercises focused on visioning, issues identification, and issues categorization. Feedback from these sessions helped inform the vision and goals for both plans.

The Issues-Based Workshop meeting summary with meeting invitation list are located in Appendix F.

6.2.2 High Leverage Stakeholder Committee

The High Leverage Stakeholder Committee was formed after the Issues-Based Workshop, through invitation by the Iowa DOT. The committee was organized to help in the development of the draft vision and goals of both the State Rail and Freight Plans, strategies for improvements, and location-specific improvement projects relative to each goal once defined.

Committee members included representatives from cities, counties, regional agencies, MPOs/RPAs and committees, as well as rail- and freight-related industries; care was taken to solicit representatives from all interested groups. Appendix F lists the High Leverage Stakeholder Committee meeting summary and invitee list.

Committee meetings were held on November 18, 2015 and February 24, 2016. The third meeting was combined with the public meeting on June 8, 2016. The November meeting focused on reviewing the State Freight Plan vision and goals, reviewing and providing comments on the State Rail Plan draft vision and goals and providing an update to what was discussed at the Issues-Based Workshop. The February meeting focused on reviewing the performance metrics of both plans. At the June meeting, the committee was invited to have early access to the public meeting and view both draft plans.

6.2.3 Iowa DOT State Rail and Freight Plan Website

A project website was established to serve as an online information center for all potential stakeholders providing ongoing information about both plans, updates on different milestones reached throughout the process, and opportunities to participate and provide input and feedback on goals and objectives. The main landing page gave general information regarding both plans and directed visitors to sub pages related specifically to either the Rail Plan or the Freight Plan. The website, located at both http://engagefreightrailplans.com and http://engagefreightrailplans.iowadot.gov included project descriptions, copies of meeting materials and upcoming meeting notification. Visitors were able to take an online survey until November 11, 2015.

6.2.4 Online Survey

The Iowa DOT launched its public State Rail Plan website and online survey on September 11, 2015. Stakeholders were notified about the website through email at various points, including an invitation distributed to 2,181 people on October 23, 2015. The survey invitation was distributed to those stakeholders with email addresses in the plan database. Additional outreach was sent through LinkedIn, Iowa DOT's internal Yammer account, and Iowa DOT's blog. Respondents had the opportunity to respond to the survey until November 11, 2015.

This survey was intended as an additional platform for stakeholders to offer their feedback on what the state's rail network and freight system should look like in the future, and was organized into the following topics:

- Economic and Workforce Development
- Multimodal Networks
- Multimodal Links
- Passenger Rail
- Safety and Security

The final number of survey respondents totaled 272. A summary of the survey results appear in Appendix F of this chapter.

6.2.5 Speakers Bureau Presentation

A Speakers Bureau presentation was developed for use at various stakeholder meetings, including the Freight Advisory Council (FAC). The Speakers Bureau presentation was developed to be easily modified depending on the audience and speaking time.

6.2.6 Stakeholder Interviews

Surveys and interviews are effective and direct ways of determine issues or areas of concerns regarding the rail network in Iowa and soliciting the infrastructure, operational, policy, or other needs of these stakeholders. Interview were conducted to solicit information from stakeholders and railroad users to gather their opinion their rail experience, their operations, project or other needs, and their opinion as to what the public sector could do to assist or improve the efficiency and expansion of rail in Iowa. As industries may not want to share detailed information about their business operations publicly, private interviews were effective in obtaining information that may not have been shared at large group meetings or in other formats.

6.2.7 Passenger Rail Advisory Committee Meeting Presentation

The Iowa DOT formed a Passenger Rail Advisory Committee (PRAC) in 2008, which meets regularly to discuss passenger rail planning in the state. A presentation was made at the November 19, 2015, PRAC meeting in Des Moines, Iowa, to describe the work that would be undertaken during development of the Iowa State Rail Plan and to solicit feedback from stakeholders regarding the State Rail Plan and passenger rail service needs in the state. Participants included Iowa DOT, cities, MPOs/RPAs, Amtrak, freight railroads, and passenger rail advocacy organizations.

6.2.8 Rail Shipper Interviews

Rail shippers are typically described as cargo owners that originate or receive freight shipped by rail. Private sector freight rail shippers in Iowa served by Class I, II, and III railroads were contacted during development of the State Rail Plan via a telephone interview process in October and November 2015. Twelve interviews were completed by a consultant. Those interviewed represented retail, agriculture, manufacturing, and domestic and international supply chains. Respondents included representatives from large manufacturers, rural agriculture producers, retailers, and Third Party Logistics (3PL) providers. Shippers interviewed used Class I and Class III (short line) railroads.

Potential respondents were identified using a multipronged approach. An effort was made to ensure broad geographic and freight diversity. From a freight diversity perspective, shippers were contacted who utilize full truckload, less than truckload, private truck fleets, rail, intermodal and international containers, barges, and air cargo.

The structured interview document sent to respondents included three pages of background material to describe the goals of the Iowa planning process and the specific objectives of the State Freight Plan and the State Rail Plan as well as a map of Iowa's rail and highway networks.

Questions were developed to learn current usage, attitudes and opinions about current rail service, rail access, and the freight system and what could be done to improve it. General interview themes included:

- Safety
- Economic and Workforce Development
- Infrastructure Support
- Policy and Communications
- Multimodal/Intermodal Development
- System Conditions
- Performance Measures
- Industry Trends
- Transportation Solutions and Implementation Strategies
- Project Prioritization
- Passenger Rail

The information provided in the interviews is located in Appendix F.

6.2.9 Railroad Interviews

Iowa's Class I, II, and III railroads were contacted during development of the State Rail Plan to solicit input. Topics addressed included:

- Descriptions of physical and operating characteristics and operations of each railroad's network within Iowa.
- Past and potential future capital projects aimed at improving operational efficiency, capacity, and safety, and providing enhanced service to rail shippers.
- A list of improvement and infrastructure needs for Class II and Class III railroads; Class II and Class III railroads often do not possess the financial and technical resources of the Class Is.

Specific needs identified by the Class II and Class III railroads are presented in Chapter 2, Appendix A and potential projects for addressing these needs are included in the Rail Service and Investment Plan presented in Chapter 5 of the Iowa State Rail Plan.

6.2.10 Coordination with Neighboring States

Iowa DOT routinely interacts with the neighboring states through involvement in national and regional transportation organizations, and to address specific transportation service and facility issues and planning initiatives. Iowa DOT invited rail coordinators in all neighboring states to participate in a Multi-State Rail Plan Presentation on February 24, 2016. Representatives from Iowa DOT, Illinois DOT, Kansas DOT, Minnesota DOT, Nebraska DOT, South Dakota DOT, Wisconsin DOT, Missouri DOT, and the Mid-America Freight Coalition participated in the coordination webinar. During the discussion, Iowa DOT learned more about the trends, best practices, and lessons learned from other states regarding approaches to multi-state planning coordination, passenger and freight rail planning and policy, and associated economic development efforts. Topics discussed included the following:

- Passenger Rail Needs and Improvements in Your State
- FRA Midwest Regional Rail Study — How will the states work together?
- Freight Rail Needs and Improvements in Your State
- Funding Programs in Your State
- Rail Planning and Coordination in Your State

The outcomes of the outreach and coordination with other state DOTs in the region were used to support development of the Iowa State Rail Plan.

6.2.11 Public Meetings

The Iowa DOT held one public meeting to educate stakeholders and the general public regarding the State Rail Plan process, obtain input for development of Iowa's rail vision, provide a forum for discussion of specific rail issues regarding Iowa's rail network, and provide a forum to review and solicit comments on proposed policies, programs, and projects recommended for inclusion in the draft State Rail Plan.

The public meeting took place at the following location:

- Greater Des Moines Botanical Garden, 909 Robert Ray Drive, Des Moines, Iowa — June 8, 2016

This meeting was an open-house format and held in the evening and was open to the public. The Iowa DOT invited the public and stakeholders to the meetings using its standard public notification procedures, including emails and press releases.

The public meeting invitation list and summary are located in Appendix F.

6.2.12 Online Public Meeting

For those unable to attend the public meeting in-person, stakeholders and the public were able to attend an online public meeting between June 8 and July 8, 2016, at http://www.engagefreightrailplans.iowadot.gov/. The online meeting included the same materials presented at the in-person public meeting.

6.2.13 Public and Stakeholder Written Comments

Iowa DOT received comments by e-mail and web comment forms during the course of the State Rail Plan's development.

Comments were received from members of the public, railroads, the Federal Railroad Administration, and public transportation planners, among others. The comments received appear in Appendix F.

6.3 Input Received from the Stakeholder Engagement Process

Information gathered from stakeholder engagements was used to develop a number of the State Rail Plan components including the plan's vision, goals, and objectives.

The following sections include summaries of the themes raised during the outreach process regarding existing rail issues at the local, regional, and/or state levels. Suggestions and/or actions possible in the future are also included. Input received is organized into the following themes:

- General Benefits, Opportunities, and Threats
- Commuter Rail Passenger Service
- Freight
- Safety and Security
- Economic Development
- Energy Consumption and Environmental Protection
- Financing

6.3.1 General Benefits, Opportunities, and Threats

Comments received during the outreach process acknowledged the importance of rail transportation in Iowa.

At the Issues Based Workshop, participants were asked to identify strengths, weaknesses, opportunities and threats of the state's rail system.

The top five strengths were:

- Private ownership and funding
- Efficiency driven
- Need to move large quantities of bulk freight
- Class II and III railroad connections to community
- Connection of transportation modes

The top five weaknesses were:

- Bottlenecks associated with yard capacity
- No major intermodal hub
- Too many grade crossings
- High volume of rail traffic passing through the state
- Availability of railcars — for lease or purchase

Top five opportunities were:

- Expanding transload and intermodal load facilities
- Additional state funding for railroads
- Economic development
- Railroad capacity expansion
- Congestion reduction on highway system

The top five threats were:

- Aging infrastructure
- Truck size and weight (33-foot trailers, specifically)
- Uncertainty of renewal of 45G rail tax credit
- Regulatory issues (including Positive Train Control implementation)
- Passenger rail — lower performance of freight rail

Participants were also asked to discuss the issues that most critically impacted rail operations in Iowa, which included passenger rail, safety and security of freight operations, economic workforce development, multimodal freight networks, and multimodal freight link connectors.

HLSC participants helped in the development of the draft vision and goals of both the State Rail and Freight Plans, strategies for improvements, and location-specific improvement projects relative to each goal. The HLSC convened three times throughout the planning process.

Throughout the HLSC meetings, participants provided their needs for rail in the communities and/or their companies.

From the HLSC meetings, participants offered feedback on the following four main project categories for capital investments:

1. Capacity and mitigation of operational chokepoints
2. Safety
3. Economic development
4. Modal connectivity

Participants identified priority capital investments and projects throughout the HLSC outreach. See Appendix F for the HLSC meeting summaries and full list of capital investments and projects, priority voting results, and feedback on how the Iowa DOT could best help organizations accomplish their priorities.

HLSC participants also identified studies that could inform the State Rail Plan. Study priorities include intermodal, industrial park, and market studies; infrastructure needs; multi-modal and regional network connections; and macroeconomic studies. Meeting summaries from each of the HLSC meetings are included in Appendix F.

6.3.2 Intercity Passenger Rail Service

Issues identified for passenger rail in the state include the potential for improvements to existing Amtrak passenger rail services and facilities and the potential future expansion of passenger rail services on existing and new corridors. Further details about needs identified during the outreach conducted for the SRP can be found in the Rail Service and Investment Plan included in Chapter 5.

6.3.3 Commuter Passenger Rail Service

Iowa does not presently have commuter rail service. The potential for future implementation of commuter rail lines in the Des Moines Metropolitan Area and between Iowa City and Cedar Rapids on the CRANDIC Corridor were mentioned during outreach. Further details about needs identified during the outreach conducted for the SRP can be found in the Rail Service and Investment Plan included in Chapter 5.

6.3.4 Freight
Issues identified for freight in the state include enhanced rail system access, enhanced or new transload and intermodal facilities, and enhanced rail network capacity and efficiency. Further details about needs identified during the outreach conducted for the SRP can be found in the Rail Service and Investment Plan included in Chapter 5.

6.3.5 Safety and Security
During engagement, stakeholders felt Iowa was very good in terms of railroad safety and security. It was also noted during outreach that cities lack enough information or resources on hazmat derailments, additional education and training is necessary, and additional funding is needed.

Priorities identified during outreach included grade crossing closures, separations and improvements and public education programs.

Further details about needs identified during the outreach conducted for the SRP can be found in the Rail Service and Investment Plan included in Chapter 5.

6.3.6 Economic Development
At the Issues Based Workshop, participants were asked to identify and categorize issues. Issues identified for Economic and Workforce Development include how necessary transportation is, Iowa's aging infrastructure, the need for connections to rural communities, efficient transportation, additional funding, and worker availability. During the High Leverage Stakeholder Committee meetings, participants indicated the development of transload/intermodal facilities as one of the top capital investment projects that would support economic development.

Further details about needs identified during the outreach conducted for the SRP can be found in the Rail Service and Investment Plan included in Chapter 5.

6.3.7 Environmental Protection
Participants from both the Issues Based Workshop and High Leverage Stakeholder Committee meetings discussed environmental protection. While discussing modes of transportation and their respective connections to environmental protection participants indicated that rail transportation could be a way to protect the environment, when it is promoted as an efficient mode of transportation with low emissions. Some initiatives to promote sustainability of the rail mode could include the operations of additional low-emissions locomotives on the state's railroads. Participants discussed that through education and potentially through incentives, the state's current and future rail shippers and receivers could re-evaluate their transportation choices, and potentially select a mode that may have less impact on the environment.

Further details about needs identified during the outreach conducted for the SRP can be found in the Rail Service and Investment Plan included in Chapter 5.

6.3.8 Financing
Priorities identified during outreach included additional funding sources for Iowa rail projects in the state. Participants voted on the top capital investments and projects within the following categories:

- Capacity and mitigation of operational chokepoints
- Safety
- Economic Development
- Modal Connectivity

The full response from the HLSC is included in Appendix F.

Further details about existing funding options for rail projects in the state can be found in Chapters 2 and 4 of the Iowa State Rail Plan.

6.3.9 The Role of Public Agencies

The role of public agencies in Iowa surfaced in focus group discussions and survey results when discussing economic development, as many state agencies support economic development through various policies, programs, and initiatives.

Further details about the existing role of public agencies in Iowa can be found in Chapters 1 and 2 of the Iowa State Rail Plan.

6.4 Consideration of Recommendations Identified During the Freight and Rail Plan Process

The comments and recommendations received through all aspects of the public outreach process conducted during development of the State Rail Plan have been consolidated into recommended actions for Iowa DOT. Input from the other Iowa DOT divisions, and comment obtained through the outreach process, identified several actions that Iowa DOT could take to address rail-related issues in the state. These recommended actions are as follows:

- Continue to promote and enhance rail safety through continued safety and public education programs and enhancements to the public grade crossing improvement programs in the state.
- Continue efforts to support the development or enhancement of rail industrial spurs, transload and intermodal facilities, rail storage capacity, and other infrastructure projects needed to maintain a state of good repair and enhance economic development.
- Preserve, protect, improve, and expand, as necessary, existing intercity / long-distance passenger rail service in Iowa through station facility and access improvements, and continue to study the potential for implementation of new intercity passenger rail services in the state where demand and transportation and other public benefits merit.
- Increase the movement of freight by rail and emphasize rail-related intermodal and other rail improvements to ensure a diverse and robust rail network, while maintaining community and environmental stewardship and economic competitiveness.
- Further collaborate with neighboring states on regional issues and solutions to passenger and freight rail needs through regional multi-state coordination and organizations.

6.5 State Rail Planning Coordination

While the Office of Rail Transportation has the primary responsibility for rail planning and policy within Iowa DOT, and administers various federal and state rail-related programs, some aspect of rail planning occurs within a number of offices within the Iowa DOT.

- The Office of Systems Planning prepares comprehensive intermodal and modal transportation system plans for the state and also maintains rail data and mapping.
- The Office of Public Transit administers federal and state transit grants; provides technical assistance to Iowa's 19 urban public transit systems and 16 regional public transit systems; and assures that future passenger rail services in the state, sponsored by Iowa DOT, are coordinated with local transit.
- The Office of Right-of-Way is responsible for the acquisition of properties necessary for transportation projects.

Effective and continued coordination between these offices is necessary to maximize efficiency and eliminate redundancies.

At the state, regional, and local level, Iowa DOT works with the Iowa Transportation Commission (ITC), Iowa Economic Development Authority (IEDA), six Iowa DOT District Transportation Planners, 18 regional planning affiliations, and nine metropolitan planning organizations to coordinate planning and development efforts regarding rail transportation. Some of the agencies have participated in the Iowa State Rail Plan development process and had the opportunity to provide further input through review and comment on the Draft State Rail Plan.

Iowa coordinates its state transportation planning and associated processes with other transportation planning programs and activities of the state and metropolitan areas in accordance with the federal law concerning coordinated planning[1]. These codes generally require coordination of transportation planning and processes between state departments of transportation, metropolitan planning organizations, and public transit operators; encourage economic development and environmental sustainability for transportation; promote integration of the management and operation of transportation systems and facilities to ensure an intermodal transportation system for the U.S. and the states; and establish requirements for long-range transportation planning (i.e. Statewide Transportation Plan and Transportation Improvement Plan identifying transportation projects for the state, which Iowa updates at regular intervals).

The Iowa State Rail Plan and Iowa State Freight Plan were developed simultaneously by Iowa DOT. Additional coordination within Iowa DOT and with other state agencies and project stakeholders was required to combine the Plans and integrate them effectively into the state's long-range transportation planning.

1 Title 23 of U.S. Code Sections 134 and 135; Title 49 of U.S. Code Sections 5303 and 5304

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Appendix A

Profile of Iowa's Railroad Network

Contents

A.1 Introduction

The primary purpose of this appendix is to provide an inventory and description of the assets of the Iowa railroad network for railroads of all classes and for non-operating railroad owners that includes background and details about the physical and operating characteristics of each railroad and rail line segment in the state. This data is used to understand potential freight capacity, service velocity and versatility, and to ascertain potentially what types of business and levels of service can be accommodated over each line segment. Furthermore, this inventory will be used as a tool to later identify and prioritize potential rail infrastructure improvements that eliminate bottlenecks and operating and safety conflicts, expand capacity, promote rail access, enhance connectivity between railroads and between railroads and other transportation modes, and encourage growth in the railroad transportation sector that is consistent with the needs of Iowa's people, businesses, and industry and the vision of the Iowa State Rail Plan.

Included in the inventory for each railroad in the state, to the extent known during development of the Iowa State Rail Plan, are key physical and operating characteristics for each Iowa railroad subdivision or railroad line segment. This information, identified in the list below, was collected through coordination with Iowa's railroads in 2015, and via analysis of Iowa DOT data (including Iowa Railroad Annual Reports submitted by the state's railroads to Iowa DOT annually and rail maps generated by Iowa DOT), Class I Railroad Annual Report R-1s (submitted by the state's Class I railroads to the federal Surface Transportation Board annually), railroad timetables, and other publicly available data.

- **Railroad Subdivision and Division identification.**
- **Owner of the line.**
- **Operator of the line.**
- **Line Heritage** — identifies the historic railroad ownership of each subdivision.
- **Subdivision Route / Mileage** — identifies the subdivision endpoints and route mileage within Iowa. Note that railroad miles as portrayed in the railroad timetable and other public sources can vary from the route-mile calculations presented in the State Rail Plan.
- **FRA Track Class** — identifies the likely applicable Federal Railroad Administration (FRA) Class of Track designation on the main track(s) for each subdivision.
- **Track Configuration** — identifies the number of main tracks and the presence of sidings for train meet-pass events on each subdivision, within Iowa.
- **Maximum Authorized Speed for Freight Trains** — identifies the maximum speed freight trains can travel over each subdivision. Note that speeds may be further restricted owing to track geometry, bridge restrictions, limited sight distances, challenges of rail operations in urban and rail terminal areas, and other safety and operating considerations not identified in this inventory. Maximum authorized speeds for freight trains may also be lower than the maximum authorized speed by the FRA's Class of Track regulations.
- **Maximum Authorized Speed for Passenger Trains** — identifies the maximum speed passenger trains can travel over each subdivision; note that speeds may be further restricted owing to track geometry, bridge restrictions, limited sight distances, challenges of rail operations in urban and rail terminal areas, and other safety and operating considerations not identified in this inventory. Speeds are identified only for railroad subdivisions presently hosting Amtrak intercity and long-distance passenger trains in Iowa, and on other segments as designated by Iowa's railroads.
- **Wayside Signals** — indicates the presence of a wayside signal system on each subdivision (see operational authority below for wayside signal types), which is used to convey operating authority to trains and equipment and / or show occupation of main track(s) by trains and equipment.
- **Method of Operation** — identifies generally the railroad operating system or practice employed on each segment, to the extent known, including the presence of:
  - **Centralized Traffic Control (CTC)** — A train control system whereby a train dispatcher provides operational authority to trains remotely via a wayside signal system and radio communication.
  - **Automatic Train Control (ATC)** — A train control system integrated with a cab signaling system that applies train speed control. An alarm in the train locomotive notifies the engineer when the train has exceeded the maximum allowable speed for a given portion of track, and if the engineer fails to reduce

speed or apply the air brake system, a penalty brake application is made automatically by the ATC system. ATC typically exists as an overlay to a CTC system, which provides operational authority.
  - **Automatic Block Signals (ABS)** — A wayside signal system that indicates block occupancy (a block is a short, defined track segment) and minimizes the likelihood of collisions between trains. ABS is not controlled by a train dispatcher, but a train's entry to into a segment of ABS may be controlled by a train dispatcher. Typically requires that operational authority be provided as an overlay through a track warrant or track authority issued by a train dispatcher via radio communication.
  - **Track Warrant Control (TWC) or Track Authority (TA); designations may vary by railroad** — System of operational authority issued to trains remotely by a train dispatcher via radio communication.
  - **Restricted Limits (RL), Restricted Speed (RS), GCOR Rule 6.28, Yard Limits (YL), and Rule 520 (Non-Main Track); designations may vary by railroad** — Typically slow speed operations (not more than 20 mph, but may be much slower, depending upon designation, sight distance, congestion, and operating conditions) within and at the approach to railroad yards and on industrial leads and other trackage that does not require operational authority from a train dispatcher. Trains operating within these limits typically coordinate operations with the train dispatcher and other trains operating within the limits via radio communication.
- **Maximum Allowable Gross Weight** — identifies loaded railcar weight limitations, as dictated by the likely condition of mainline bridges and track.
- **Clearances** — identifies the known vertical clearance potential for accommodating specific types of railcar equipment and/or the vertical clearance above top of rail (ATR) in feet and inches. Reporting by railroad varies. Some equipment types identified include:
  - **Trailer on Flat Car (TOFC)** — railroad flat car on which a truck semi-trailer is transported; known also as piggyback.
  - **Container on Flat Car (COFC)/Double-Stack Car** — intermodal railcar that typically accommodates shipping containers of up to 53 feet in length stacked one or two high.
  - **Tri-Level/Hi-Trilevel** — railcar equipped with racks accommodating two or three decks of standard automobiles or light trucks.
  - **AutoMax** — automobile rack railcar with adjustable deck heights for accommodating bi-level or tri-level configurations.
- **Current Traffic Density (2014)** — identifies the rail traffic density by subdivision in annual Gross Ton-Miles (GTM) in millions. GTM includes the number of trailing tons in a train behind the locomotives (including railcars and lading, railroad company service equipment, and cabooses) times the distance moved in road freight trains. Traffic density for tenant railroads with trackage rights over subdivisions of an owning (or host) railroad are identified, if known.
- **Average Number of Trains per Day** — identifies a range of likely average daily train volumes for each subdivision.
- **Commodities Transported** — identifies typical commodities or commodity groups transported over each subdivision. Note that commodities and the rail routes they travel over can change at any time due to markets, rail capacity, and other considerations. A more detailed discussion of current traffic flows and primary commodities transported by rail in and through Iowa can be found in Chapter 2 of the Iowa State Rail Plan.
- **Industrial Leads** — identifies railroad-designated industrial leads (or spurs, as designated by some railroads) which are used to access rail customers off the subdivision mainline and extend the reach of rail service in Iowa; mileage of industrial leads (and spurs) is not included in route-mile calculations for the state owing to their designation. Industrial tracks not owned by the railroad (privately owned) are not identified in this inventory.
- **FRA Excepted Track** — identifies segments of FRA Excepted Track over which railroads operate under the following conditions: Trains will be operated at 10 mph or less; no occupied passenger trains will be operated; no freight train will be operated that contains more than five railcars required to be placarded as hazardous materials shipments; and track gage (distance between the rails) will not be more than 4 feet 10 ¼ inches (standard gage is 4 feet 8 ½"). FRA Excepted Track in Iowa is typically found on lightly used industrial leads.

Also identified in the context of each railroad's network in Iowa is the existence of trackage rights which provide authority for one railroad (a tenant) to operate over the line of another railroad (host); haulage rights which is an arrangement whereby one railroad markets service over a route owned by another, but does not operate its own trains over the host railroad; and connections (or interchanges) between railroads where railcars are exchanged. Major railroad yards/terminals and rail facilities as well as rail-port connections in the state are also identified.

Table A.1 below identifies Iowa's 18 railroads and two non-operating railroad owners that own a total of approximately 3,851 route miles in the state, and which are detailed in this appendix. The table also identifies by entity — railroad class (if applicable), standard alpha carrier code (an industry standard two- to four-letter abbreviation), total miles of railroad owned and operated in Iowa (including lines leased, operated under contract, trackage rights, and haulage rights, as applicable), and the percentage of the total Iowa rail network that each railroad ownership represents. Note that miles leased and/or operated under contract, miles operated under trackage rights, and miles operated under haulage rights are included in the total miles operated figures, allowing total miles operated to exceed total miles owned. Industrial railroads and private track ownership provide transportation service at industrial installations in Iowa, but, due to their classification, the mileage of privately owned industrial track is not included in calculations of the state's rail network. Similarly, the industrial track (including designated industrial leads and spurs) of Class I, II, and III rail carriers is also not included in the route-mile calculations.

Table A.1: Iowa Route Mileage by Railroad and Non-Operating Railroad Owner

RAILROAD	STANDARD CARRIER ALPHA CODE	RAILROAD CLASS	TOTAL MILES OWNED	PERCENT OF TOTAL IOWA RAIL NETWORK OWNED	MILES LEASED/ OPERATED UNDER CONTRACT	MILES OPERATED UNDER TRACKAGE RIGHTS	MILES OPERATED UNDER HAULAGE RIGHTS	TOTAL MILES OPERATED
BNSF Railway	BNSF	Class I	631	16.39%	33	42	0	706
Canadian National Railway (operates in Iowa via subsidiaries Chicago Central & Pacific [CCP] and Cedar River Railroad [CEDR])	CN	Class I	605	15.71%	0	3	0	608
Canadian Pacific Railway (operates in Iowa via subsidiary Dakota, Minnesota & Eastern Railroad [DME])	CP	Class I	654	16.98%	0	12	0	666
Kansas City Southern Railway	KCS	Class I	0	0.00%	0	0	55	55
Norfolk Southern Railway	NS	Class I	44	1.14%	4	0	386	395 See Note (a) below
Union Pacific Railroad	UP	Class I	1,291	33.52%	0	95	126	1,512
SUBTOTAL (CLASS I)			**3,225**	**83.74%**				
Iowa Interstate Railroad	IAIS	Class II	298	7.73%	6 See Note (b) below	21	0	325
SUBTOTAL (CLASS II)			**298**	**7.73%**				
Appanoose County Community Railroad	APNC	Class III	35	0.90%	0	0	0	35
Boone & Scenic Valley Railroad	BSV	Class III	2	0.05%	0	0	0	2
Burlington Junction Railway	BJRY	Class III	6	0.16%	0	0	0	6
CBEC Railway (CBEC operated by IAIS)	CBEC	Class III	6	0.16%	0	0	0	6
Cedar Rapids & Iowa City Railway	CIC	Class III	57	1.48%	0	0	0	57

D&I Railroad	DAIR	Class III	0	0.00%	35 See Note (c) below	7	0	42
D&W Railroad (DWRV operated by IANR)	DWRV	Class III	22	0.57%	0	6	0	28
Iowa Northern Railway	IANR	Class III	117	3.04%	50	60	0	227
Iowa River Railroad	IARR	Class III	9	0.24%	0	0	0	9
Iowa Traction Railway	IATR	Class III	10	0.26%	0	0	0	10
Keokuk Junction Railway	KJRY	Class III	1	0.03%	0	3	0	4
SUBTOTAL (CLASS III)			**265**	**6.89%**				
North Central Iowa Rail Corridor (NCIRC trackage operated by IANR)	N/A	Non-Operating Railroad Owner	28	0.73%	0	0	0	28
State of South Dakota (SD trackage operated by DAIR)	N/A	Non-Operating Railroad Owner	35	0.91%	0	0	0	35
SUBTOTAL (NON-OPERATING RAILROAD OWNERS)			**63**	**1.64%**				
Iowa Rail Network Total			**3,851**	**100.0%**	**128**	**249**	***567***	***4,756***

Source: Iowa DOT; Class I Railroad Annual Reports R-1 (2014); Iowa Class I, II, and III railroads

Notes:

a. NS presently operates on 9 miles in Iowa — 5 miles of NS trackage at Des Moines and 4 miles of BNSF trackage at Des Moines operated under contract. The remainder of the NS-owned trackage in Iowa has been leased to BNSF and IAIS for operations. Total Miles Operated figure represents miles in Iowa over which NS operates through ownership, under contract, and via haulage rights only.

b. IAIS also leases or operates under contract the 6-mile CBEC Railway at Council Bluffs, a 12-mile segment from NS between Des Moines and Grimes, and an 8-mile segment from CIC between Iowa City and Hills, totaling 24 miles. These miles are not included in IAIS route-mile calculations in the table above, as IAIS designates these segments as industrial leads, which are not included in route-mile calculations. IAIS operates over the 18 miles of CIC between Yocum Connection (near South Amana), Iowa, and Cedar Rapids, Iowa, via a marketing agreement with CIC.

c. State of South Dakota owned trackage in Iowa is leased to the Sioux Valley Regional Railroad Authority (SVRRA); DAIR provides service for SVRRA via an operating contract.

A.2 Class I Railroads in Iowa

The section describes Iowa's six Class I railroads. Included are data and operating subdivision tables for each railroad, showing such details as ownership, miles owned and operated, trackage and haulage rights, physical characteristics of operating subdivisions, facilities, commodities handled, connections with other railroads, and more. In 2015, Iowa's Class I railroads were asked to confirm much of the data appearing in this section and to provide additional input, as appropriate. Four of Iowa's six Class I railroads participated. No physical inspections of the Class I railroads were conducted during development of the Iowa State Rail Plan.

A.2.1 BNSF Railway (BNSF)

A summary of statistical information for BNSF Railway (BNSF) within Iowa is as follows:

- Line owned: 631 miles
- Line operated under lease: 27 miles
- Line operated under contract: 6 miles
- Line operated under trackage rights: 42 miles
- Line operated under haulage rights: 0 miles

- Total mileage operated: 706 miles
- Line owned, not operated, by respondent: 0 miles

BNSF Interchanges

Interchanges are locations where railroads intersect and exchange railcars. BNSF has the ability to interchange freight rail traffic with four Class I carriers (CN, CP, NS, UP), one Class II carrier (IAIS), and four Class III carriers (APNC, BJRY, DAIR, KJRY). Designated interchange point locations and connecting carriers are listed below:

- Albia — Appanoose County Community Railroad (APNC)
- Burlington — Burlington Junction Railway (BJRY)
- Clinton — Canadian Pacific Railway (CP)
- Council Bluffs — Canadian National Railway (CN), Iowa Interstate Railroad (IAIS), Union Pacific Railroad (UP)
- Davenport — CP
- Des Moines —IAIS, Norfolk Southern Railway (NS), UP
- Keokuk — KJRY
- Mount Pleasant — BJRY
- Ottumwa — BJRY, CP
- Sioux City — CN, D&I Railroad (DAIR), UP

BNSF Trackage Rights and Joint Trackage

BNSF has trackage rights over the following line segments and connecting railroads:

- Canadian Pacific Railway (CP) Davenport Subdivision between East Wye Switch (Davenport), Iowa, and Clinton, Iowa; approximately 35.4 miles.
- Union Pacific Railroad Omaha Subdivision between BN Junction (Council Bluffs), Iowa, and the Iowa / Nebraska state line at Council Bluffs, Iowa; approximately 3.0 miles.
- Private Track at Red Oak, Iowa; approximately 4.0 miles.

BNSF operates the following segments under lease:

- Norfolk Southern Railway (NS) between NW Junction (Des Moines), Iowa, and Swan, Iowa, and between Tracy, Iowa, and Hamilton, Iowa; approximately 26.8 miles.

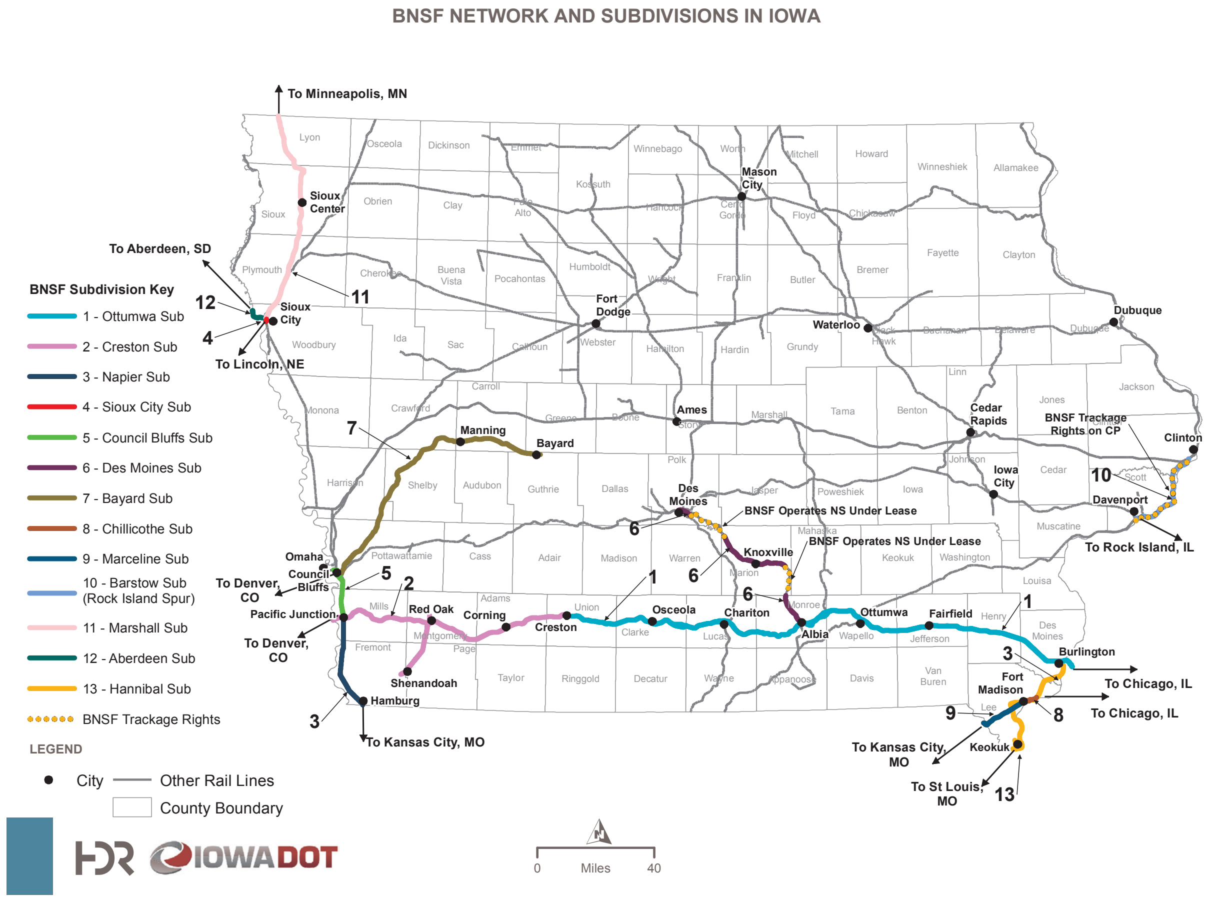
BNSF Divisions and Subdivisions in Iowa

BNSF's Iowa network is comprised of part of four operating divisions:

- Nebraska Division
- Chicago Division
- Twin Cities Division
- Springfield Division

BNSF's 13 operating subdivisions in Iowa are shown in Figure A.1 below. BNSF's Iowa subdivisions are presented by division and described in the tables below.

Figure A.1: BNSF Network and Subdivisions in Iowa



Source: BNSF and HDR

The Iowa subdivisions shown in Table A.2 below are components of the BNSF Nebraska Division.

Table A.2: Descriptions of BNSF Subdivisions in Iowa — Nebraska Division

SUBDIVISION: OTTUMWA SUBDIVISION	
Division	Nebraska
Owner	BNSF
Operator	BNSF
Line Heritage	Chicago, Burlington & Quincy Railroad (CB&Q)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Iowa / Illinois state line near Burlington, Iowa-Creston, Iowa; 188.1 miles
FRA Track Class	Class 4
Track Configuration	Two main tracks
Maximum Authorized Speed Freight	60 mph freight
Maximum Authorized Speed Passenger	79 mph passenger
Wayside Signals	Mixture of Centralized Traffic Control (CTC) and Automatic Block Signals (ABS)
Method of Operation	Mixture of Centralized Traffic Control (CTC), Track Warrant Control (TWC), and Yard Limits (YL)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment

Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions)	• 76.0 GTM (Iowa / Illinois state line near Burlington-Burlington) • 109.0 GTM (Burlington-Ottumwa) • 113.0 GTM (Ottumwa-Albia) • 110.0 GTM (Albia-Creston)
Average Number of Trains per Day	40-45
Commodities Transported	Coal, farm products, food and kindred products, chemical and allied products, intermodal, ethanol, and general merchandise freight traffic
Industrial Leads	Cargill Spur: Cargill Spur, Iowa; approximately 3.0 miles (includes privately owned track); 286,000 lbs. maximum allowable gross weight
FRA Excepted Track	None

SUBDIVISION: CRESTON SUBDIVISION	
Division	Nebraska
Owner	BNSF
Operator	BNSF
Line Heritage	Chicago, Burlington & Quincy Railroad (CB&Q)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Creston, Iowa-Iowa / Nebraska state line near Pacific Junction, Iowa; 86.1 miles
FRA Track Class	Class 4
Track Configuration	Combination of two main tracks and one main track
Maximum Authorized Speed Freight	60 mph freight
Maximum Authorized Speed Passenger	79 mph passenger
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions)	• 109.0 GTM (Creston-Pacific Junction) • 134.0 GTM (Pacific Junction-Iowa / Nebraska state line near Pacific Junction)
Average Number of Trains per Day	40-45
Commodities Transported	Coal, farm products, food and kindred products, chemical and allied products, intermodal, ethanol, and general merchandise freight traffic
Industrial Leads	• Shenandoah Industrial Lead: Red Oak, Iowa-Shenandoah, Iowa; approximately 21.2 miles (former Chicago, Burlington & Quincy Railroad); 286,000 lbs. maximum allowable gross weight (Red Oak-Coburg) and 268,000 lbs. maximum allowable gross weight (Coburg-Shenandoah); line density 0.05 GTM • Red Oak Industrial Lead: Red Oak, Iowa; approximately 3.1 miles (former Chicago, Burlington & Quincy Railroad); 286,000 lbs. maximum allowable gross weight
FRA Excepted Track	None

SUBDIVISION: NAPIER SUBDIVISION	
Division	Nebraska
Owner	BNSF
Operator	BNSF
Line Heritage	Chicago, Burlington & Quincy Railroad (CB&Q)

Subdivision Route / Mileage	Portion of Subdivision in Iowa: Pacific Junction, Iowa-Iowa / Missouri state line near Hamburg, Iowa; 33.0 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	49 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Restricted Limits (RL) at Pacific Junction, Iowa • Track Warrant Control (TWC) Pacific Junction, Iowa-Iowa / Missouri state line near Hamburg, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions)	20.0 GTM
Average Number of Trains per Day	14-18
Commodities Transported	Coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: SIOUX CITY SUBDIVISION	
Division	Nebraska
Owner	BNSF
Operator	BNSF
Line Heritage	Chicago, Burlington and Quincy Railroad (CB&Q)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Sioux City, Iowa-Iowa / Nebraska state line near Sioux City, Iowa; 2.6 miles
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	30 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Not cleared for double-stacks, hi-trilevel, and automax equipment
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions)	43.0 GTM
Average Number of Trains per Day	12-16
Commodities Transported	Coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: COUNCIL BLUFFS SUBDIVISION	
Division	Nebraska
Owner	BNSF
Operator	BNSF
Line Heritage	Chicago, Burlington & Quincy Railroad (CB&Q)
Subdivision Route / Mileage	Pacific Junction, Iowa-BN Junction (Council Bluffs), Iowa; 18.4 miles
FRA Track Class	Class 2
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	25 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Restricted Limits (RL) at Pacific Junction, Iowa • Track Warrant Control (TWC) Pacific Junction, Iowa-Council Bluffs, Iowa • Yard Limits (YL) at Council Bluffs, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	13.0 GTM
Average Number of Trains per Day	2-4
Commodities Transported	Coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	CBEC Railway: Council Bluffs, Iowa; approximately 6.0 miles owned by CBEC; operated by IAIS; BNSF and UP have operating rights over CBEC; 286,000 lbs. maximum allowable gross weight; line density 1.38 GTM
FRA Excepted Track	None

SUBDIVISION: DES MOINES SUBDIVISION	
Division	Nebraska
Owner	BNSF
Operator	BNSF
Line Heritage	Chicago, Burlington & Quincy Railroad (CB&Q)
Subdivision Route / Mileage	Albia, Iowa-Des Moines, Iowa; 67.8 miles (Note: The Des Moines (NW Junction)-Swan and Tracy-Hamilton segments, approximately 26.8 miles, are owned by NS and operated by BNSF under lease)
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	35 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Restricted Limits (RL) at Albia, Iowa • Track Warrant Control (TWC) Albia, Iowa-Des Moines, Iowa • Restricted Limits (RL) at Des Moines, Iowa • Yard Limits (YL) at Des Moines, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	2.0 GTM

Average Number of Trains per Day	1-2
Commodities Transported	Farm products, food and kindred products, chemical and allied products, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: BAYARD SUBDIVISION	
Division	Nebraska
Owner	BNSF
Operator	BNSF
Line Heritage	Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P)
Subdivision Route / Mileage	Council Bluffs, Iowa-Bayard, Iowa; 100.0 miles
FRA Track Class	Class 2
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	25 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Yard Limits (YL) at Council Bluffs, Iowa • Track Warrant Control (TWC) Council Bluffs, Iowa-Bayard, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	2.0 GTM
Average Number of Trains per Day	0-1
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

The Iowa subdivisions shown in Table A.3 below are components of the BNSF Chicago Division.

Table A.3: Descriptions of BNSF Subdivisions in Iowa — Chicago Division

SUBDIVISION: CHILLICOTHE SUBDIVISION	
Division	Chicago
Owner	BNSF
Operator	BNSF
Line Heritage	Atchison, Topeka & Santa Fe Railway (AT&SF)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Iowa / Illinois state line near Fort Madison, Iowa-Fort Madison, Iowa; 2.5 miles
FRA Track Class	Class 4
Track Configuration	Two main tracks
Maximum Authorized Speed Freight	55 mph freight
Maximum Authorized Speed Passenger	79 mph passenger
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.

Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 139.0 GTM — BNSF • 12.5 GTM — UP
Average Number of Trains per Day	60-65
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: MARCELINE SUBDIVISION	
Division	Chicago
Owner	BNSF
Operator	BNSF
Line Heritage	Atchison, Topeka & Santa Fe Railway (AT&SF)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Fort Madison, Iowa-Iowa / Missouri state line near Argyle, Iowa; 17.7 miles
FRA Track Class	Class 5
Track Configuration	Two main tracks
Maximum Authorized Speed Freight	70 mph freight
Maximum Authorized Speed Passenger	90 mph passenger
Wayside Signals	Centralized Traffic Control (CTC) and Automatic Train Stop (ATS)
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailers (TOFC), double-stacks (COFC), hi-trilevel, and automax equipment
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 141.0 GTM — BNSF • 17.1 GTM — UP
Average Number of Trains per Day	70-75
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	Fort Madison, Iowa: Track 124 (yard track) and Track 302 (industry track)

SUBDIVISION: BARSTOW SUBDIVISION (ROCK ISLAND SPUR)	
Division	Chicago
Owner	BNSF
Operator	BNSF
Line Heritage	Davenport, Rock Island & Northwestern Railway (DRI&NW)
Subdivision Route / Mileage	Barstow Subdivision — Rock Island Spur in Iowa only, as identified under Industrial Leads below
FRA Track Class	Class 1
Track Configuration	One main track
Maximum Authorized Speed Freight	10 mph freight

Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	GCOR Rule 6.28
Maximum Allowable Gross Weight	263,000 lbs.
Clearances	18' 6" Above Top of Rail; can accommodate TOFC equipment and COFC equipment only one container high
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	Unknown
Average Number of Trains per Day	1-2
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	Rock Island Spur Segment in Iowa Only: Iowa / Illinois state line at Rock Island, Illinois-East Wye Switch (Davenport), Iowa; approximately 0.7 miles (former Davenport, Rock Island & Northwestern Railway)
FRA Excepted Track	None

The Iowa subdivisions shown in Table A.4 below are components of the BNSF Twin Cities Division.

Table A.4: Descriptions of BNSF Subdivisions in Iowa — Twin Cities Division

SUBDIVISION: MARSHALL SUBDIVISION	
Division	Twin Cities
Owner	BNSF
Operator	BNSF
Line Heritage	Great Northern Railway (GN)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Iowa / Minnesota state line near Lester, Iowa-Sioux City, Iowa; 75.7 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	49 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Cleared for trailer (TOFC) and double-stack (COFC) equipment
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	38.0 GTM
Average Number of Trains per Day	10-14
Commodities Transported	Coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION:	ABERDEEN SUBDIVISION
Division	Twin Cities
Owner	BNSF
Operator	BNSF
Line Heritage	Chicago, Milwaukee, St. Paul and Pacific (CMStP&P)

Subdivision Route / Mileage	Portion of Subdivision in Iowa: Sioux City, Iowa-Iowa / South Dakota state line near North Sioux City, South Dakota; 7.1 miles
FRA Track Class	Class 2 / Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight on Aberdeen Subdivision; but Restricted Speed (RS) over segment in Iowa
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Restricted Limits (RL)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 2.0 GTM — BNSF • 2.12 GTM — DAIR
Average Number of Trains per Day	2-4 BNSF
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

The Iowa subdivision shown in Table A.5 below is a component of the BNSF Springfield Division.

Table A.5: Description of BNSF Subdivisions in Iowa — Springfield Division

SUBDIVISION: HANNIBAL SUBDIVISION	
Division	Springfield
Owner	BNSF
Operator	BNSF
Line Heritage	Chicago, Burlington & Quincy Railroad (CB&Q)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Burlington, Iowa-Iowa / Missouri state line near Keokuk, Iowa; 44.4 miles
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Clearance Above Top of Rail unknown; not cleared for double-stacks, hi-trilevel, and automax equipment
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	33.0 GTM
Average Number of Trains per Day	12-16
Commodities Transported	Farm products, food and kindred products, chemical and allied products, coal, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

A.2.2 Canadian National Railway (CN)

Canadian National Railway (CN) operates in Iowa via two subsidiaries — the Chicago Central & Pacific Railway (CCP) and the Cedar River Railroad (CEDR). The combined CCP / CEDR network connects Iowa with the rest of the CN network at Munger (Wayne) and Chicago, Illinois.

A summary of statistical information for CN within Iowa is as follows:

- Line owned: 605 miles
- Line operated under lease: 0 miles
- Line operated under contract: 0 miles
- Line operated under trackage rights: 3 miles
- Line operated under haulage rights: 0 miles
- Total mileage operated: 608 miles
- Line owned, not operated, by respondent: 0 miles

CN Interchanges

Interchanges are locations where railroads intersect and exchange railcars. CN has the ability to interchange freight rail traffic with three Class I carriers (BNSF, CP, UP), one Class II carrier (IAIS), and four Class III carriers (CIC, DAIR, IANR, IARR) in Iowa. Designated interchange point locations and connecting carriers in Iowa are listed below:

- Ackley — Iowa River Railroad (IARR)
- Cedar Rapids — Cedar Rapids & Iowa City Railway (CIC), Iowa Northern Railway (IANR)
- Charles City — Canadian Pacific (CP)
- Council Bluffs — BNSF Railway (BNSF), IAIS, UP
- Dubuque — CP
- Iowa Falls — UP
- Sioux City —BNSF, D&I Railroad (DAIR), UP
- Waterloo — IANR, UP

CN Trackage Rights and Joint Trackage

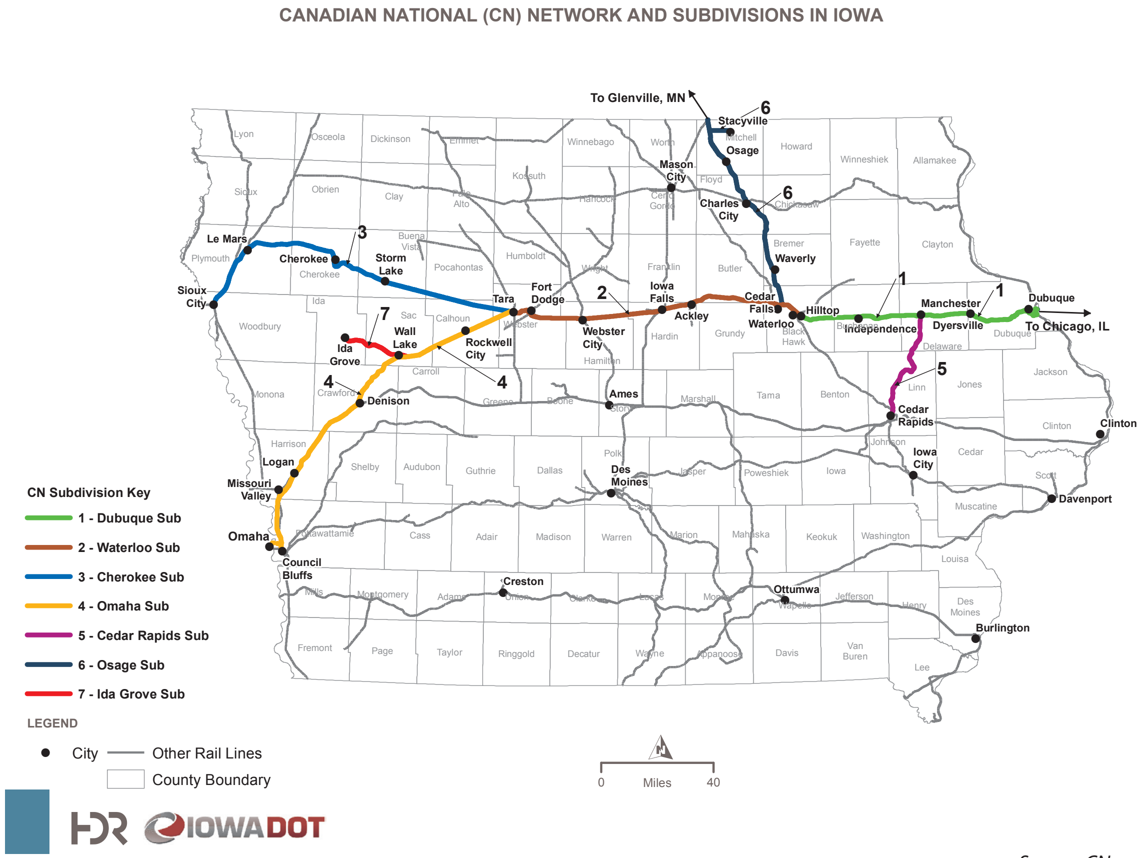
CN has trackage rights over the following line segments and connecting railroads:

- Union Pacific Railroad (UP) Omaha Subdivision between Council Bluffs, Iowa, and the Iowa / Nebraska state line at Council Bluffs, Iowa; approximately 2.9 miles.

CN Divisions and Subdivisions in Iowa

CN's Iowa network is comprised of part of one operating division: the North Division-Iowa Zone. CN's seven operating subdivisions in Iowa are shown in Figure A.2 below. Each subdivision is described in the tables below.

Figure A.2: CN Network and Subdivisions in Iowa



Source: CN and HDR

The Iowa subdivisions shown in Table A.6 below are components of the CN North Division-Iowa Zone.

Table A.6: Descriptions of CN Subdivisions in Iowa

SUBDIVISION: DUBUQUE SUBDIVISION	
Division	North Division — Iowa Zone
Owner	CN (CCP)
Operator	CN
Line Heritage	Illinois Central Railroad (IC)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Iowa / Illinois state line (Dubuque, Iowa)-Hilltop, Iowa; 90.0 miles
FRA Track Class	Class 4
Track Configurations	One main track with passing sidings
Maximum Authorized Speed Freight	50 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Height above top of rail unknown; subdivision can accommodate Trailer on Flat Car (TOFC) equipment

Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	12.30 GTM
Average Number of Trains per Day	4-6
Commodities Transported	Farm products, chemical and allied products, food and kindred products, ethanol, coal, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: WATERLOO SUBDIVISION	
Division	North Division — Iowa Zone
Owner	CN (CCP)
Operator	CN
Line Heritage	Illinois Central Railroad (IC)
Subdivision Route / Mileage	Hilltop, Iowa-Tara, Iowa; 109.2 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings and sections of two main tracks
Maximum Authorized Speed Freight	50 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	• Centralized Traffic Control (CTC) Hilltop, Iowa-Waterloo, Iowa • Automatic Block Signals (ABS) at Waterloo, Iowa • Centralized Traffic Control (CTC) Waterloo, Iowa-Tara, Iowa
Method of Operation	• Centralized Traffic Control (CTC) Hilltop, Iowa-Waterloo, Iowa • Yard Limits (YL) at Waterloo, Iowa • Centralized Traffic Control (CTC) Waterloo, Iowa-Tara, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Height above top of rail unknown; subdivision can accommodate Trailer on Flat Car (TOFC) equipment
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	8.11 GTM
Average Number of Trains per Day	3-4
Commodities Transported	Farm products, chemical and allied products, food and kindred products, ethanol, coal, and general merchandise freight traffic
Industrial Leads	North Waterloo Industrial Lead: West Waterloo, Iowa-Waterloo, Iowa; approximately 2.7 miles (former Waterloo, Cedar Falls and Northern Railway); 286,000 lbs. maximum allowable gross weight
FRA Excepted Track	None

SUBDIVISION: CHEROKEE SUBDIVISION	
Division	North Division — Iowa Zone
Owner	CN (CCP)
Operator	CN
Line Heritage	Illinois Central Railroad (IC)
Subdivision Route / Mileage	Tara, Iowa-Sioux City, Iowa; 127.6 miles
FRA Track Class	• Class 3 (Tara-Le Mars) • Class 4 (Le Mars-Sioux City)
Track Configuration	One main track with passing sidings

Maximum Authorized Speed Freight	• 40 mph freight (Tara-LeMars) • 49 mph freight (Le Mars-Sioux City)
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Automatic Block Signals (ABS) Le Mars, Iowa-Sioux City, Iowa
Method of Operation	• Yard Limits (YL) at Tara, Iowa • Track Authority (TA) Tara, Iowa-Le Mars, Iowa • Track Warrant Control (TWC) Le Mars, Iowa-Sioux City, Iowa • Rule 520 (Non-Main Track) at Sioux City, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Height above top of rail unknown; subdivision can accommodate Trailer on Flat Car (TOFC) equipment
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 4.83 GTM — CN (Tara — Le Mars) • 4.85 GTM — CN (Le Mars — Sioux City) • 12.90 GTM — UP (Le Mars — Sioux City)
Average Number of Trains per Day	2-4
Commodities Transported	Farm products, chemical and allied products, food and kindred products, ethanol, coal, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: OMAHA SUBDIVISION	
Division	North Division — Iowa Zone
Owner	CN (CCP)
Operator	CN
Line Heritage	Illinois Central Railroad (IC)
Subdivision Route / Mileage	Tara, Iowa-Council Bluffs, Iowa; 130.2 miles
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	• Centralized Traffic Control (CTC) at Tara, Iowa • Centralized Traffic Control (CTC) at Ida, Iowa
Method of Operation	• Track Authority (TA) Tara, Iowa-Council Bluffs, Iowa • Rule 520 (Non-Main Track) at Council Bluffs, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Height above top of rail unknown; subdivision can accommodate Trailer on Flat Car (TOFC) equipment
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	1.80 GTM
Average Number of Trains per Day	2-3
Commodities Transported	Farm products, chemical and allied products, food and kindred products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: CEDAR RAPIDS SUBDIVISION	
Division	North Division — Iowa Zone
Owner	CN (CCP)

Operator	CN
Line Heritage	Illinois Central Railroad (IC)
Subdivision Route / Mileage	Manchester, Iowa-Cedar Rapids, Iowa; 41.6 miles
FRA Track Class	Class 3 / Class 2 (varies by segment)
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight / 25 mph freight (varies by segment)
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Rule 520 (Non-Main Track) at Manchester, Iowa • Track Authority (TA) Manchester, Iowa-Cedar Rapids, Iowa • Rule 520 (Non-Main Track) at Cedar Rapids, Iowa
Maximum Allowable Gross Weight	286,000 lbs. (Manchester-Cedar Rapids)
Clearances	Height above top of rail unknown; subdivision can accommodate Trailer on Flat Car (TOFC) equipment
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	2.02 GTM
Average Number of Trains per Day	1-2
Commodities Transported	Farm products, chemical and allied products, food and kindred products, ethanol, and general merchandise freight traffic
Industrial Leads	Louisa Spur: Cedar Rapids, Iowa-Louisa, Iowa; approximately 2.0 miles (former Chicago, Milwaukee, St. Paul & Pacific Railroad); 268,000 lbs. maximum allowable gross weight
FRA Excepted Track	None

SUBDIVISION: OSAGE SUBDIVISION	
Division	North Division — Iowa Zone
Owner	CN (CEDR)
Operator	CN
Line Heritage	Illinois Central Railroad (IC)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Mona Junction, Iowa-Iowa / Minnesota state line at Lyle, Minnesota; 75.6 miles
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Authority (TA)
Maximum Allowable Gross Weight	268,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	0.98 GTM
Average Number of Trains per Day	0-1
Commodities Transported	Farm products, chemical and allied products, food and kindred products, ethanol, and general merchandise freight traffic

Industrial Leads	• Waverly Spur: Readlyn Junction, Iowa-Waverly, Iowa; approximately 1.3 miles (former Chicago Great Western Railway); 268,000 lbs. maximum allowable gross weight • Stacyville Spur: Stacyville Junction, Iowa-Stacyville, Iowa; 7.8 miles (former Illinois Central Railroad); 263,000 lbs. maximum allowable gross weight
FRA Excepted Track	None

SUBDIVISION: IDA GROVE SUBDIVISION	
Division	North Division — Iowa Zone
Owner	CN (CCP)
Operator	CN
Line Heritage	Chicago & North Western Railway (C&NW)
Subdivision Route / Mileage	Ida, Iowa-Ida Grove, Iowa; 24.5 miles
FRA Track Class	Class 2
Track Coinfiguration	One main track with passing sidings
Maximum Authorized Speed Freight	25 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC) at Ida, Iowa
Method of Operation	Track Authority (TA)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	1.59 GTM
Average Number of Trains per Day	0-1
Commodities Transported	Farm products, ethanol, chemical and allied products, and food and kindred products
Industrial Leads	None
FRA Excepted Track	None

A.2.3 Canadian Pacific Railway (CP)

Canadian Pacific Railway (CP) has one operating subsidiary in Iowa — the Dakota, Minnesota & Eastern Railroad (DM&E). The DM&E connects Iowa with the rest of the CP network at Chicago, Illinois, and La Crescent, Minnesota (near La Crosse, Wisconsin).

A summary of statistical information for CP within Iowa is as follows:

- Line owned: 654 miles
- Line operated under lease: 0 miles
- Line operated under contract: 0 miles
- Line operated under trackage rights: 12 miles
- Line operated under haulage rights: 0 miles
- Total mileage operated: 666 miles
- Line owned, not operated, by respondent: 0 miles

CP Interchanges

Interchanges are locations where railroads intersect and exchange railcars. CP has the ability to interchange freight rail traffic with three Class I carriers (BNSF, CN, UP), one Class II carrier (IAIS), and three Class III carriers (APNC, IANR, IATR) in Iowa. Designated interchange point locations and connecting carriers in Iowa are listed below:

- Charles City — Canadian National Railway (CN)
- Clinton — BNSF Railway (BNSF), Union Pacific Railroad (UP)
- Davenport — BNSF, Iowa Interstate Railroad (IAIS)
- Dubuque — CN
- Emmetsburg — UP
- Mason City — Iowa Traction Railway (IATR), UP
- Moravia — Appanoose County Community Railroad (APNC)
- Nora Springs — Iowa Northern Railway (IANR)
- Ottumwa — BNSF
- Plymouth — IANR
- Sheldon — UP

CP Trackage Rights and Joint Trackage

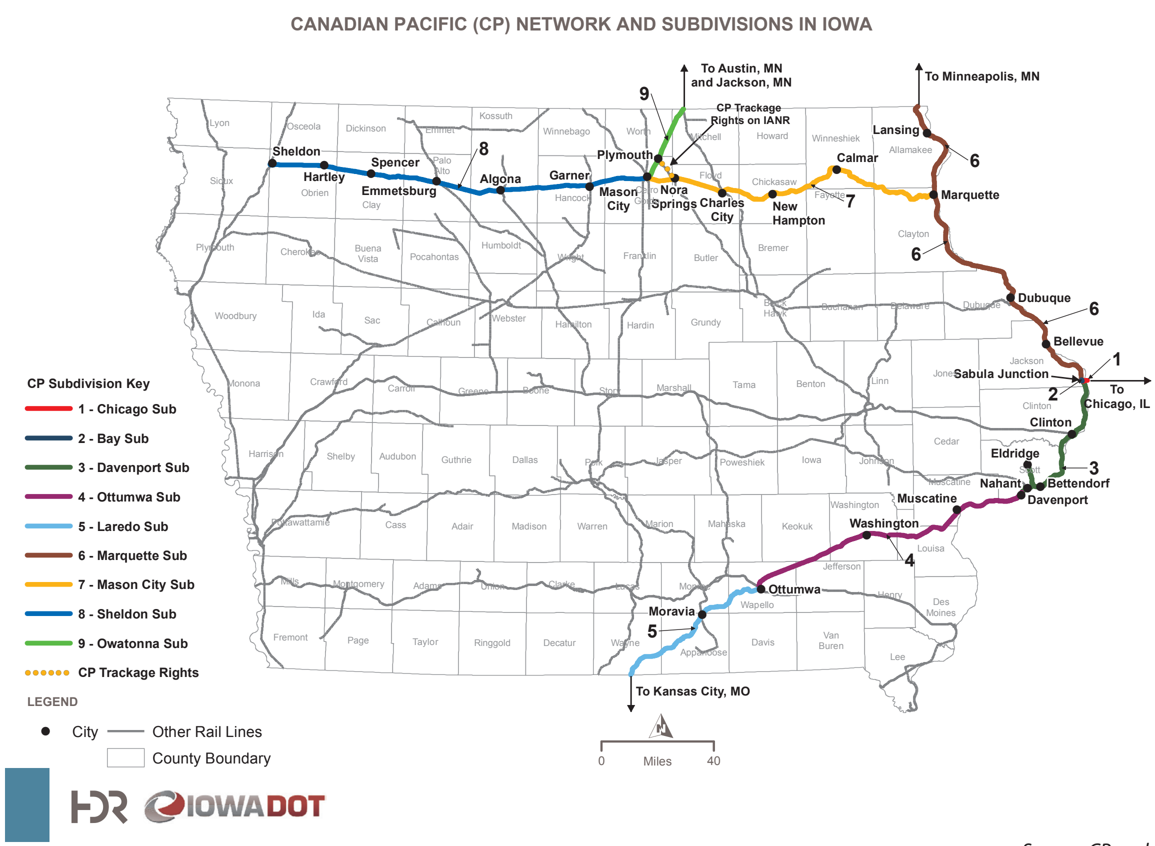
CP has trackage rights over the following line segments and connecting railroads:

- Canadian National Railway (CN) Dubuque Subdivision between Wood, Iowa, and Dubuque Junction, Iowa (at Dubuque, Iowa); approximately 1.9 miles.
- Iowa Northern Railway (IANR) Manly Subdivision between Nora Springs, Iowa, and Plymouth, Iowa; approximately 8.7 miles.
- BNSF Railway Barstow Subdivision (Rock Island Spur) between East Wye Switch (Davenport), Iowa, and the Iowa / Illinois state line at Rock Island, Illinois; approximately 0.7 miles.

CP Divisions and Subdivisions in Iowa

CP's Iowa network is comprised of part of one operating division: the U.S. Southern Region. CP's nine operating subdivisions in Iowa are shown in Figure A.3 below. Each subdivision is described in the tables below.

Figure A.3: CP Network and Subdivisions in Iowa



Source: CP and HDR

The Iowa subdivisions shown in Table A.7 below are components of the CP U.S. Southern Region:

Table A.7: Descriptions of CP Subdivisions in Iowa

SUBDIVISION: CHICAGO SUBDIVISION	
Division	U.S. Southern Region
Owner	CP (DME)
Operator	CP
Line Heritage	Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Iowa / Illinois state line at Sabula, Iowa-Sabula Junction, Iowa; approximately 1.0 mile
FRA Track Class	Class 3
Track Configuration	One main track
Maximum Authorized Speed Freight	25 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC) Illinois / Iowa state line at Sabula, Iowa-Sabula Junction, Iowa
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Accommodates multi-level intermodal and automotive rail equipment that does not exceed 19' 1" Above Top of Rail
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	10.88 GTM
Average Number of Trains per Day	6-8
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, intermodal, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: BAY SUBDIVISION	
Division	U.S. Southern Region
Owner	CP (DME)
Operator	CP
Line Heritage	Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P)
Subdivision Route / Mileage	Island, Iowa-Lake, Iowa (at Sabula Junction, Iowa); 0.3 mile
FRA Track Class	Unknown
Track Configuration	One main track
Maximum Authorized Speed Freight	10 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Accommodates multi-level intermodal and automotive rail equipment that does not exceed 19' 1" Above Top of Rail
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	Unknown
Average Number of Trains per Day	Unknown

Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: DAVENPORT SUBDIVISION	
Division	U.S. Southern Region
Owner	CP (DME)
Operator	CP
Line Heritage	• Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P) Sabula Junction, Iowa-Clinton, Iowa • Davenport, Rock Island & Northwestern Railway (DRI&NW) Clinton, Iowa-West Davenport, Iowa • Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P) West Davenport, Iowa-Nahant, Iowa
Subdivision Route / Mileage	Sabula Junction, Iowa-Nahant, Iowa; 54.2 miles
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	• Centralized Traffic Control (CTC) Sabula Junction, Iowa-Deer Creek, Iowa • Automatic Block Signals (ABS) North Wye Switch (Davenport), Iowa-Nahant, Iowa
Method of Operation	• Centralized Traffic Control (CTC) Sabula Junction, Iowa-Deer Creek, Iowa • Track Warrant Control (TWC) Deer Creek, Iowa-North Wye Switch (Davenport), Iowa • Yard Limits (YL) North Wye Switch (Davenport), Iowa-Nahant, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Accommodates multi-level intermodal and automotive rail equipment that does not exceed 19' 1" Above Top of Rail
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 22.14 GTM (Sabula Junction-Clinton) • 15.50 GTM (Clinton-Nahant)
Average Number of Trains per Day	6-8
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, intermodal, coal, and general merchandise freight traffic
Industrial Leads	• Eldridge Spur: Waterworks (Davenport), Iowa-Eldridge, Iowa; 9.7 miles (former Chicago, Milwaukee, St. Paul and Pacific Railroad); 263,000-lbs. maximum allowable gross weight; line density 0.07 GTM • Nahant Industry Track: West Davenport, Iowa-Nahant, Iowa; maximum allowable gross weight unknown
FRA Excepted Track	Eldridge Spur: At Eldridge, Iowa; approximately 2.7 miles

SUBDIVISION: OTTUMWA SUBDIVISION	
Division	U.S. Southern Region
Owner	CP (DME)
Operator	CP

Line Heritage	• Joint Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P) and Chicago, Rock Island & Pacific Railroad (CRI&P) Nahant, Iowa-Culver, Iowa • Chicago, Rock Island & Pacific Railroad (CRI&P) Culver, Iowa-Washington, Iowa • Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P) Washington, Iowa-Ottumwa, Iowa
Subdivision Route / Mileage	Nahant, Iowa-Ottumwa, Iowa; 107.1 miles
FRA Track Class	Class 3/4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	• 49 mph freight (Nahant-Muscatine) • 40 mph freight (Muscatine-Ottumwa)
Maximum Authorized Speed Passenger	N/A
Wayside Signals	• Centralized Traffic Control (CTC) Montpelier, Iowa-Heinz, Iowa; Fruitland, Iowa-Cotter, Iowa; Rutledge, Iowa-Ottumwa, Iowa • Automatic Block System (ABS) Nahant, Iowa-Montpelier, Iowa; Heinz, Iowa-Fruitland, Iowa
Method of Operation	• Yard Limits (YL) at Nahant, Iowa • Centralized Traffic Control (CTC) Montpelier, Iowa-Heinz, Iowa; Fruitland, Iowa-Cotter, Iowa; Rutledge, Iowa-Ottumwa, Iowa • Track Warrant Control (TWC) Nahant, Iowa-Montpelier, Iowa; Heinz, Iowa-Fruitland, Iowa; Cotter, Iowa-Rutledge, Iowa • Yard Limits (YL) at Ottumwa, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Accommodates multi-level intermodal and automotive rail equipment that does not exceed 19' 1" Above Top of Rail
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	12.10-14.30 GTM (varies by segment)
Average Number of Trains per Day	6-8
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, intermodal, coal, and general merchandise freight traffic
Industrial Leads	IPSCO Spur: Montpelier, Iowa; length of spur unknown; maximum allowable gross weight unknown
FRA Excepted Track	None

SUBDIVISION: LAREDO SUBDIVISION	
Division	U.S. Southern Region
Owner	CP (DME)
Operator	CP
Line Heritage	Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Ottumwa, Iowa-Iowa / Missouri state line near Sewal, Iowa; 61.2 miles
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Yard Limits (YL) at Ottumwa, Iowa • Track Warrant Control (TWC) Ottumwa, Iowa-Iowa / Minnesota state line near Sewal, Iowa

Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Accommodates multi-level intermodal and automotive rail equipment that does not exceed 19' 1" Above Top of Rail
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	9.80 GTM
Average Number of Trains per Day	6-8
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, intermodal, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: MARQUETTE SUBDIVISION	
Division	U.S. Southern Region
Owner	CP (DME)
Operator	CP
Line Heritage	Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Sabula Junction, Iowa-Iowa / Minnesota state line at New Albin, Iowa; 136.5 miles
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC) Sabula Junction, Iowa-Lake, Iowa
Method of Operation	• Centralized Traffic Control (CTC) Sabula Junction, Iowa-Lake, Iowa • Track Warrant Control (TWC) Lake, Iowa-Wood (Dubuque), Iowa; Dubuque Junction, Iowa-Iowa / Minnesota state line at New Albin, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Accommodates multi-level intermodal and automotive rail equipment that does not exceed 19' 1" Above Top of Rail
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 19.10 GTM (Sabula Junction-Marquette) • 9.10 GTM (Marquette-Iowa / Minnesota state line at New Albin, Iowa)
Average Number of Trains per Day	6-8
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, intermodal, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: MASON CITY SUBDIVISION	
Division	U.S. Southern Region
Owner	CP (DME)
Operator	CP
Line Heritage	Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P)
Subdivision Route / Mileage	Marquette, Iowa-Mason City, Iowa; 116.7 miles
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight

Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Yard Limits (YL) at Marquette, Iowa • Track Warrant Control (TWC) Marquette, Iowa-Mason City, Iowa • Yard Limits (YL) at Mason City, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Accommodates trailer (TOFC) equipment not exceeding 17' 6" Above Top of Rail
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	11.34 GTM
Average Number of Trains per Day	2-4
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: SHELDON SUBDIVISION	
Division	U.S. Southern Region
Owner	CP (DME)
Operator	CP
Line Heritage	Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P)
Subdivision Route / Mileage	Mason City, Iowa-Sheldon, Iowa; 136.7 miles
FRA Track Class	Class 2
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	25 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Yard Limits (YL) at Mason City, Iowa • Track Warrant Control (TWC) Mason City, Iowa-Sheldon, Iowa • Yard Limits (YL) at Sheldon, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Accommodates trailer (TOFC) equipment not exceeding 17' 6" Above Top of Rail
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 1.91 GTM — CP (Mason City-Sheldon) • 0.27 GTM — UP (Emmetsburg-Hartley)
Average Number of Trains per Day	1-2
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: OWATONNA SUBDIVISION	
Division	U.S. Southern Region
Owner	CP (DME)
Operator	CP
Line Heritage	Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P)

Subdivision Route / Mileage	Portion of Subdivision in Iowa: Mason City, Iowa-Iowa / Minnesota state line at Lyle, Minnesota; 28.2 miles
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Yard Limits (YL) at Mason City, Iowa • Track Warrant Control (TWC) Mason City, Iowa-Iowa / Minnesota state line at Lyle, Minnesota
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Accommodates trailer (TOFC) equipment not exceeding 17' 6" Above Top of Rail
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	7.82 GTM
Average Number of Trains per Day	1-2
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

A.2.4 Kansas City Southern Railway (KCS)

Kansas City Southern Railway (KCS) does not own any track or possess any trackage rights in Iowa. KCS accesses the state via haulage rights between its principal terminal at Kansas City, Missouri, and Council Bluffs, Iowa, acquired over Union Pacific Railroad (UP) in 1988 and over BNSF Railway (BNSF) by 2003. KCS haulage rights in Iowa totals approximately 55 miles.

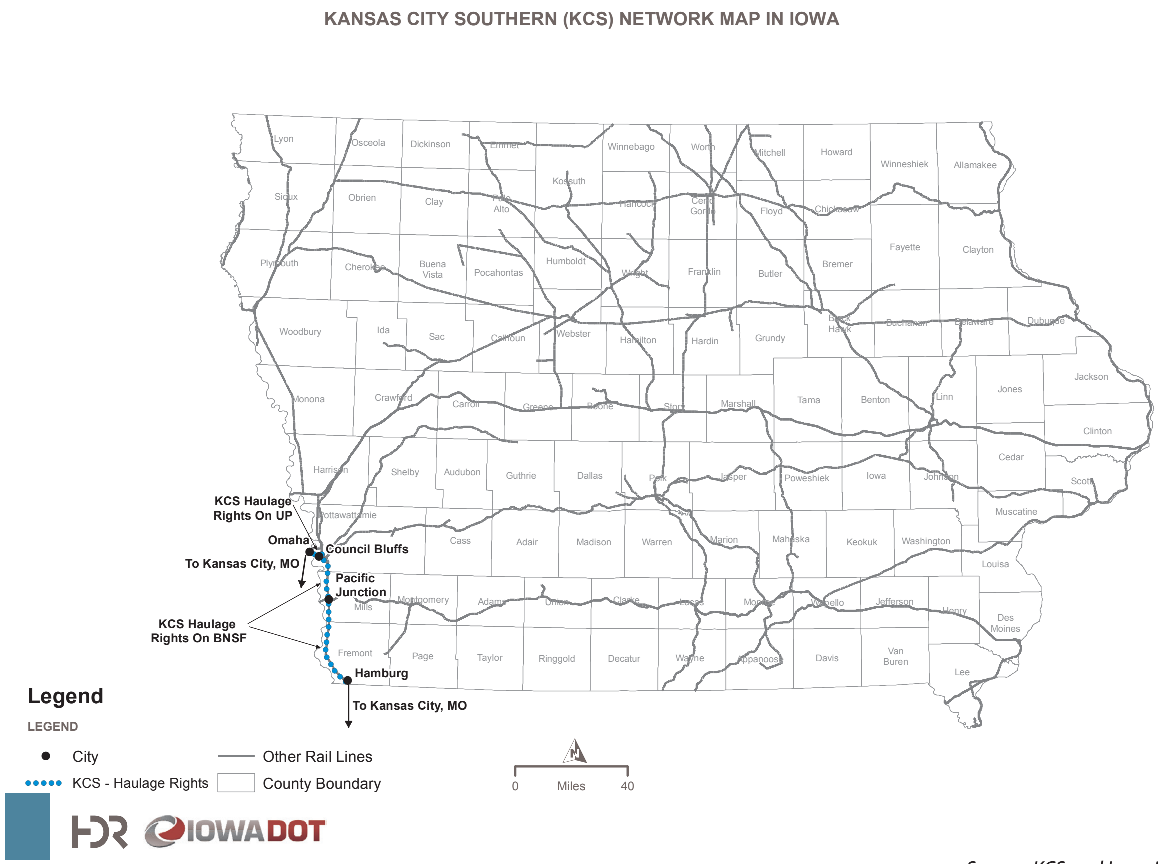
KCS has haulage rights over the following railroad segments in Iowa:

- Union Pacific Railroad (UP) Omaha Subdivision between the Iowa/Nebraska state line at Council Bluffs, Iowa, and Council Bluffs, Iowa; approximately 4.0 miles.
- BNSF Railway (BNSF) Council Bluffs Subdivision between BN Junction (Council Bluffs), Iowa, and Pacific Junction, Iowa; approximately 18.4 miles.
- BNSF Railway (BNSF) Napier Subdivision between Pacific Junction, Iowa, and the Iowa/Missouri state line near Hamburg, Iowa; approximately 33.0 miles.

KCS haulage traffic consists principally of grains and other agricultural products that originate in Council Bluffs and other locations in western Iowa. Interchanges are locations where railroads intersect and exchange railcars. KCS' sole interchange in Iowa is at Council Bluffs — with BNSF, Iowa Interstate Railroad (IAIS), and UP.

KCS does not have any operating divisions or subdivisions in Iowa. Figure A.4 below shows the routes in Iowa over which KCS has haulage rights.

Figure A.4: KCS Network in Iowa



Source: KCS and Iowa DOT

A.2.5 Norfolk Southern Railway (NS)

A summary of statistical information for Norfolk Southern Railway (NS) within Iowa is as follows:

- Line owned: 44 miles
- Line operated under lease: 0 miles
- Line operated under contract: 4 miles
- Line operated under trackage rights: 0 miles
- Line operated under haulage rights: 386 miles
- Total mileage operated: 395 miles (includes 9 miles operated by NS and 386 miles of NS haulage rights)
- Line owned, not operated, by respondent: 39 miles

NS Interchanges

Interchanges are locations where railroads intersect and exchange railcars. NS has the ability to interchange freight rail traffic with two Class I carriers (BNSF, UP), one Class II carrier (IAIS), and one Class III carrier (APNC) in Iowa. Designated interchange point locations and connecting carriers in Iowa are listed below:

- Albia — BNSF Railway (BNSF), Appanoose County Community Railroad (APNC)
- Des Moines — BNSF, Iowa Interstate Railroad (IAIS), Union Pacific Railroad (UP)

NS Trackage Rights, Haulage Rights, and Joint Trackage

NS operates on approximately 9 miles of trackage at its terminal in Des Moines, Iowa — including 5 miles NS owns and a 4-mile BNSF segment that NS operates under contract. NS maintains approximately 386 miles of haulage rights over two connecting railroads (BNSF and IAIS) from Des Moines, Iowa, to access the rest of the NS network at St Louis, Missouri, and Peoria, Illinois. NS owns an additional 39 route miles in Iowa, and leases these segments to other railroads, as identified in Table A.8 below. NS does not presently have any active trackage rights operations in Iowa.

NS haulage rights in Iowa are maintained over the following line segments and connecting railroads:

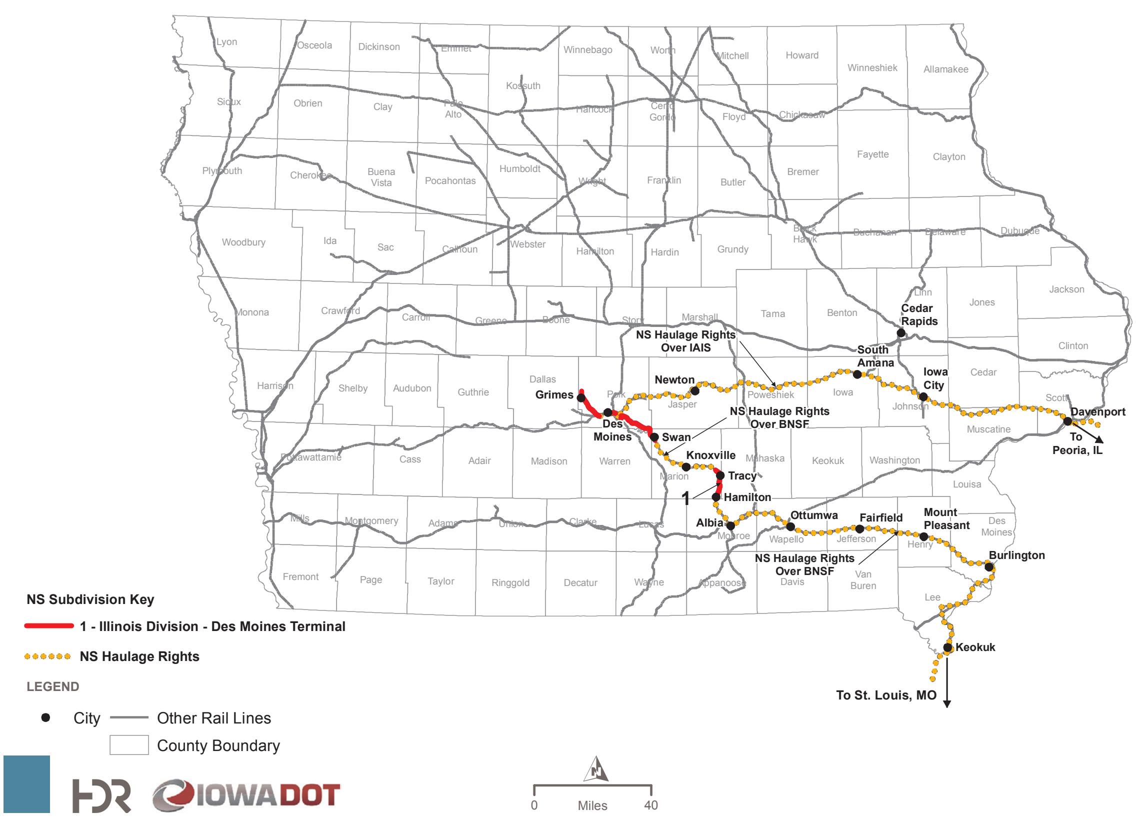
- BNSF Railway (BNSF) Des Moines Subdivision between Des Moines, Iowa, and Albia, Iowa; approximately 67.8 miles.
- BNSF Railway (BNSF) Ottumwa Subdivision between Albia, Iowa, and Burlington, Iowa; approximately 98.6 miles.
- BNSF Railway (BNSF) Hannibal Subdivision between Ottumwa, Iowa, and the Iowa/Missouri state line near Keokuk, Iowa; approximately 44.4 miles.
- Iowa Interstate Railroad (IAIS) Newton Subdivision between Des Moines, Iowa, and South Amana, Iowa; approximately 97 miles (this segment includes NS haulage rights over a 3-mile-long segment in Des Moines, Iowa, on which IAIS has trackage rights over the UP Perry Subdivision).
- Iowa Interstate Railroad (IAIS) Iowa City Subdivision between South Amana, Iowa, and the Iowa/Illinois state line at Davenport, Iowa; approximately 78 miles.

NS Divisions and Subdivisions in Iowa

NS' Iowa network is comprised of one operating division: the Illinois Division — Des Moines Terminal. NS' Iowa network, including its haulage rights, is shown in Figure A.5 below.

Figure A.5: NS Network and Subdivisions in Iowa

NORFOLK SOUTHERN (NS) NETWORK AND SUBDIVISIONS IN IOWA



Source: NS and HDR

The Iowa subdivision shown in Table A.8 below is a component of the NS Illinois Division.

Table A.8: Description of NS Subdivision in Iowa

SUBDIVISION: DES MOINES TERMINAL	
Division	Illinois
Owner	NS
Operator	See Subdivision Route / Mileage below for operator by line segment
Line Heritage	• Wabash Railroad (WAB) Tracy, Iowa-Hamilton, Iowa • Wabash Railroad (WAB) Swan, Iowa-Des Moines (NW Junction), Iowa • Wabash Railroad (WAB) / Des Moines Union Railway (DMU) at Des Moines, Iowa • Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P) Des Moines, Iowa-Grimes, Iowa
Subdivision Route / Mileage	Total miles of NS-owned trackage in Iowa: Approximately 44.0 miles, as follows: • Tracy, Iowa-Hamilton, Iowa; operated by BNSF as part of the BNSF Des Moines Subdivision (approximately 11.0 miles) • Swan, Iowa-Des Moines, Iowa; operated by BNSF as part of the BNSF Des Moines Subdivision (approximately 16.0 miles) • Des Moines, Iowa; operated by NS as the NS Des Moines Terminal (approximately 5.0 miles) • Des Moines, Iowa-Grimes, Iowa; operated by IAIS as the IAIS Grimes Industrial Spur and related trackage (approximately 12.0 miles)
FRA Track Class	• Class 2 (Tracy-Hamilton) • Class 2 (Swan-Des Moines) • Class 1 (Des Moines-Grimes)
Track Configuration	One main track
Maximum Authorized Speed Freight	• 25 mph freight (Tracy-Hamilton) • 25 mph freight (Swan-Des Moines) • 10 mph freight (Des Moines) • 10 mph freight (Des Moines-Grimes)
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Track Warrant Control (TWC) Tracy, Iowa-Hamilton, Iowa; dispatched by BNSF • Track Warrant Control (TWC) Swan, Iowa-Des Moines, Iowa; dispatched by BNSF • Restricted Speed (RS) at Des Moines, Iowa • Yard Limits (YL) at Des Moines, Iowa • GCOR Rule 6.28 Des Moines, Iowa-Grimes, Iowa; dispatched by IAIS
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	• Unknown for NS-operated trackage in Des Moines. • Clearances on routes in Iowa over which NS has haulage rights are established by host railroads, BNSF and IAIS.
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	Less than 2.00 GTM
Average Number of Trains per Day	0-1
Commodities Transported	Farm products, food and kindred products, scrap materials, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	Des Moines Terminal trackage in Des Moines, Iowa

A.2.6 Union Pacific Railroad (UP)

A summary of statistical information for Union Pacific Railroad (UP) within Iowa is as follows:

- Line owned: 1,291 miles
- Line operated under lease: 0 miles
- Line operated under contract: 0 miles
- Line operated under trackage rights: 95 miles
- Line operated under haulage rights: 126 miles
- Total mileage operated: 1,512 miles
- Line owned, not operated, by respondent: 6 miles

UP Interchanges

Interchanges are locations where railroads intersect and exchange railcars. UP has the ability to interchange freight rail traffic with five Class I carriers (BNSF, CN, CP, KCS, NS), one Class II carrier (IAIS), and six Class III carriers (BSV, CIC, DAIR, IANR, IATR, KJRY) in Iowa. Designated interchange point locations and connecting carriers in Iowa are listed below:

- Boone — Boone & Scenic Valley Railroad (BSV)
- Cedar Rapids — Canadian National Railway (CN), Cedar Rapids & Iowa City Railway (CIC), Iowa Northern Railway (IANR)
- Clinton — Canadian Pacific Railway (CP)
- Council Bluffs — BNSF Railway (BNSF), CN, Iowa Interstate Railroad (IAIS), Kansas City Southern Railway (KCS)
- Des Moines — BNSF, IAIS, Norfolk Southern Railway (NS)
- Emmetsburg — CP
- Fort Madison — Keokuk Junction Railway (KJRY)
- Iowa Falls — CN
- Manly — IANR
- Mason City — CP, Iowa Traction Railroad (IATR)
- Sheldon — CP
- Sioux City — BNSF, CN, D&I Railroad (DAIR)
- Waterloo — CN, IANR

UP Trackage Rights and Joint Trackage

UP has trackage rights over the following line segments and connecting railroads:

- BNSF Railway (BNSF) Chillicothe Subdivision between the Iowa / Illinois state line and Fort Madison, Iowa; approximately 2.5 miles.
- BNSF Railway (BNSF) Marceline Subdivision between Fort Madison, Iowa, and the Iowa / Missouri state line; approximately 17.7 miles.
- BNSF Railway (BNSF) Sioux City Subdivision between Floyd, Iowa, and the Iowa / Nebraska state line near Sioux City, Iowa; approximately 1.4 miles.
- Canadian National Railway (CN) Cherokee Subdivision between Le Mars, Iowa, and Sioux City, Iowa; approximately 22.5 miles.
- Canadian Pacific Railway (CP) Sheldon Subdivision between Emmetsburg, Iowa, and Hartley, Iowa; approximately 41.6 miles.
- Iowa Interstate Railroad (IAIS) Council Bluffs Subdivision between Short Line Junction (Des Moines), Iowa, and West Des Moines, Iowa, various segments totaling approximately 9.1 miles. Note that UP owns 6.4 miles of this trackage, leases it to IAIS, and operates over it on trackage rights.

UP has haulage rights over the following line segments and connecting railroads:

- Iowa Northern Railway (IANR) Cedar Rapids Subdivision between Cedar Rapids, Iowa, and Waterloo, Iowa; approximately 50 miles.

- Iowa Northern Railway (IANR) Manly Subdivision between Cedar Falls Junction, Iowa, and Manly, Iowa; approximately 76 miles (this segment includes UP haulage rights over a 9-mile segment between Waterloo and Cedar Falls Junction, Iowa, on which IANR has trackage rights over the CN North Waterloo Industrial Lead and CN Waterloo Subdivision).

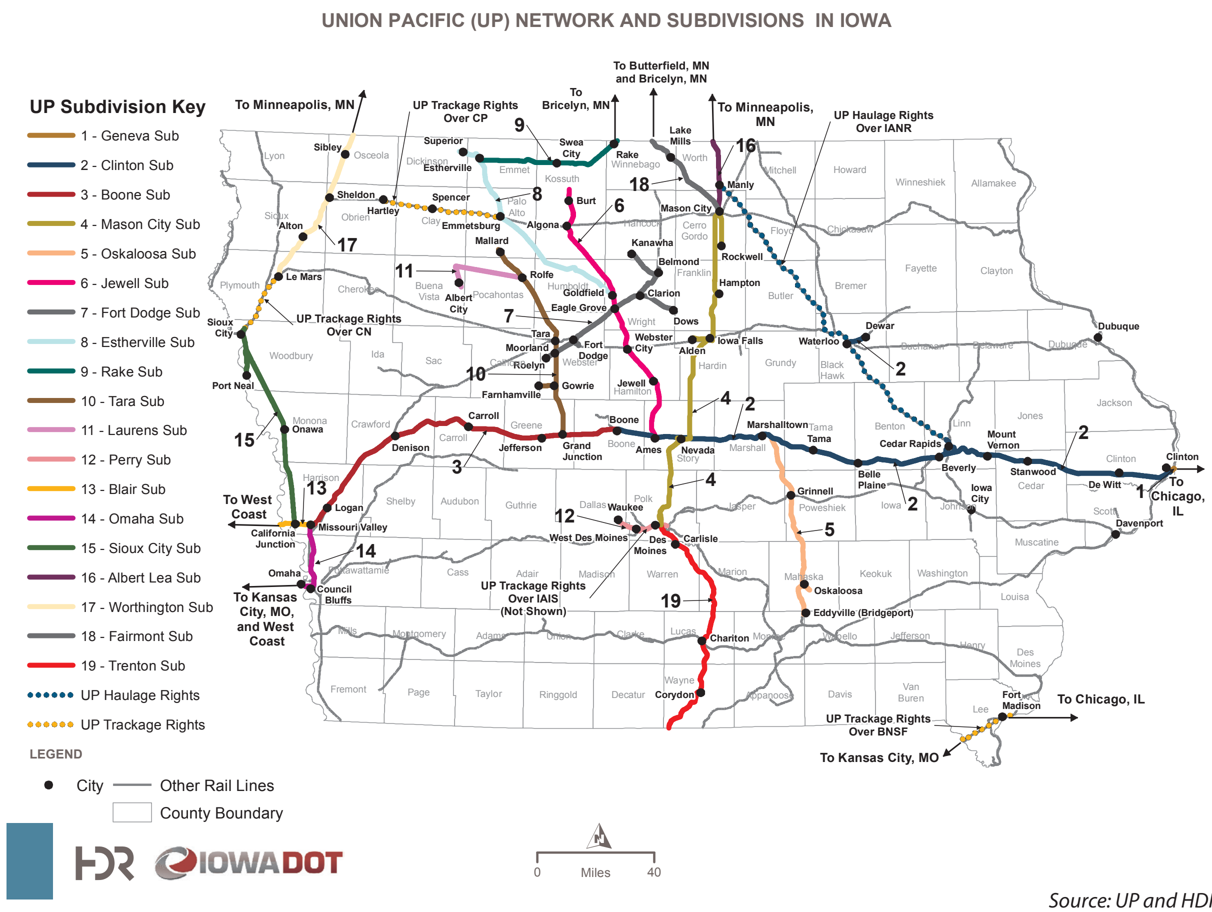
UP Divisions and Subdivisions in Iowa

UP's Iowa network is comprised of all or part of five operating divisions:

- Chicago Area
- Iowa Area
- Council Bluffs Area
- Twin Cities Area
- Kansas City Area

UP's 19 operating subdivisions in Iowa are shown in Figure A.6 below. UP's Iowa subdivisions are presented by division and described in the tables below.

Figure A.6: UP Network and Subdivisions in Iowa



Source: UP and HDR

The Iowa subdivision shown in Table A.9 below is a component of the UP Chicago Area.

Table A.9: Descriptions of UP Subdivisions in Iowa — Chicago Area

SUBDIVISION: GENEVA SUBDIVISION	
Division	Chicago Area
Owner	UP
Operator	UP
Line Heritage	Chicago & North Western Railway (C&NW)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Iowa / Illinois state line at Clinton, Iowa-Clinton, Iowa; 2.1 miles
FRA Track Class	Class 5
Track Configuration	Two main tracks
Maximum Authorized Speed Freight	70 mph freight
Maximum Authorized Speed Passenger	70 mph passenger
Wayside Signals	Centralized Traffic Control (CTC) and Automatic Train Control (ATC) Illinois / Iowa state line at Clinton, Iowa-Clinton, Iowa
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Approximately 20' 2" Above Top of Rail
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	116.7 GTM
Average Number of Trains per Day	65-75
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

The Iowa subdivisions shown in Table A.10 below are a component of the UP Iowa Area.

Table A.10: Descriptions of UP Subdivisions in Iowa — Iowa Area

SUBDIVISION: CLINTON SUBDIVISION	
Division	Iowa Area
Owner	UP
Operator	UP
Line Heritage	Chicago & North Western Railway (C&NW)
Subdivision Route / Mileage	Clinton, Iowa-Boone, Iowa; 196.6 miles
FRA Track Class	Class 5
Track Configuration	Two main tracks
Maximum Authorized Speed Freight	70 mph freight
Maximum Authorized Speed Passenger	70 mph passenger
Wayside Signals	Centralized Traffic Control (CTC) and Automatic Train Control (ATC) Clinton, Iowa-Boone, Iowa
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs. (Clinton-Boone)
Clearances	Approximately 20' 2" Above Top of Rail (nine bridges on the subdivision will not clear 21' 6" Above Top of Rail)

Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 124.5 GTM (Clinton-Cedar Rapids) • 123.1 GTM (Cedar Rapids-Marshalltown) • 176.6 GTM (Marshalltown-Nevada) • 162.1 GTM (Nevada-Boone)
Average Number of Trains per Day	65-75
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	• Cedar Rapids Industrial Lead: Beverly, Iowa-Otis, Iowa; 8.6 miles (former Chicago & North Western Railway); maximum allowable gross weight unknown; line density under 1.00 GTM • Waterloo Industrial Lead: Waterloo, Iowa-Dewar, Iowa; approximately 6.9 miles (former Chicago Great Western Railway); 268,000 lbs. maximum allowable gross weight (Dewar-Waterloo [UP Linden Yard]) and 286,000 lbs. maximum allowable gross weight (Waterloo [UP Linden Yard]-Waterloo [IANR Cedar Rapids Subdivision connection]); line density 0.06 GTM (UP) • Powerville Industrial Lead: Marshalltown, Iowa; 3.2 miles; maximum gross weight unknown
FRA Excepted Track	None

SUBDIVISION: BOONE SUBDIVISION	
Division	Iowa Area
Owner	UP
Operator	UP
Line Heritage	Chicago & North Western Railway (C&NW)
Subdivision Route / Mileage	Boone, Iowa-East Missouri Valley, Iowa; 121.0 miles
FRA Track Class	Class 5
Track Configuration	Two main tracks
Maximum Authorized Speed Freight	70 mph freight
Maximum Authorized Speed Passenger	70 mph passenger
Wayside Signals	Centralized Traffic Control (CTC) and Automatic Train Control (ATC) Boone, Iowa-East Missouri Valley, Iowa
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Approximately 20' 2" Above Top of Rail (four bridges on the subdivision in Iowa will not clear 21' 6" Above Top of Rail)
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	137.0 GTM
Average Number of Trains per Day	65-75
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: MASON CITY SUBDIVISION	
Division	Iowa Area
Owner	UP

Operator	UP
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)
Subdivision Route / Mileage	Des Moines, Iowa-Mason City, Iowa; 119.5 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	60 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	• Centralized Traffic Control (CTC) Des Moines, Iowa-Nevada, Iowa • Automatic Block Signals (ABS) Nevada, Iowa-Mason City, Iowa
Method of Operation	• Centralized Traffic Control (CTC) Des Moines, Iowa-Nevada, Iowa • Track Warrant Control (TWC) Nevada, Iowa-Flint, Iowa • Yard Limits (YL) Flint, Iowa-Mason City, Iowa
Maximum Allowable Gross Weight	286,000 lbs. (Des Moines-Mason City)
Clearances	Approximately 20' 2" Above Top of Rail (one bridge on the subdivision in Iowa will not clear 21' 6" Above Top of Rail)
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	137.0 GTM
Average Number of Trains per Day	10-16
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	• Hull Avenue Industrial Lead: Des Moines, Iowa; approximately 7.1 miles (former Fort, Dodge, Des Moines & Southern Railway); 286,000 lbs. maximum allowable gross weight • Highland Park Industrial Lead: Highland Junction, Iowa; approximately 1.8 miles (former Des Moines & Central Iowa Railroad); 268,000 lbs. maximum allowable gross weight • Alden Industrial Lead: Iowa Falls, Iowa-Alden, Iowa; 5.3 miles (former Chicago & North Western Railway); 250,000 lbs. maximum allowable gross weight; line density 0.08 GTM • Flint Industrial Lead: Flint (Mason City), Iowa; approximately 1.7 miles (former Chicago Great Western Railway); 268,000 lbs. maximum allowable gross weight • Rockwell Industrial Lead: Mason City, Iowa-Rockwell, Iowa; 11.4 miles (former Minneapolis & St. Louis Railway); 268,000 lbs. maximum allowable gross weight; line density 0.06 GTM
FRA Excepted Track	• Des Moines, Iowa: Georgia Pacific Lumber Business Track • Des Moines, Iowa: Highland Yard Lead (Track 110) and Track 108 • Alden Industrial Lead: Iowa Falls, Iowa-Alden, Iowa; 5.3 miles • Hampton, Iowa: Business Track 747 • Rockwell Industrial Lead: Between South Swifts (Mason City), Iowa, and Rockwell, Iowa; 8.6 miles

SUBDIVISION: OSKALOOSA SUBDIVISION	
Division	Iowa Area
Owner	UP
Operator	UP
Line Heritage	Minneapolis & St. Louis Railway (M&StL)
Subdivision Route / Mileage	Marshalltown, Iowa-Bridgeport, Iowa; 68.7 miles
FRA Track Class	Class 2
Track Configuration	One main track with passing sidings

Maximum Authorized Speed Freight	25 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Yard Limits (YL) at Marshalltown, Iowa • Track Warrant Control (TWC) Marshalltown, Iowa-Oskaloosa, Iowa • Yard Limits (YL) at Oskaloosa, Iowa • Track Warrant Control (TWC) Oskaloosa, Iowa-Bridgeport, Iowa • Yard Limits (YL) at Bridgeport, Iowa
Maximum Allowable Gross Weight	286,000 lbs. (Marshalltown-Bridgeport)
Clearances	Height Above Top of Rail unknown (six bridges on the subdivision in Iowa will not clear 21' 6" Above Top of Rail)
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	0.98 GTM
Average Number of Trains per Day	0-2
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: JEWELL SUBDIVISION	
Division	Iowa Area
Owner	UP
Operator	UP
Line Heritage	Chicago & North Western Railway (C&NW)
Subdivision Route / Mileage	West Ames, Iowa-North Burt, Iowa; 97.2 miles
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	• 40 mph freight (West Ames-Eagle Grove) • 30 mph freight (Eagle Grove-North Burt)
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Track Warrant Control (TWC) West Ames, Iowa-Eagle Grove, Iowa • Yard Limits (YL) at Eagle Grove, Iowa • Track Warrant Control (TWC) Eagle Grove, Iowa-North Burt, Iowa
Maximum Allowable Gross Weight	286,000 lbs. (West Ames-North Burt)
Clearances	Approximate height Above Top of Rail is 20' 9"
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 4.60 GTM (West Ames-Eagle Grove) • 1.87 GTM (Eagle Grove-Goldfield) • 0.24 GTM (Goldfield-North Burt)
Average Number of Trains per Day	2-4
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: FORT DODGE SUBDIVISION	
Division	Iowa Area

Owner	UP
Operator	UP
Line Heritage	• Chicago Great Western Railway (CGW) Moorland, Iowa-Belmond, Iowa • Chicago, Rock Island & Pacific Railroad (CRI&P) at Belmond, Iowa
Subdivision Route / Mileage	Moorland, Iowa-Belmond, Iowa; 48.1 miles
FRA Track Class	• Class 4 (Moorland-Eagle Grove) • Class 3 (Eagle Grove-Belmond)
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	• 49 mph freight (Moorland-Eagle Grove) • 40 mph freight (Eagle Grove-Belmond)
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Track Warrant Control (TWC) Moorland, Iowa-Eagle Grove, Iowa • Yard Limits (YL) at Eagle Grove, Iowa • Track Warrant Control (TWC) Eagle Grove, Iowa-Belmond, Iowa
Maximum Allowable Gross Weight	• 286,000 lbs. (Moorland-South Fort Dodge) • 268,000 lbs. (South Fort Dodge-Vincent) • 286,000 lbs. (Vincent-Eagle Grove) • 268,000 lbs. (Eagle Grove-Belmond)
Clearances	• Approximate height Above Top of Rail is 20' 9" (Belmond-Eagle Grove) • Height above Top of Rail unknown (Eagle Grove-Moorland)
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 2.20 GTM (Moorland-Eagle Grove) • 0.42 GTM (Eagle Grove-Clarion) • 0.22 GTM (Clarion-Belmond)
Average Number of Trains per Day	1-3
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	• Roelyn Industrial Lead: Moorland, Iowa-Roelyn, Iowa; 5.2 miles (former Chicago Great Western Railway); 286,000 lbs. maximum allowable gross weight; line density 0.16 GTM • Fort Dodge Industrial Lead: Fort Dodge, Iowa; 1.5 miles (former Fort Dodge, Des Moines & Southern Railway); 268,000 lbs. maximum allowable gross weight; line density under 1.00 GTM • Dows Industrial Lead: Clarion, Iowa-Dows, Iowa; 14.5 miles (former Chicago, Rock Island & Pacific Railroad); 268,000 lbs. maximum allowable gross weight; line density 0.18 GTM • Kanawha Industrial Lead: Belmond, Iowa-Kanawha, Iowa; 12.2 miles (former Minneapolis & St. Louis Railway); 268,000 lbs. maximum allowable gross weight; line density 0.01 GTM
FRA Excepted Track	None

SUBDIVISION: ESTHERVILLE SUBDIVISION	
Division	Iowa Area
Owner	UP
Operator	UP
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)
Subdivision Route / Mileage	Goldfield, Iowa-Superior, Iowa; 79.3 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	49 mph freight

Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	• 286,000 lbs. (Goldfield-Emmetsburg) • 268,000 lbs. (Emmetsburg-Superior)
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 1.32 GTM (Goldfield-Emmetsburg) • 0.46 GTM (Emmetsburg-Estherville) • 0.07 GTM (Estherville-Superior)
Average Number of Trains per Day	0-2
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	Hartley Industrial Lead: Emmetsburg, Iowa-Hartley, Iowa; 41.6 miles of UP trackage rights over CP Sheldon Subdivision (former Chicago, Milwaukee, St. Paul & Pacific Railway); 286,000 lbs. maximum allowable gross weight; line density 0.27 GTM (UP)
FRA Excepted Track	None

SUBDIVISION: RAKE SUBDIVISION	
Division	Iowa Area
Owner	UP
Operator	UP
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Estherville, Iowa-Iowa/Minnesota state line near Rake, Iowa; 51.9 miles
FRA Track Class	Class 3
Track Configuration	One main track
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	• 268,000 lbs. (Estherville-Rake) • 286,000 lbs. (Rake-Iowa/Minnesota state line near Rake, Iowa)
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	0.39 GTM
Average Number of Trains per Day	0-1
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: TARA SUBDIVISION	
Division	Iowa Area
Owner	UP
Operator	UP
Line Heritage	Minneapolis & St. Louis Railway (M&StL)

Subdivision Route / Mileage	East Grand Junction, Iowa-Mallard, Iowa; 69.9 miles
FRA Track Class	Class 3
Track Configuration	One main track
Maximum Authorized Speed Freight	• 40 mph freight (East Grand Junction-Moorland) • 30 mph freight (Moorland-Mallard)
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	• 286,000 lbs. (East Grand Junction-Tara) • 268,000 lbs. (Tara-Mallard)
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 2.70 GTM (East Grand Junction-Moorland) • 1.77 GTM (Moorland-Tara) • 1.30 GTM (Tara-Rolfe) • 0.06 GTM (Rolfe-Mallard)
Average Number of Trains per Day	2-4
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	Farnhamville Industrial Lead: Gowrie, Iowa-Farnhamville, Iowa; 6.3 miles (former Chicago & North Western Railway); 286,000 lbs. maximum allowable gross weight; line density 0.25 GTM
FRA Excepted Track	None

SUBDIVISION: LAURENS SUBDIVISION	
Division	Iowa Area
Owner	UP
Operator	UP
Line Heritage	• Chicago & North Western Railway (C&NW) Rolfe, Iowa-Marathon, Iowa • Chicago, Milwaukee, St. Paul and Pacific Railroad (CMStP&P) Marathon, Iowa-Albert City, Iowa
Subdivision Route / Mileage	Rolfe, Iowa-Albert City, Iowa; 28.5 miles
FRA Track Class	Class 3
Track Configuration	One main track
Maximum Authorized Speed Freight	30 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	268,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	1.26 GTM
Average Number of Trains per Day	0-2
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: PERRY SUBDIVISION	
Division	Iowa Area
Owner	UP
Operator	UP
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P) East Des Moines, Iowa-Des Moines, Iowa; and Des Moines, Iowa-West Des Moines, Iowa
Subdivision Route / Mileage	East Des Moines, Iowa-Des Moines, Iowa; and Des Moines, Iowa-West Des Moines, Iowa; 8.3 miles
FRA Track Class	Class 1
Track Configuration	One main track
Maximum Authorized Speed Freight	10 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Restricted Limits (RL) / Yard Limits (YL) East Des Moines, Iowa-West Des Moines, Iowa
Maximum Allowable Gross Weight	286,000 lbs. (East Des Moines-Des Moines-West Des Moines)
Clearances	• Double-stack compliant (approximately 20' 2" Above Top of Rail) — East Des Moines-West Des Moines • Unknown — West Des Moines-Waukee
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 2.50 GTM — UP (Des Moines-West Des Moines) • 4.41 GTM — IAIS (Des Moines-West Des Moines) • 0.02 GTM — UP (West Des Moines-Waukee)
Average Number of Trains per Day	0-2 UP
Commodities Transported	Farm products, food and kindred products, chemical and allied products, and general merchandise freight traffic
Industrial Leads	• Hollingsworth Industrial Lead: West Des Moines, Iowa; 1.4 miles; maximum allowable gross weight unknown • West Des Moines Industrial Lead: West Des Moines, Iowa; 2.2 miles (former Chicago, Rock Island & Pacific Railroad) ; 286,000 lbs. maximum allowable gross weight; leased to IAIS • Waukee Industrial Lead: West Des Moines, Iowa-Waukee, Iowa; 8.6 miles (former Minneapolis & St. Louis Railway); 268,000 lbs. maximum allowable gross weight
FRA Excepted Track	Waukee Industrial Lead: West Des Moines, Iowa-Waukee, Iowa; 8.6 miles

The Iowa subdivisions shown in Table A.11 below are a component of the UP Council Bluffs Area.

Table A.11: Descriptions of UP Subdivisions in Iowa — Council Bluffs Area

SUBDIVISION: BLAIR SUBDIVISION	
Division	Council Bluffs Area
Owner	UP
Operator	UP
Line Heritage	Chicago & North Western Railway (C&NW)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: East Missouri Valley, Iowa-Iowa / Nebraska state line near Blair, Nebraska; 14.2 miles
FRA Track Class	Class 4
Track Configuration	• Two main tracks (East Missouri Valley-Allen Creek) • One main track with passing sidings (Allen Creek-Iowa / Nebraska state line near Blair, Nebraska)

Maximum Authorized Speed Freight	60 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	• Centralized Traffic Control (CTC) and Automatic Train Control (ATC) East Missouri Valley, Iowa- Missouri Valley Junction, Iowa • Centralized Traffic Control (CTC) Missouri Valley Junction, Iowa-Iowa / Nebraska state line near Blair, Nebraska
Method of Operation	Centralized Traffic Control (CTC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Approximately 20' 2" Above Top of Rail (one bridge on the subdivision in Iowa will not clear 21' 6" Above Top of Rail)
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	• 92.9 GTM (Missouri Valley-California Junction) • 71.1 GTM (California Junction-Iowa / Nebraska state line near Blair, Nebraska)
Average Number of Trains per Day	35-45
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: OMAHA SUBDIVISION	
Division	Council Bluffs Area
Owner	UP
Operator	UP
Line Heritage	Chicago & North Western Railway (C&NW)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Missouri Valley, Iowa-Iowa / Nebraska state line at Council Bluffs, Iowa; 23.1 miles
FRA Track Class	Class 4
Track Configuration	• Two main tracks (Missouri Valley-South Missouri Valley) • One main track (South Missouri Valley-North Council Bluffs) • Two main tracks (North Council Bluffs-Council Bluffs) • Three main tracks / two main tracks (Council Bluffs-Iowa / Nebraska state line at Council Bluffs)
Maximum Authorized Speed Freight	60 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	• Centralized Traffic Control (CTC) and Automatic Train Control (ATC) Missouri Valley, Iowa- North Council Bluffs, Iowa • Automatic Block Signals (ABS) North Council Bluffs, Iowa-Council Bluffs, Iowa • Centralized Traffic Control (CTC) Council Bluffs, Iowa-Iowa / Nebraska state line at Council Bluffs, Iowa
Method of Operation	• Centralized Traffic Control (CTC) Missouri Valley, Iowa- North Council Bluffs, Iowa • Yard Limits (YL) North Council Bluffs, Iowa-Council Bluffs, Iowa • Centralized Traffic Control (CTC) Council Bluffs, Iowa-Iowa / Nebraska state line at Council Bluffs, Iowa
Maximum Allowable Gross Weight	• 286,000 lbs. (Missouri Valley-Council Bluffs) • 315,000 lbs. (Council Bluffs-Iowa / Nebraska state line at Council Bluffs, Iowa)
Clearances	21' 6" Above Top of Rail

Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	99.7 GTM
Average Number of Trains per Day	35-45
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	CBEC Railway: Council Bluffs, Iowa; approximately 6.0 miles owned by CBEC; operated by IAIS; BNSF and UP have operating rights over CBEC; 286,000 lbs. maximum allowable gross weight; line density 1.38 GTM
FRA Excepted Track	None

SUBDIVISION: SIOUX CITY SUBDIVISION	
Division	Council Bluffs Area
Owner	UP
Operator	UP
Line Heritage	Chicago & North Western Railway (C&NW)
Subdivision Route / Mileage	California Junction, Iowa-Sioux City, Iowa; 70.4 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	49 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	• Centralized Traffic Control (CTC) California Junction, Iowa-Modale, Iowa • Automatic Block Signals (ABS) Modale, Iowa-Sioux City, Iowa
Method of Operation	• Centralized Traffic Control (CTC) California Junction, Iowa-Modale, Iowa • Track Warrant Control (TWC) Modale, Iowa-Sioux City, Iowa • Yard Limits (YL) at Sioux City, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Approximately 20' 2" Above Top of Rail (two bridges on the subdivision in Iowa will not clear 21' 6" Above Top of Rail)
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	23.9 GTM
Average Number of Trains per Day	8-12
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, coal, intermodal, and general merchandise freight traffic
Industrial Leads	• Sergeant Bluff Industrial Lead: Sergeant Bluff, Iowa-Port Neal, Iowa; 7.7 miles; maximum allowable gross weight unknown • Dakota City Industrial Lead — Portion in Iowa only: Sioux City, Iowa-Iowa / Nebraska state line at Sioux City, Iowa; 1.2 miles of UP trackage between Sioux City, Iowa, and Floyd, Iowa (former Chicago & North Western Railway) and approximately 1.4 miles of UP trackage rights over BNSF Sioux City Subdivision (former Chicago, Burlington & Quincy Railroad) between Floyd, Iowa, and the Iowa / Nebraska state line at Sioux City, Iowa; 286,000 lbs. maximum allowable gross weight
FRA Excepted Track	None

The Iowa subdivisions shown in Table A.12 below are a component of the UP Twin Cities Area.

Table A.12: Descriptions of UP Subdivisions in Iowa — Twin Cities Area

SUBDIVISION: ALBERT LEA SUBDIVISION	
Division	Twin Cities Area
Owner	UP
Operator	UP
Line Heritage	• Joint Chicago, Rock Island & Pacific Railroad (CRI&P) and Chicago Great Western Railway (CGW) Mason City, Iowa-Manly, Iowa • Joint Chicago, Rock Island & Pacific Railroad (CRI&P) and Minneapolis & St. Louis Railway (M&StL) Manly, Iowa-Iowa / Minnesota state line near Northwood, Iowa
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Mason City, Iowa-Iowa / Minnesota state line near Northwood, Iowa; 24.4 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	50 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	Centralized Traffic Control (CTC)
Method of Operation	• Yard Limits (YL) at Mason City, Iowa • Centralized Traffic Control (CTC) Mason City, Iowa-Iowa / Minnesota state line near Northwood, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Approximately 20' 2" Above Top of Rail
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	25.7 GTM
Average Number of Trains per Day	10-16
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: WORTHINGTON SUBDIVISION	
Division	Twin Cities Area
Owner	UP
Operator	UP
Line Heritage	Chicago, St. Paul, Minneapolis & Omaha Railway (CStPM&O)
Subdivision Route / Mileage	Le Mars, Iowa-Iowa / Minnesota state line near Bigelow, Minnesota; 55.7 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	49 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC) Le Mars, Iowa-Iowa / Minnesota state line near Bigelow, Minnesota
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Approximately 20' 2" Above Top of Rail

Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	12.2 GTM
Average Number of Trains per Day	6-10
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, coal, intermodal, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

SUBDIVISION: FAIRMONT SUBDIVISION	
Division	Twin Cities Area
Owner	UP
Operator	UP
Line Heritage	Chicago & North Western Railway (C&NW)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Mason City, Iowa-Iowa / Minnesota state line near Scarville, Iowa; 34.0 miles
FRA Track Class	Class 3
Track Configuration	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Yard Limits (YL) Mason City, Iowa-River City, Iowa • Track Warrant Control (TWC) River City, Iowa-Iowa / Minnesota state line near Scarville, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Unknown
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	8.2 GTM
Average Number of Trains per Day	2-4
Commodities Transported	Farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	• Mason City Industrial Lead: Mason City, Iowa; 2.3 miles; maximum allowable gross weight unknown • Lake Mills Industrial Lead: Lake Mills, Iowa; 0.8 mile (former Minneapolis & St. Louis Railway); maximum allowable gross weight unknown
FRA Excepted Track	Lake Mills Industrial Lead: Lake Mills, Iowa; 0.8 mile

The Iowa subdivision shown in Table A.13 below is a component of the UP Kansas City Area.

Table A.13: Descriptions of UP Subdivisions in Iowa — Kansas City Area

SUBDIVISION: TRENTON SUBDIVISION	
Division	Kansas City Area
Owner	UP
Operator	UP
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)
Subdivision Route / Mileage	Portion of Subdivision in Iowa: Des Moines, Iowa-Iowa / Missouri state line near Lineville, Iowa; 87.0 miles
FRA Track Class	Class 4
Track Configuration	One main track with passing sidings

Maximum Authorized Speed Freight	60 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	• Centralized Traffic Control (CTC) Des Moines, Iowa-Beech, Iowa • Automatic Block Signals (ABS) Beech, Iowa-Williamson, Iowa • Centralized Traffic Control (CTC) Beech, Iowa-Iowa / Missouri state line near Lineville, Iowa
Method of Operation	• Centralized Traffic Control (CTC) Des Moines, Iowa-Beech, Iowa • Track Warrant Control (TWC) Beech, Iowa-Williamson, Iowa • Centralized Traffic Control (CTC) Williamson, Iowa-Iowa / Missouri state line near Lineville, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Approximately 20' 2" Above Top of Rail (two bridges on the subdivision in Iowa will not clear 21' 6" Above Top of Rail)
Current Line Density (2014) in Annual Gross Tons per Mile (in Millions)	34.22 GTM
Average Number of Trains per Day	10-16
Commodities Transported	Intermodal, automobiles, coal, farm products, food and kindred products, chemical and allied products, ethanol, and general merchandise freight traffic
Industrial Leads	None
FRA Excepted Track	None

A.3 Class II Railroads in Iowa

The section describes Iowa's one Class II railroad — Iowa Interstate Railroad (IAIS). Included is a data sheet and operating subdivision table for IAIS, showing such details as ownership, miles owned and operated, physical characteristics of operating subdivisions, facilities, commodities and carloads handled, connections with other railroads, potential improvement needs, and more. In 2015, IAIS was asked to confirm all data appearing in the data sheet and operating subdivision table and to provide additional input, as appropriate. IAIS participated in the coordination. No physical inspections of IAIS were conducted during development of the Iowa State Rail Plan.

A.3.1 Iowa Interstate Railroad (IAIS)

Iowa Interstate Railroad (IAIS) is a Class II railroad based in Cedar Rapids, Iowa, and is owned by Railroad Development Corporation (RDC) of Pittsburgh, Pennsylvania. IAIS was established in 1984 to preserve rail service over a former principal route of the Chicago, Rock Island & Pacific Railroad line between Bureau, Illinois (west of Chicago) and Council Bluffs, Iowa. The initial network included trackage rights from Bureau to Joliet, Illinois, on CSX Transportation and from Joliet to Blue Island (near Chicago), Illinois, on Metra, for access to Chicago. The initial network also included branch lines extending from Altoona to Pella, Iowa (this segment was cut back from Pella in stages in 1998, 2000, and 2014 and now ends at South Mitchellville, Iowa); Hancock Junction to Hancock and Oakland, Iowa (this segment was largely abandoned between Hancock Junction and Oakland in 2014); Atlantic to Audubon, Iowa (this segment was largely abandoned in 1995); and Rock Island to Milan, Illinois.

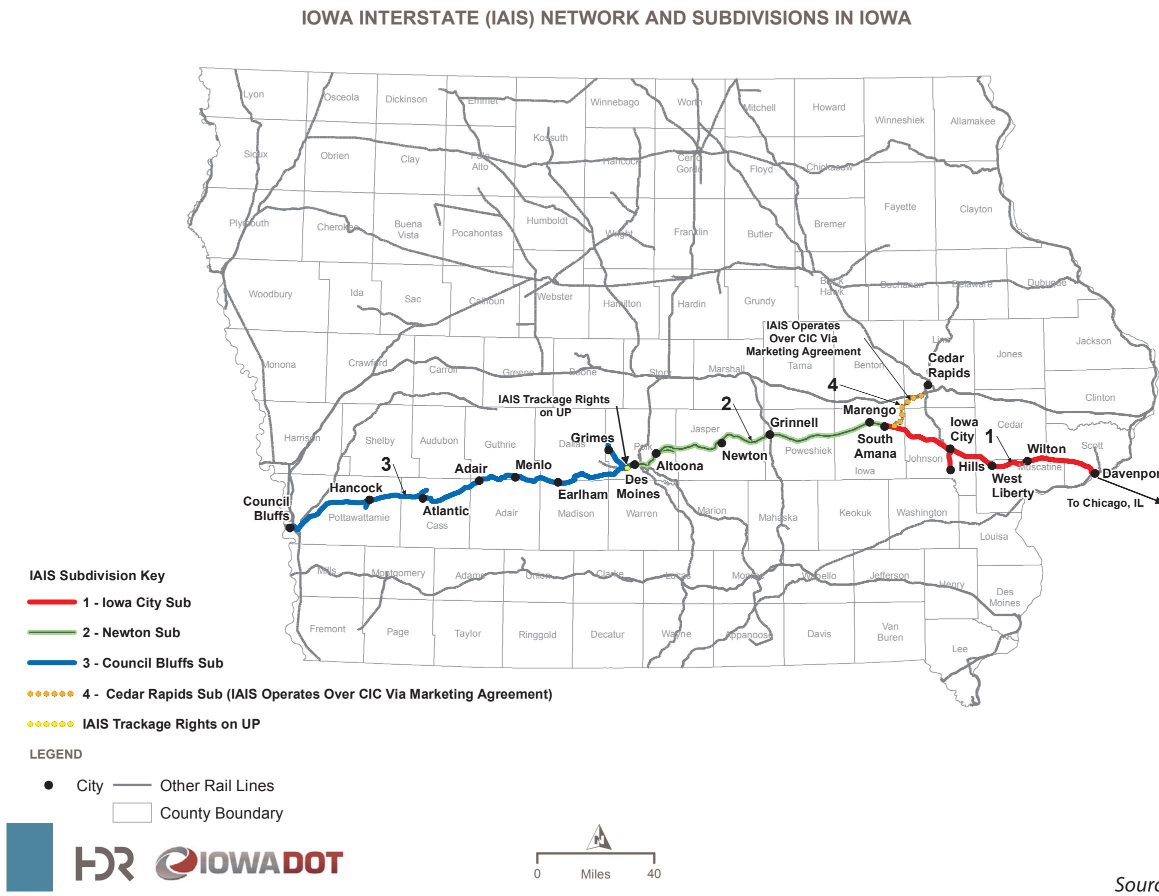
Subsequent network expansions included operation of NS-owned trackage between Des Moines and Grimes, Iowa; acquisition of the former CRI&P line between Henry (south of Bureau) and Peoria, Illinois (previously leased from Lincoln & Southern Railroad since 1987) and Class III railroad Great Western Railway of Iowa (CBGR) at Council Bluffs, Iowa, in 2006; operation by agreement over CIC trackage between between Yocum Connection (near South Amana) and Cedar Rapids, Iowa, and between Iowa City and Hills, Iowa; and lease of former CRI&P trackage from CSX Transportation between Henry, Bureau, and Utica, Illinois, in 2006[1].

1 *Iowa Interstate Railroad, Ltd. — Growing and Glowing at Age 25; Iowa Interstate Railroad, 2009*

IAIS also operates and maintains CBEC Railway in Council Bluffs, Iowa. Today, IAIS operates a regional network of approximately 550 miles, reaching from Chicago and Peoria, Illinois, to Davenport, Iowa City, Des Moines, and Council Bluffs, Iowa. IAIS operates over approximately 325 miles in Iowa. IAIS connects with all U.S. Class I railroads, either in Iowa or Illinois.

Figure A.7 below shows IAIS' present network and operating subdivisions in Iowa, which are described later in this section.

Figure A.7: IAIS Network and Subdivisions in Iowa



Source: HDR

Table A.14 below includes a datasheet for IAIS identifying additional details and physical and operating characteristics of the IAIS network in Iowa.

Table A.14: IAIS Datasheet

RAILROAD:	IOWA INTERSTATE RAILROAD
Alpha Code:	IAIS
Operator:	IAIS
Parent Company:	Railroad Development Corporation (RDC)
Phone:	(319) 298-5400
Company Website:	www.iaisrr.com
SERVICE AREA	
Counties in Iowa:	Scott, Muscatine, Cedar, Johnson, Iowa, Poweshiek, Jasper, Polk, Dallas, Madison, Adair, Guthrie, Cass, and Pottawattamie
Principal Stations in Iowa:	Davenport, Iowa City, South Amana, Newton, Des Moines, Atlantic, Council Bluffs

RAIL TRAFFIC	
Principal Commodities:	Grain and grain products, intermodal, aggregates, metals, and machinery
Annual Carloads in Iowa (2014):	117,481 (IAIS system); 82,754 (in Iowa)

IOWA ROUTE MILES							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day (can be presented as a range)**
Iowa/Illinois state line at Davenport, Iowa-Davenport, Iowa	0.4	0.4	0	0	0	0.4 (on U.S. Army Government Bridge)	See Subdivision Tables Below
Davenport, Iowa-East Des Moines, Iowa	170.6	170.6	0	170.6	0	0	
East Des Moines, Iowa-Short Line (Des Moines), Iowa	2.7	2.7	0	0	0	2.7 (on UP)	
Short Line (Des Moines), Iowa- Des Moines, Iowa	2.7	2.7	0	2.7	0	0	
Des Moines, Iowa-West Des Moines, Iowa	6.4	6.4	0	0	6.4 (from UP)	0	
West Des Moines, Iowa-Council Bluffs, Iowa	125.0	125.0	0	125.0	0	0	
Yocum Connection, Iowa-Cedar Rapids, Iowa	17.8	17.8	0	0	0	17.8 (on CIC; note that IAIS operates over this trackage via a marketing agreement with CIC)	
Total	325.6	325.6	0	298.3	6.4	20.9	

TRACK CHARACTERISTICS (AS NECESSARY BY LINE SEGMENT)	
FRA Track Class:	• Class 3 (Iowa / Illinois state line at Davenport, Iowa-Council Bluffs, Iowa) • Class 2 (Yocum Connection, Iowa-Cedar Rapids, Iowa) over CIC trackage
Operating Speed:	• 40 mph (FRA Track Class 3) • 25 mph (FRA Track Class 2)
Signal System:	None
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions):	• 10.90 GTM (Iowa / Illinois state line at Davenport, Iowa-Iowa City, Iowa) • 9.56 GTM (Iowa City, Iowa-South Amana, Iowa) • 6.10 GTM (South Amana, Iowa-Newton, Iowa) • 2.69 GTM (Newton, Iowa-Des Moines, Iowa) • 4.41 GTM (Des Moines, Iowa-Menlo, Iowa) • 3.15 GTM (Menlo, Iowa-Atlantic, Iowa) • 2.10 GTM (Atlantic, Iowa-Council Bluffs, Iowa) • 8.98 GTM (South Amana, Iowa-Cedar Rapids, Iowa)
Weight Limits:	• 286,000 lbs (Iowa / Illinois state line at Davenport, Iowa-Council Bluffs, Iowa; Yocum Connection, Iowa-Cedar Rapids, Iowa) • Other line segments vary (see subdivision tables below)
Vertical Clearance and Restrictions:	See subdivision tables below

FRA Excepted Track:	See subdivision tables below
INTERCHANGE POINTS	
Location:	**Railroad:**
Davenport	CP
Iowa City	CIC
Cedar Rapids	CIC
Des Moines	BNSF, NS, UP
Council Bluffs	BNSF, CN, KCS, UP
FACILITIES	
Type:	**Location:**
Classification Yards	Iowa City, South Amana, Newton, Council Bluffs
Transload Facility	Quad Cities, West Liberty, Newton, Council Bluffs
Intermodal Facility	Council Bluffs
Mechanical Facility	South Amana, Council Bluffs
PRESENT CAPACITY CONSTRAINTS AND OPERATIONAL BOTTLENECKS	
Location:	**Description:**
FUNDED CAPITAL PROJECTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Identification and Description:	**Estimated Costs, if known:**
FUTURE PLANNED IMPROVEMENTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Identification and Description:	Estimated costs, if known:
OTHER IMPROVEMENT AND INFRASTRUCTURE NEEDS (NOT YET FUNDED OR PLANNED), INCLUDING REHABILITATION OR CONSTRUCTION OF SPUR TRACKS FOR INCREASED OR RENEWED USE BY RAIL SHIPPERS	
Identification and Description:	**Estimated costs, if known:**
OTHER COMMENTS	
Identification:	**Description:**

Source: IAIS and Iowa DOT

Table A.15 below identifies and describes the physical and operating characteristics of IAIS' operating subdivisions in Iowa.

Table A.15: IAIS Operating Subdivisions in Iowa

SUBDIVISION: IOWA CITY SUBDIVISION	
Division	IAIS
Owner	IAIS
Operator	IAIS
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)
Subdivision Route / Mileage	Davenport, Iowa-South Amana, Iowa; 77.4 miles
FRA Track Class	Class 3
Number of Main Tracks	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A

Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack capable (20' 2" Above Top of Rail)
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions)	• 10.90 GTM (Iowa / Illinois state line at Davenport, Iowa, Iowa-Iowa City, Iowa) • 9.56 GTM (Iowa City, Iowa-South Amana, Iowa)
Average Number of Trains per Day	5-6
Commodities Transported	Grain and grain products, intermodal, aggregates, metals, and machinery
Industrial Spurs	Hills Industrial Spur: Iowa City, Iowa-Hills, Iowa; 8.4 miles; owned by CIC and operated by IAIS under lease with CIC (former Cedar Rapids & Iowa City Railway at Iowa City, Iowa, and former Chicago, Rock Island & Pacific Railroad between Iowa City, Iowa, and Hills, Iowa); 263,000 lbs. maximum allowable gross weight. Note that CIC is anticipated to resume operations of this trackage between Iowa City and Hills with the expiration of the IAIS lease in October 2016.
FRA Excepted Track	None

SUBDIVISION: NEWTON SUBDIVISION	
Division	IAIS
Owner	IAIS
Operator	IAIS
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)
Subdivision Route / Mileage	South Amana, Iowa-East Des Moines, Iowa; 93.2 miles
FRA Track Class	Class 3
Number of Main Tracks	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack capable (20' 2" Above Top of Rail)
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions)	• 6.10 GTM (South Amana, Iowa-Newton, Iowa) • 2.69 GTM (Newton, Iowa- Des Moines, Iowa)
Average Number of Trains per Day	2-4
Commodities Transported	Grain and grain products, intermodal, aggregates, metals, and machinery
Industrial Spurs	Prairie City Spur: Altoona, Iowa-South Mitchellville, Iowa; approximately 7.3 miles (former Chicago, Rock Island & Pacific Railroad); 263,000 lbs. maximum allowable gross weight
FRA Excepted Track	None

SUBDIVISION: COUNCIL BLUFFS SUBDIVISION	
Division	IAIS
Owner	IAIS
Operator	IAIS

Line Heritage	• Chicago, Rock Island & Pacific Railroad (CRI&P) Des Moines, Iowa-Peter (near McClelland), Iowa • Joint Chicago Great Western Railway (CGW) / Chicago, Rock Island & Pacific Railroad (CRI&P) Peter (near McClelland), Iowa-Rigg (near Council Bluffs), Iowa • Chicago, Rock Island & Pacific Railroad (CRI&P) Rigg (near Council Bluffs), Iowa-Council Bluffs, Iowa
Subdivision Route / Mileage	West Des Moines, Iowa-Council Bluffs, Iowa; 125.0 miles
FRA Track Class	Class 3
Number of Main Tracks	One main track with passing sidings
Maximum Authorized Speed Freight	40 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack capable (20' 2" Above Top of Rail)
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions)	• 4.41 GTM (Des Moines, Iowa-Menlo, Iowa) • 3.15 GTM (Menlo, Iowa-Atlantic, Iowa) • 2.10 GTM (Atlantic, Iowa-Council Bluffs, Iowa)
Average Number of Trains per Day	2-4
Commodities Transported	Grain and grain products, intermodal, aggregates, metals, and machinery
Industrial Spurs	• Grimes Industrial Spur and related trackage: Des Moines, Iowa-Grimes, Iowa; approximately 12.0 miles (former Chicago, Milwaukee, St. Paul & Pacific Railroad) owned by Norfolk Southern Railway (NS) and operated by IAIS; 286,000 lbs. maximum allowable gross weight; line density 0.02 GTM • Atlantic Spur: Atlantic, Iowa; approximately 3.0 miles (former Chicago, Rock Island & Pacific Railroad); 286,000 lbs. maximum allowable gross weight • Hancock Spur: Hancock Junction, Iowa-Hancock, Iowa; length unknown (former Chicago, Rock Island & Pacific Railroad); 286,000 lbs. maximum allowable gross weight • CBEC Railway: Council Bluffs, Iowa; approximately 6.0 miles owned by CBEC; operated by IAIS; BNSF and UP have operating rights over CBEC; 286,000 lbs. maximum allowable gross weight; line density 1.38 GTM
FRA Excepted Track	• Grimes Industrial Spur and related trackage (Des Moines, Iowa-Grimes, Iowa); approximately 12.0 miles • Hancock Spur (Hancock Junction, Iowa-Hancock, Iowa); length unknown

SUBDIVISION: CEDAR RAPIDS SUBDIVISION	
Division	IAIS Cedar Rapids Subdivision (known also as CIC Division 4)
Owner	Cedar Rapids & Iowa City Railway (CIC)
Operator	IAIS/CIC (IAIS operates over this segment via a marketing agreement with CIC; IAIS controls train operations over this trackage)
Line Heritage	Chicago, Milwaukee, St. Paul & Pacific Railroad (CMStP&P)
Subdivision Route / Mileage	Yocum Connection, Iowa-Smith-Dows Yard (Cedar Rapids), Iowa; 17.8 miles
FRA Track Class	Class 2
Number of Main Tracks	One main track
Maximum Authorized Speed Freight	25 mph freight
Maximum Authorized Speed Passenger	N/A

Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double stack capable (21' 3" Above Top of Rail)
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions)	• 8.98 GTM — IAIS (Yocum Connection, Iowa-Cedar Rapids, Iowa) • 0.04 GTM — CIC (Yocum Connection, Iowa-Cedar Rapids, Iowa)
Average Number of Trains per Day	4
Commodities Transported	Grain and grain products, intermodal, aggregates, metals, and machinery
Industrial Spurs	None
FRA Excepted Track	None

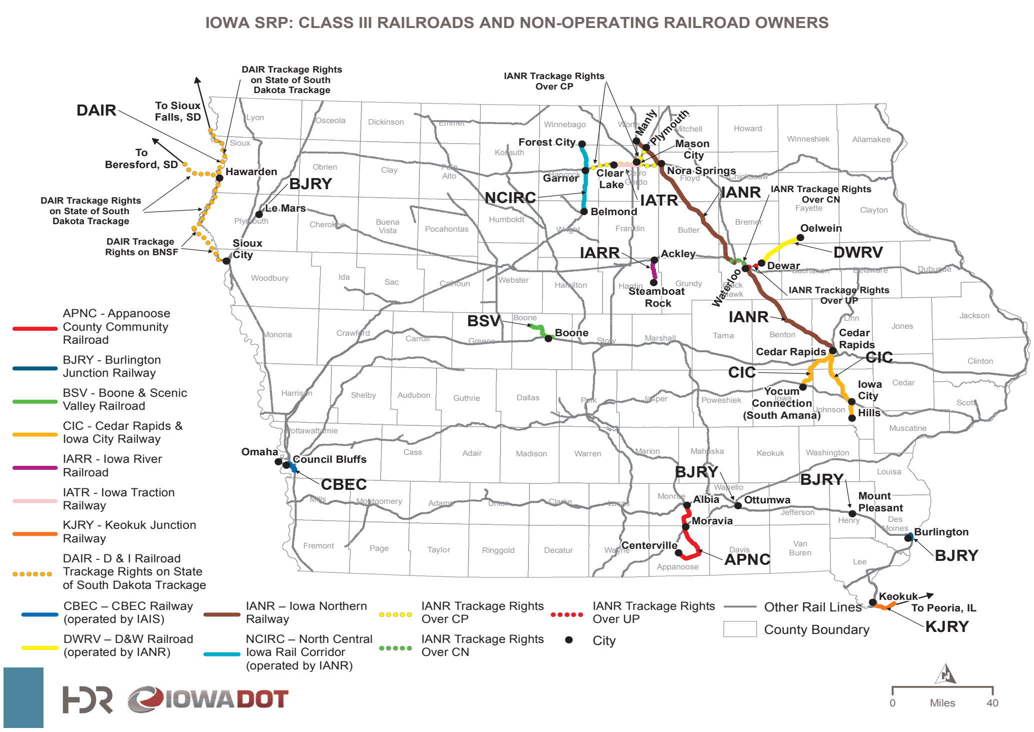
Source: IAIS, CIC, and Iowa DOT

A.4 Class III Railroads in Iowa

The section identifies and describes Iowa's 11 Class III (or short line) railroads. Nine of these Class III railroads currently provide railroad service, while two others contract out with another Class II or Class III railroad to provide rail service. Included is a data sheet for the Class III railroads providing railroad service, showing such details as ownership, miles owned and operated, physical characteristics of rail lines, commodities and carloads handled, connections with other railroads, potential improvement needs, and more. In 2015, the Class III railroads currently providing railroad service were asked to confirm the data appearing in the data sheets and to provide additional input, as appropriate. Eight of the nine Class III railroads providing rail service in Iowa participated. No physical inspections of Iowa's Class III railroads were conducted during development of the Iowa State Rail Plan.

Figure A.8 below identifies the networks of the state's Class III railroads described in this section, and also identifies non-operating railroad owners that will be described in Appendix A.5.

Figure A.8: Iowa's Class III Railroads and Non-Operating Railroad Owners



Source: HDR and Iowa DOT

Each of the railroads identified above are described in this section.

A.4.1 Appanoose County Community Railroad (APNC)

The Appanoose County Community Railroad (APNC) is a Class III railroad headquartered in Centerville, Iowa. The APNC was established by the town of Centerville, Iowa, in 1983 to preserve rail service in Appanoose County. Today, APNC owns and operates segments of former Chicago, Burlington & Quincy Railroad; Chicago, Rock Island & Pacific Railroad; and Wabash Railroad trackage that form a continuous, J-shaped route from Centerville to Moravia and Albia, Iowa. APNC operates 35 miles of railroad in Iowa.

Table A.16 below includes a datasheet for APNC identifying additional details and operating and physical characteristics of the APNC network in Iowa.

Table A.16: APNC Datasheet

RAILROAD:	APPANOOSE COUNTY COMMUNITY RAILROAD						
Alpha Code:	APNC						
Operator:	APNC						
Parent Company:							
Contact:	Heather Clark						
Phone:	(641) 437-7029						
Email:	apncrr@iowatelecom.net						
Company Website:	N/A						
SERVICE AREA							
Counties in Iowa:	Appanoose and Monroe						
Principal Stations in Iowa:	Centerville, Albia						
RAIL TRAFFIC							
Principal Commodities:	Transportation machinery, chemical and allied products Products, and scrap						
Annual Carloads in Iowa (2014):	574 (APNC system is entirely within Iowa)						
IOWA ROUTE MILES							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
Centerville - Albia	35	35	0	35	0	0	0-1
Total	35	35	0	35	0	0	
TRACK CHARACTERISTICS (AS NECESSARY BY LINE SEGMENT)							
FRA Track Class:	Class 2						
Operating Speed:	15 mph						
Signal System:	None						
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions):	0.05 GTM						
Weight Limits:	268,000 lbs.						
Vertical Clearance and Restrictions:	Unknown						
FRA Excepted Track:	Unknown						
INTERCHANGE POINTS							
Location:			**Railroad:**				

Moravia	CP
Albia	BNSF, NS
FACILITIES	
Type:	**Location:**
Classification Yards	Albia
Transload Facility	None
Intermodal Facility	None
Mechanical Facility	None
BRIDGES	
Number of Bridges on APNC in Iowa:	**Number of Bridges in Need of Repair:**
Number of Bridges in Need of Upgrade to Handle 286K Loads:	**Other Bridge Comments, if applicable:**
Location:	
PRESENT CAPACITY CONSTRAINTS AND OPERATIONAL BOTTLENECKS	
Location:	**Description:**
FUNDED CAPITAL PROJECTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Ident**ification and Description:**	**Estimated Costs, if known:**
APNC Project (completed 2015) — included rehabilitation of existing mainline track and one bridge, installation of one switch, and construction of 1,365 feet of track.	$906,139 (Funding provided by Federal SAFETEA-LU Earmark Grant)
FUTURE PLANNED IMPROVEMENTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Identification and Description:	**Estimated costs, if known:**
OTHER IMPROVEMENT AND INFRASTRUCTURE NEEDS (NOT YET FUNDED OR PLANNED), INCLUDING REHABILITATION OR CONSTRUCTION OF SPUR TRACKS FOR INCREASED OR RENEWED USE BY RAIL SHIPPERS	
Identification and Description:	**Estimated costs, if known:**
OTHER COMMENTS	
Identification:	**Description:**

Source: APNC and Iowa DOT

A.4.2 Boone & Scenic Valley Railroad (BSV)

The Boone and Scenic Valley Railroad (BSV) is a Class III railroad based in Boone, Iowa. B&SV passenger rail operations began in 1983 when it acquired 12 miles of former Fort Dodge, Des Moines & Southern Railroad (FDDM&S) trackage between Boone and Wolf, Iowa, from the Chicago & North Western Railway (C&NW). In 2001, B&SV acquired an additional 2 miles of former FDDM&S and C&NW trackage in Boone, Iowa, from UP, and began offering freight service only on that segment to serve an industrial park. Today, the Boone-Wolf segment is for passenger service of the Boone & Scenic Valley Railroad and Museum only.

Table A.17 below includes a datasheet for BSV identifying additional details and operating and physical characteristics of the BSV freight network in Iowa, excluding the portion from Boone to Wolf, Iowa, that is operated only as tourist passenger railroad.

Table A.17: BSV Datasheet

RAILROAD:	BOONE & SCENIC VALLEY RAILROAD
Alpha Code:	BSV

Operator:	BSV
Parent Company:	
Contact:	
Phone:	
Email:	info@bsvrr.com
Company Website:	http://www.bsvrr.com/index.html
SERVICE AREA	
Counties in Iowa:	Boone
Principal Stations in Iowa:	Boone
RAIL TRAFFIC	
Principal Commodities:	Food and kindred products
Annual Carloads in Iowa (2014):	84 (BSV system is entirely within Iowa)

IOWA ROUTE MILES

Subdivision or Segment and Limits	Length	Operated	Out of Service	Owned	Leased	Trackage Rights	Average Number of Trains per day
Boone, Iowa	2	2	0	2	0	0	0-1
Total	2	2	0	2	0	0	

TRACK CHARACTERISTICS (AS NECESSARY BY LINE SEGMENT)

FRA Track Class:	Class 1
Operating Speed:	10 mph
Signal System:	None
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions):	0.01 GTM
Weight Limits:	268,000 lbs.
Vertical Clearance and Restrictions:	Unknown
FRA Excepted Track:	Unknown

INTERCHANGE POINTS

Location:	Railroad:
Boone	UP

FACILITIES

Type:	Location:
Classification Yards	Boone
Transload Facility	None
Intermodal Facility	None
Mechanical Facility	Boone

BRIDGES

Number of Bridges on BSV in Iowa:	**Number of Bridges in Need of Repair:**
Number of Bridges in Need of Upgrade to Handle 286K Loads:	**Other Bridge Comments, if applicable:**

PRESENT CAPACITY CONSTRAINTS AND OPERATIONAL BOTTLENECKS

Location:	Description:

FUNDED CAPITAL PROJECTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Identification and Description:	Estimated Costs, if known:
FUTURE PLANNED IMPROVEMENTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Identification and Description:	**Estimated costs, if known:**
OTHER IMPROVEMENT AND INFRASTRUCTURE NEEDS (NOT YET FUNDED OR PLANNED), INCLUDING REHABILITATION OR CONSTRUCTION OF SPUR TRACKS FOR INCREASED OR RENEWED USE BY RAIL SHIPPERS	
Identification and Description:	**Estimated costs, if known:**
OTHER COMMENTS	
Identification:	**Description:**

Source: BSV and Iowa DOT

A.4.3 Burlington Junction Railway (BJRY)

The Burlington Junction Railway (BJRY) is a Class III railroad headquartered in Burlington, Iowa. The BJRY was established in 1985 to provide rail service over former Chicago, Rock Island & Pacific Railroad trackage in Burlington, Iowa, and commodity transloading services. BJRY subsequently expanded its rail switching and commodity transloading services to additional locations in Mount Pleasant, Ottumwa, and Le Mars, Iowa, as well as at other locations in Illinois and Missouri. BJRY operates approximately 6 miles of railroad in Iowa.

Table A.18 below includes a datasheet for BJRY identifying additional details and operating and physical characteristics of the BJRY network in Iowa.

Table A.18: BJRY Datasheet

RAILROAD:	BURLINGTON JUNCTION RAILWAY
Alpha Code:	BJRY
Operator:	BJRY
Parent Company:	
Contact:	Andrew Hoth
Phone:	(319) 753-6157
Email:	hothlaw@mchsi.com
Company Website:	www.bjryrail.com
SERVICE AREA	
Counties in Iowa:	Des Moines, Henry, and Wapello
Principal Stations in Iowa:	Burlington, Mount Pleasant, and Ottumwa
RAIL TRAFFIC	
Principal Commodities:	Food and Kindred Products, Chemical and Allied Products, Farm Products, Lumber and Paper.
Annual Carloads in Iowa (2014):	3,485 (in Iowa)

IOWA ROUTE MILES							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
Burlington	3	3	0	3	0	0	0-1

Mount Pleasant	1	1	0	1	0	0	0-1
Ottumwa	1	1	0	1	0	0	0-1
Le Mars	1	1	0	1	0	0	0-1
Total	6	6	0	6	0	0	

TRACK CHARACTERISTICS (AS NECESSARY BY LINE SEGMENT)	
FRA Track Class:	Class 1
Operating Speed:	10 mph
Signal System:	None
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions):	Under 1.0 GTM
Weight Limits:	286,000 lbs.
Vertical Clearance and Restrictions:	Unknown
FRA Excepted Track:	Unknown

INTERCHANGE POINTS	
Location:	**Railroad:**
Burlington	BNSF
Mount Pleasant	BNSF
Ottumwa	BNSF
Le Mars	CN

FACILITIES	
Type:	**Location:**
Classification Yards	Boone
Transload Facility	None
Intermodal Facility	None
Mechanical Facility	Boone

BRIDGES	
Number of Bridges on BJRY in Iowa:	**Number of Bridges in Need of Repair:**
Number of Bridges in Need of Upgrade to Handle 286K Loads:	**Other Bridge Comments, if applicable:**

PRESENT CAPACITY CONSTRAINTS AND OPERATIONAL BOTTLENECKS	
Location:	**Description:**

FUNDED CAPITAL PROJECTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Ident**ification and Description:**	**Estimated Costs, if known:**

FUTURE PLANNED IMPROVEMENTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Identification and Description:	**Estimated costs, if known:**

OTHER IMPROVEMENT AND INFRASTRUCTURE NEEDS (NOT YET FUNDED OR PLANNED), INCLUDING REHABILITATION OR CONSTRUCTION OF SPUR TRACKS FOR INCREASED OR RENEWED USE BY RAIL SHIPPERS	
Identification and Description:	**Estimated costs, if known:**

OTHER COMMENTS	
Identification:	**Description:**

Source: BJRY and Iowa DOT

A.4.4 CBEC Railway (CBEC)

The CBEC Railway (CBEC) was established in 1992 as a wholly owned subsidiary of MidAmerican Energy in Council Bluffs, Iowa. The CBEC network was built in 1997 and consists of 6 miles of trackage in the Council Bluffs area and is used primarily to provide coal to a utility plant at the Council Bluffs Energy Center. IAIS operates and maintains the CBEC. BNSF and UP have operating rights over CBEC. Today, CBEC is owned by Corn Belt Power Cooperative and the Central Iowa Power Cooperative[2]. Details about the operating and physical characteristics of the CBEC network in Iowa can be found in the IAIS section presented earlier in Appendix A.3.

A.4.5 Cedar Rapids & Iowa City Railway (CIC)

The Cedar Rapids & Iowa City Railway (CIC) — more commonly referred to as the CRANDIC — is a Class III railroad owned by Alliant Energy and is based in Cedar Rapids, Iowa. The CIC was established as an electric railroad and began providing service between Cedar Rapids and Iowa City, Iowa, in 1904. The railroad subsequently dieselized its operations in the 1950s and later expanded its freight railroad network in the area considerably, mostly via the acquisitions of former Chicago, Rock Island & Pacific Railroad trackage between Iowa City and Hills, Iowa, and former Chicago, Milwaukee, St. Paul & Pacific Railroad trackage between Cedar Rapids and near Yocum Connection (South Amana), Iowa, during 1980-1982. CIC owns 57 miles of railroad in Iowa.

Table A.19 below includes a datasheet for CIC identifying additional details and operating and physical characteristics of the CIC network in Iowa.

Table A.19: CIC Datasheet

RAILROAD:	CEDAR RAPIDS & IOWA CITY RAILWAY
Alpha Code:	CIC
Operator:	CIC
Parent Company:	Alliant Energy
Contact:	Kevin Burke
Phone:	(319) 786-3698
Email:	kevinburke@alliantenergy.com
Company Website:	www.crandic.com
SERVICE AREA	
Counties in Iowa:	Linn, Johnson, Benton, and Iowa
Principal Stations in Iowa:	Cedar Rapids, Iowa City, North Liberty
RAIL TRAFFIC	
Principal Commodities:	Corn, coal, denatured ethanol, dried distillers grain, corn starch, corn syrup, corn gluten feed, corn gluten meal, soybean meal, soybean oil, and pulpboard
Annual Carloads in Iowa (2014):	99,128 (CIC system is entirely within Iowa)

IOWA ROUTE MILES							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**

2 *http://www.cbpower.coop/aspx/News.aspx?NewsID=1945*

Cedar Rapids, Iowa-Hills, Iowa (CIC Division 2)	33	25	0	33 (Note: The 8-mile Iowa City-Hills segment is leased to IAIS as its Hills Industrial Lead. CIC is anticipated to resume operations of the trackage between Iowa City and Hills with the expiration of the IAIS lease in October 2016.)	0	0	0-1 CIC
Cedar Rapids, Iowa-Yocum Connection, Iowa (CIC Division 4)	22	22	0	22 (Note: 18 miles of segment is dispatched by the IAIS as the IAIS Cedar Rapids Subdivision)	0	0	0-1 CIC 4 IAIS
Other Main Track Segment in Cedar Rapids, Iowa	2	2	0	2	0	0	10-12 CIC
Total	57	49	0	57	0	0	

TRACK CHARACTERISTICS (AS NECESSARY BY LINE SEGMENT)	
FRA Track Class:	Class 1 / Class 2 (varies by segment)
Operating Speed:	• 10 mph (FRA Track Class 1) • 25 mph (FRA Track Class 2)
Signal System:	None
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions):	• 0.01 GTM CIC (Cedar Rapids, Iowa-Iowa City, Iowa) • 0.04 GTM CIC / 8.98 GTM IAIS (Cedar Rapids, Iowa-Yocum Connection, Iowa)
Weight Limits:	286,000 lbs. (systemwide), except for 263,000 lbs. (Iowa City, Iowa-Hills, Iowa; trackage on this segment operated by IAIS under a lease agreement)
Vertical Clearance and Restrictions:	N/A
FRA Excepted Track:	N/A

INTERCHANGE POINTS	
Location:	**Railroad:**
Cedar Rapids	CN, UP, IAIS, IANR
Iowa City	IAIS
Yocum Connection (South Amana)	IAIS

FACILITIES	
Type:	**Location:**

Classification Yards	• CRANDIC Yard (Shops Yard) — Cedar Rapids • Smith-Dows Yard — Cedar Rapids • Other Industrial Yards — Cedar Rapids
Transload Facility	Cedar Rapids
Intermodal Facility	None
Mechanical Facility	Cedar Rapids
BRIDGES	
Number of Bridges on CIC in Iowa: 40	**Number of Bridges in Need of Repair: 4**
Number of Bridges in Need of Upgrade to Handle 286K Loads: 0	**Other Bridge Comments, if applicable: N/A**
PRESENT CAPACITY CONSTRAINTS AND OPERATIONAL BOTTLENECKS	
Location:	**Description:**
26th Street to Edgewood Road — Cedar Rapids	Double track main to ease congestion
Interchange Track 953 — Cedar Rapids	Additional interchange track with IAIS
OR Bypass Interchange Track- Cedar Rapids	Unit train receiving track for CN, IANR
FUNDED CAPITAL PROJECTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Ident**ification and Description:**	**Estimated Costs, if known:**
N/A	
FUTURE PLANNED IMPROVEMENTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Identification and Description:	**Estimated costs, if known:**
Cedar Rapids Team Track Expansion / Transload Facility — CRANDIC desires to relocate and expand its transload and team track facilities to offer weather-protected and bulk transload options near Edgewood Road and U.S. Highway 30 in southwest Cedar Rapids.	$4.2 Million
OTHER IMPROVEMENT AND INFRASTRUCTURE NEEDS (NOT YET FUNDED OR PLANNED), INCLUDING REHABILITATION OR CONSTRUCTION OF SPUR TRACKS FOR INCREASED OR RENEWED USE BY RAIL SHIPPERS	
Identification and Description:	**Estimated costs, if known:**
DuPont Rail Spur	$1.7 Million
OTHER COMMENTS	
Identification:	**Description:**

Source: CIC and Iowa DOT

A.4.6 D&I Railroad (DAIR)

The D&I Railroad (DAIR) is a Class III railroad based in Sioux Falls, South Dakota, and is owned by aggregate producer L.G. Everist. DAIR was established in 1981, and its principal route is from Sioux City, Iowa, to Hawarden, Iowa, and Sioux Falls and Dell Rapids, South Dakota. The segments of DAIR's network in Iowa consist almost entirely of operating or trackage rights over former lines of the Chicago, Milwaukee, St. Paul & Pacific Railroad (CMStP&P), which retrenched from much of Iowa and South Dakota in 1980, and was acquired by other entities as a means of preserving rail service to the region.

DAIR has trackage rights over a line operated by the BNSF Railway between Sioux City, Iowa, and Elk Point, South Dakota, and operating rights over the state of South Dakota owned trackage between Elk Point and Canton, South Dakota, via Hawarden, Iowa. DAIR also operates over a branch line consisting of former Chicago & North Western Railway (C&NW) trackage that is now owned by the state of South Dakota between Hawarden, Iowa, and Beresford, South Dakota. The state of South Dakota-owned trackage is known as the Sioux Valley Line cluster and it is leased to the Sioux Valley Regional Railroad Authority (SVRRA) and DAIR is SVRRA's designated operator. DAIR designates the segment between Elk Point and Canton, South Dakota, via Hawarden, Iowa, as its Hawarden Subdivision and the segment between Hawarden, Iowa, and Beresford, South Dakota, as its Beresford Subdivision. DAIR operates over approximately 42 route miles in Iowa.

Table A.20 below includes a datasheet for DAIR identifying additional details and operating and physical characteristics of the DAIR network in Iowa.

Table A.20: DAIR Datasheet

RAILROAD:	D & I RAILROAD						
Alpha Code:	DAIR						
Operator:	DAIR						
Parent Company:	L.G. Everist						
Contact:	Jack Parliament						
Phone:	(605) 330-6588						
Email:	jdparliament@lgeverist.com						
Company Website:	www.dirailroad.com						
SERVICE AREA							
Counties in Iowa:	Woodbury, Plymouth, Sioux, and Lyon						
Principal Stations in Iowa:	Sioux City, Hawarden						
RAIL TRAFFIC							
Principal Commodities:	Nonmetallic Minerals; Stone, Clay, and Glass Products; Farm Products; and Hazardous Materials						
Annual Carloads in Iowa (2014):	34,291 (DAIR system); 14,452 (in Iowa)						
IOWA ROUTE MILES							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
Sioux City, Iowa-Iowa / South Dakota state line near North Sioux City, South Dakota	7	7	0	0	0	7 (over BNSF Aberdeen Subdivision)	2-4 (DAIR only)
DAIR Hawarden Subdivision — State of South Dakota Sioux Valley Line (Segments in Iowa between the Iowa / South Dakota state line near Westfield, Iowa, and the Iowa / South Dakota state line near Beloit, Iowa)	34	34	0	0	0	34 (over State of South Dakota owned trackage)	2-4 (DAIR only)
DAIR Beresford Subdivision — State of South Dakota Sioux Valley Line (Segment in Iowa between Hawarden, Iowa-Iowa / South Dakota state line at Hawarden, Iowa)	1	1	0	0	0	1 (over State of South Dakota owned trackage)	0-1 (DAIR only)
Total	42	42	0	0	0	42	
TRACK CHARACTERISTICS (AS NECESSARY BY LINE SEGMENT)							
FRA Track Class:	Class 2 (on the DAIR Hawarden and Beresford subdivisions)						

Operating Speed:	Restricted Speed — RS (20 mph) on the DAIR Hawarden and Beresford subdivisions
Signal System:	None
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions):	• 2.12 GTM DAIR (BNSF Aberdeen Subdivision: Sioux City, Iowa-Iowa / South Dakota state line near North Sioux City, South Dakota) • 2.12 GTM DAIR (DAIR Hawarden Subdivision: Iowa / South Dakota state line near Westfield, Iowa-Hawarden, Iowa) • 1.57 GTM DAIR (DAIR Hawarden Subdivision: Hawarden, Iowa-Iowa / South Dakota state line near Beloit, Iowa) • 0.01 GTM DAIR (DAIR Beresford Subdivision: Hawarden, Iowa-Iowa / South Dakota state line near Hawarden, Iowa)
Weight Limits:	• 286,000 lbs. (DAIR Hawarden Subdivision in Iowa) • 286,000 lbs. (DAIR Beresford Subdivision in Iowa)
Vertical Clearance and Restrictions:	Unknown
FRA Excepted Track:	Unknown

INTERCHANGE POINTS

Location:	**Railroad:**
Sioux City	BNSF, CN, UP

FACILITIES

Type:	**Location:**
Classification Yards	Sioux City
Transload Facility	Sioux City, Hawarden
Intermodal Facility	None
Mechanical Facility	Dell Rapids (South Dakota)

BRIDGES

Number of Bridges on DAIR in Iowa: Unknown	**Number of Bridges in Need of Repair: Unknown**
Number of Bridges in Need of Upgrade to Handle 286K Loads: N/A	**Other Bridge Comments, if applicable: N/A**

PRESENT CAPACITY CONSTRAINTS AND OPERATIONAL BOTTLENECKS

Location:	**Description:**
Sioux City Terminal Area; Sioux City, Iowa	Operations bottleneck exists where the four railroads in Sioux City (BNSF, CN, DAIR, and UP) intersect at a major at-grade crossing of rail lines where trains operate at slow speeds in a terminal environment. Carload interchange between the carriers can be a challenge, as there are presently no designated interchange locations and many of the carriers must operate into each other's yards to interchange cars.

FUNDED CAPITAL PROJECTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)

Identification and Description:	**Estimated Costs, if known:**
Sioux Valley Line Repair Project (2015-2016): Will replace nine bridges mostly of timber construction on the state of South Dakota owned DAIR Hawarden Subdivision (as of November 2015, five of the nine bridge replacments were complete).	$7.3 million (funded by $5.1 million in grants and loans from the state of South Dakota Railroad Board, a $1.8 million federal grant, $300,00 from DAIR, and a $100,000 grant from the South Dakota Department of Transportation)

FUTURE PLANNED IMPROVEMENTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)

Identification and Description:	**Estimated costs, if known:**

OTHER IMPROVEMENT AND INFRASTRUCTURE NEEDS (NOT YET FUNDED OR PLANNED), INCLUDING REHABILITATION OR CONSTRUCTION OF SPUR TRACKS FOR INCREASED OR RENEWED USE BY RAIL SHIPPERS

Identification and Description:	Estimated costs, if known:
Improvements to operations and carload interchange in the Sioux City Terminal Area; Sioux City, Iowa	N/A
OTHER COMMENTS	
Identification:	Description:

Source: DAIR and Iowa DOT

A.4.7 D&W Railroad (DWRV)

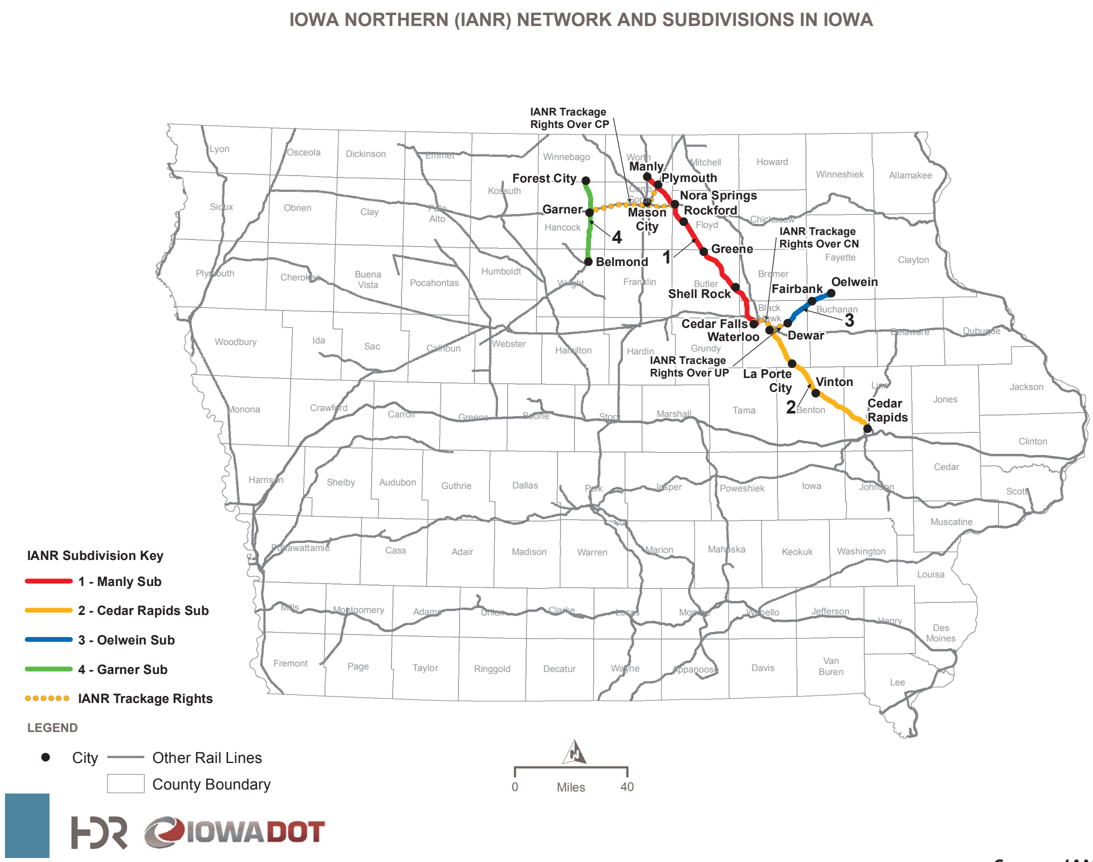
The D&W Railroad (DWRV) was established by TRANSCO Railway Products in 2002 to acquire from UP 19 miles of former Chicago Great Western Railway trackage between Dewar and Oelwein, Iowa, in order to preserve rail service in three Iowa counties. DWRV is based in Chicago, Illinois. DWRV later added 3 miles to its network at Oelwein. TRANSCO remains the parent company of DWRV. IANR operates the 22-mile railroad through an agreement with DWRV and the line between Dewar and Oelwein is designated as the IANR Oelwein Subdivision. Details about the operating and physical characteristics of the DWRV network in Iowa can be found in the IANR section presented below.

A.4.8 Iowa Northern Railway (IANR)

Iowa Northern Railway (IANR), based in Cedar Rapids and Manly, Iowa, is the state's largest Class III railroad and it operates a regional network consisting of approximately 167 miles of railroad it owns, leases, and operates under contract, all in Iowa. IANR was established in 1984 to provide operations over former Chicago, Rock Island & Pacific Railroad trackage and to preserve rail service in seven Iowa counties. That included a principal route of the former CRI&P from Manly, Iowa, to Waterloo and Cedar Rapids, Iowa, and a branch line from Vinton to Dysart, Iowa (this segment was mostly abandoned in 1994). The present IANR management team assumed control of the railroad in 1994. Today, in addition to the principal line segment between Manly and Cedar Rapids (consisting of the Manly and Cedar Rapids subdivisions), IANR has trackage rights over CP and UP to access isolated lines between Belmond and Forest City, Iowa (owned by the North Central Iowa Rail Corridor and operated by IANR as its Garner Subdivision), and between Dewar (Waterloo) and Oelwein, Iowa (owned by DWRV and operated by IANR as its Oelwein Subdivision), respectively.

Figure A.9 below shows IANR's present network and operating subdivisions, which are described in detail later in this section.

Figure A.9: IANR Network and Subdivisions in Iowa



Source: IANR and HDR

Table A.21 below includes a datasheet for IANR identifying additional details and physical and operating characteristics of the IANR network in Iowa.

Table A.21: IANR Datasheet

RAILROAD:	IOWA NORTHERN RAILWAY
Alpha Code:	IANR
Operator:	IANR
Parent Company:	IANR
Contact:	Daniel R. Sabin
Phone:	(319) 297-6000
Email:	no17eng654@aol.com
Company Website:	www.iowanorthern.com
SERVICE AREA	
Counties in Iowa:	Linn, Benton, Black Hawk, Bremer, Buchanan, Fayette, Butler, Floyd, Cerro Gordo, Worth, Wright, Hancock, and Winnebago
Principal Stations in Iowa:	Manly, Waterloo, Cedar Rapids
RAIL TRAFFIC	
Principal Commodities:	Farm products, hazardous commodities, chemical and allied products, food and kindred products, and machinery
Annual Carloads in Iowa (2014):	19,168 carloads originated; 2,318 carloads terminated; and 14,552 carloads of overhead traffic = 36,038 total carloads (IANR system is entirely within Iowa)

IOWA ROUTE MILES							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
Manly Junction, Iowa-Cedar Falls Junction, Iowa	67	67	0	67	0	0	2 - 4
Cedar Falls Junction, Iowa-Waterloo, Iowa	9	9	0	0	0	09 (On CN Waterloo Subdivision and CN North Waterloo Industrial Lead)	2 - 4
Waterloo, Iowa-Dewar, Iowa	7	7	0	0	0	7 (On UP Waterloo Industrial Lead)	2
Waterloo, Iowa-Cedar Rapids, Iowa	50	50	0	50	0	0	2
Cedar Rapids, Iowa	4	4	0	0	0	4 (On UP Cedar Rapids Industrial Lead — UP North Yard Lead)	2
Dewar, Iowa-Oelwein, Iowa	22	22	0	0	22 (From D&W Railroad [DWRV])	0	2
Plymouth, Iowa-Mason City, Iowa	9	9	0	0	0	9 (On CP Owatonna Subdivision)	0 - 2
Nora Springs, Iowa-Garner, Iowa	31	31	0	0	0	31 (On CP Mason City and Sheldon subdivisions)	0 - 2
Belmond, Iowa-Forest City, Iowa	28	28	0	0	28 (From North Central Iowa Rail Corridor)	0	0 - 2
Total	227	227	0	117	50	60	

TRACK CHARACTERISTICS (AS NECESSARY BY LINE SEGMENT)	
FRA Track Class:	• Class 2 (Manly, Iowa-Cedar Falls Junction, Iowa) • Class 2 (Waterloo, Iowa-Cedar Rapids, Iowa) • Class 1 (Dewar, Iowa-Oelwein, Iowa) • Class 1 (Belmond, Iowa-Forest City, Iowa)

Operating Speed:	• 25 mph (FRA Track Class 2) • 10 mph (FRA Track Class 1)
Signal System:	None
Line Density (2014) in Annual Gross Tons per Mile (in Millions):	• 0.98 GTM (Manly, Iowa-Nora Springs, Iowa) • 2.14 GTM (Nora Springs, Iowa-Cedar Falls Junction, Iowa) • 2.94 GTM (Waterloo, Iowa-Cedar Rapids, Iowa) • 0.58 GTM (Dewar, Iowa-Oelwein, Iowa) • 0.02 GTM (Belmond, Iowa-Forest City, Iowa

Line Density (2014): (From Iowa Railroad Annual Report Schedule 600)	LINE NO.	FROM STATION	M.P.	TO STATION	M.P.	MILES	WEIGHT CARRIED
	1	MANLY	224.9	NORA SPRINGS	211.7	13.7	13,510,562
	2	BELMOND	48.2	FOREST CITY	75.1	26.9	319,348
	3	NORA SPRINGS	211.2	WATERLOO	150.25	60.95	114,496,512
	4	DEWAR	332	OELWEIN	351.2	19.2	12,023,102
	5	WATERLOO	150.25	CEDAR RAPIDS	100.1	50.15	159,358,986
				SYSTEM TOTALS		**170.9**	**~ 300,158,509**

Weight Limits:	• 286,000 lbs. (Manly, Iowa-Plymouth Junction, Iowa) • 263,000 lbs. (Plymouth Junction, Iowa— Nora Springs Iowa); 286,000 lbs. with special approval from IANR Engineering Department • 286,000 lbs. (Nora Springs Iowa-Cedar Falls Junction, Iowa) • 286,000 lbs. (Waterloo, Iowa-Cedar Rapids, Iowa) • 268,000 lbs. (Dewar, Iowa-Oelwein, Iowa) • 263,000 lbs. (Belmond, Iowa-Forest City, Iowa)
Vertical Clearance and Restrictions:	See operating subdivision tables below
FRA Excepted Track:	See operating subdivision tables below

INTERCHANGE POINTS

Location:	**Railroad:**
Cedar Rapids	CIC, CN, UP
Waterloo	CN, UP
Nora Springs	CP
Plymouth	CP
Manly	UP
Garner	CP (Connection Only — No Interchange Agreement)
Belmond	UP (Connection Only — No Interchange Agreement)

FACILITIES

Type:	**Location:**
Classification Yards	Manly (Manly Yard), Butler (Butler Yard), Waterloo (Bryant Yard),
Transload Facility	Manly Terminal (Manly), Butler (Butler Yard), Bryant Yard (Waterloo)
Intermodal Facility	None
Mechanical Facility	Manly and Waterloo

BRIDGES

Number of Bridges on IANR in Iowa: (IANR = 77) (DWRV = 11)	**Number of Bridges in Need of Repair:** (IANR = 12) (DWRV = 4)

Number of Bridges in Need of Upgrade to Handle 286K Loads: (IANR = 5 - Garner Sub) (DWRV = 0)	**Other Bridge Comments, if applicable:** The 16 bridges noted above reflects current year bridge management plan.
PRESENT CAPACITY CONSTRAINTS AND OPERATIONAL BOTTLENECKS	
Location:	**Description:**
Bryant Yard — Waterloo	Convergence of traffic from three subdivisions results in insufficient classification space.
Nora Springs — CP Interchange Traffic	Increased volumes of IANR/CP interchange traffic results in insufficient track capacity.
FUNDED CAPITAL PROJECTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Identification and Description:	**Estimated Costs, if known:**
Bridge Deck Replacement Program	$395,500
Butler — North Lead	$286,000
FUTURE PLANNED IMPROVEMENTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Identification and Description:	**Estimated costs, if known:**
System Main Track Tie Program	$1.5 Million
La Porte City Main and Industry Track Upgrades	$750,000
OTHER IMPROVEMENT AND INFRASTRUCTURE NEEDS (NOT YET FUNDED OR PLANNED), INCLUDING REHABILITATION OR CONSTRUCTION OF SPUR TRACKS FOR INCREASED OR RENEWED USE BY RAIL SHIPPERS	
Identification and Description:	**Estimated costs, if known:**
N/A	
OTHER COMMENTS	
Identification:	**Description:**
N/A	

Source: IANR and Iowa DOT

Table A.22 below identifies and describes the physical and operating characteristics of IANR's operating subdivisions in Iowa.

Table A.22: IANR Operating Subdivisions in Iowa

SUBDIVISION: MANLY SUBDIVISION	
Division	IANR
Owner	IANR
Operator	IANR
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)
Subdivision Route / Mileage	Manly Junction, Iowa-Cedar Falls Junction, Iowa; 67.3 miles
FRA Track Class	Class 2
Number of Main Tracks	One main track with passing sidings
Maximum Authorized Speed Freight	25 mph freight
Maximum Authorized Speed Passenger	30 mph passenger
Wayside Signals	None
Method of Operation	• Yard Limits (YL) Manly, Iowa-Reindl, Iowa • Track Warrant Control (TWC) Reindl, Iowa-Cedar Falls Junction, Iowa
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double-stack capable; Clears Plate H 20'-9" (Manly, Iowa-Cedar Falls Junction, Iowa)
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions)	• 0.98 GTM (Manly-Nora Springs) • 2.14 GTM (Manly-Cedar Falls Junction)

Average Number of Trains per Day	2-4
Commodities Transported	Farm products, hazardous commodities, chemical and allied products, and food and kindred products.
Industrial Spurs	• Bristow Spur: Clarksville, Iowa; approximately 1.7 miles (former Chicago Great Western Railway); 286,000 lbs. maximum allowable gross weight • Cedar Falls Spur: Cedar Falls Junction, Iowa-Cedar Falls, Iowa; approximately 1.8 miles (former Chicago, Rock Island & Pacific Railroad); 286,000 lbs. maximum allowable gross weight
FRA Excepted Track	None

SUBDIVISION: CEDAR RAPIDS SUBDIVISION	
Division	IANR
Owner	IANR
Operator	IANR
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)
Subdivision Route / Mileage	Waterloo, Iowa-Cedar Rapids, Iowa; 50.2 miles
FRA Track Class	Class 2
Number of Main Tracks	One main track with passing sidings
Maximum Authorized Speed Freight	25 mph freight
Maximum Authorized Speed Passenger	30 mph passenger
Wayside Signals	None
Method of Operation	Track Warrant Control (TWC)
Maximum Allowable Gross Weight	286,000 lbs.
Clearances	Double-stack capable; Clears Plate H 20'-9" (Waterloo, Iowa-Cedar Rapids, Iowa)
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions)	2.94 GTM (Waterloo-Cedar Rapids)
Average Number of Trains per Day	2
Commodities Transported	Farm products, hazardous commodities, chemical and allied products, and food and kindred products.
Industrial Spurs	• Dysart Spur: Vinton, Iowa; approximately 1.2 miles (former Chicago, Rock Island & Pacific Railroad); 286,000 lbs. maximum allowable gross weight • FPL Spur: Palo, Iowa; approximately 2.7 miles; 286,000 lbs. maximum allowable gross weight
FRA Excepted Track	None

SUBDIVISION: OELWEIN SUBDIVISION	
Division	IANR
Owner	D&W Railroad (DWRV)
Operator	IANR
Line Heritage	Chicago Great Western Railway (CGW)
Subdivision Route / Mileage	Dewar, Iowa-Oelwein, Iowa; 22.0 miles
FRA Track Class	Class 1
Number of Main Tracks	One main track with passing sidings
Maximum Authorized Speed Freight	10 mph freight
Maximum Authorized Speed Passenger	N/A

Wayside Signals	None
Method of Operation	• Track Warrant Control (TWC) Dewar, Iowa-Oelwein, Iowa • Yard Limits (YL) at Oelwein, Iowa
Maximum Allowable Gross Weight	268,000 lbs.
Clearances	Clears Plate H 20' 9" Above Top of Rail (Dewar, Iowa-Oelwein, Iowa)
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions)	0.58 GTM (Dewar-Oelwein)
Average Number of Trains per Day	2
Commodities Transported	Farm products, hazardous commodities, chemical and allied products, and food and kindred products.
Industrial Spurs	None
FRA Excepted Track	None

SUBDIVISION: GARNER SUBDIVISION	
Division	IANR
Owner	North Central Iowa Rail Corridor (NCIRC)
Operator	IANR
Line Heritage	Chicago, Rock Island & Pacific Railroad (CRI&P)
Subdivision Route / Mileage	Belmond, Iowa-Forest City, Iowa; 27.9 miles
FRA Track Class	Class 1
Number of Main Tracks	One main track with passing sidings
Maximum Authorized Speed Freight	10 mph freight
Maximum Authorized Speed Passenger	N/A
Wayside Signals	None
Method of Operation	• Track Warrant Control (TWC) Belmond, Iowa-Garner, Iowa • Yard Limits (YL) Garner, Iowa • Track Warrant Control (TWC) Garner, Iowa-Forest City, Iowa
Maximum Allowable Gross Weight	263,000 lbs.
Clearances	21' 0" Above Top of Rail (Belmond, Iowa-Forest City, Iowa)
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions)	0.02 GTM (Belmond-Forest City)
Average Number of Trains per Day	0-2
Commodities Transported	Farm products, hazardous commodities, chemical and allied products, and food and kindred products.
Industrial Spurs	Forest City Spur: Forest City, Iowa; approximately 1.5 miles (former Minneapolis & St. Louis Railway); 263,000 lbs. maximum allowable gross weight
FRA Excepted Track	None

Source: IANR and Iowa DOT

A.4.9 Iowa River Railroad (IARR)

The Iowa River Railroad (IARR) is a Class III railroad based in Steamboat Rock, Iowa. IARR was established in 2006 to operate former Minneapolis & St. Louis Railway trackage acquired from UP between Marshalltown and Steamboat Rock, Iowa, and from the North Central Railway Association (NCRA) between Steamboat Rock and Ackley, Iowa. IARR abandoned the Marshalltown-Steamboat Rock segment in 2012. Today, IARR operates over the 9-mile segment between Steamboat Rock and Ackley and is used primarily to serve an ethanol plant near Steamboat Rock.

Table A.23 below includes a datasheet for IARR identifying additional details and operating and physical characteristics of the IARR network in Iowa.

Table A.23: IARR Datasheet

RAILROAD:	IOWA RIVER RAILROAD						
Alpha Code:	IARR						
Operator:	IARR						
Parent Company:	N/A						
Contact:	Renee Schachterle						
Phone:	(641) 868-2676						
Email:	rschachterle@pinelakecorn.com						
Company Website:	N/A						
SERVICE AREA							
Counties in Iowa:	Hardin						
Principal Stations in Iowa:	Ackley, Steamboat Rock						
RAIL TRAFFIC							
Principal Commodities:	Ethanol and farm products						
Annual Carloads in Iowa (2014):	1,227 (IARR system is entirely within Iowa)						
IOWA ROUTE MILES							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
Ackley-Steamboat Rock	9	9	0	9	0	0	0-1
Total	9	9	0	9	0	0	
TRACK CHARACTERISTICS (AS NECESSARY BY LINE SEGMENT)							
FRA Track Class:	Class 1						
Operating Speed:	10 mph						
Signal System:	None						
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions):	0.11 GTM						
Weight Limits:	265,000 lbs.						
Vertical Clearance and Restrictions:	Unknown						
FRA Excepted Track:	None						

INTERCHANGE POINTS	
Location:	**Railroad:**
Ackley	CN
FACILITIES	
Type:	**Location:**
Classification Yards	None
Transload Facility	None
Intermodal Facility	None
Mechanical Facility	None
BRIDGES	

Number of Bridges on IARR in Iowa:	**Number of Bridges in Need of Repair:**
Number of Bridges in Need of Upgrade to Handle 286K Loads:	**Other Bridge Comments, if applicable:**
PRESENT CAPACITY CONSTRAINTS AND OPERATIONAL BOTTLENECKS	
Location:	**Description:**
FUNDED CAPITAL PROJECTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Ident**ification and Description:**	**Estimated Costs, if known:**
FUTURE PLANNED IMPROVEMENTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Identification and Description:	**Estimated costs, if known:**
OTHER IMPROVEMENT AND INFRASTRUCTURE NEEDS (NOT YET FUNDED OR PLANNED), INCLUDING REHABILITATION OR CONSTRUCTION OF SPUR TRACKS FOR INCREASED OR RENEWED USE BY RAIL SHIPPERS	
Identification and Description:	**Estimated costs, if known:**
OTHER COMMENTS	
Identification:	**Description:**

Source: IARR and Iowa DOT

A.4.10 Iowa Traction Railway (IATR)

The Iowa Traction Railway (IATR) is a Class III railroad based in Mason City, Iowa, and one of seven railroads owned and operated by short line railroad conglomerate Progressive Rail of Lakeville, Minnesota. IATR traces its history back to the founding of the Mason City & Clear Lake Railway (MC&CL) in 1896, was acquired by Progressive Rail in 2012, and is the only remaining electrified common carrier freight railroad in Iowa. IATR operates over approximately 10.4 miles of mostly former MC&CL trackage between Mason City and Clear Lake, Iowa.

Table A.24 below includes a datasheet for IATR identifying additional details and operating and physical characteristics of the IATR network in Iowa.

Table A.24: IATR Datasheet

RAILROAD:	IOWA TRACTION RAILWAY
Alpha Code:	IATR
Operator:	IATR
Parent Company:	Progressive Rail
Contact:	Michael Johns
Phone:	(612) 791-3255
Email:	mjohns@progressiverail.com
Company Website:	www.progressiverail.com
SERVICE AREA	
Counties in Iowa:	Cerro Gordo
Principal Stations in Iowa:	Mason City and Clear Lake
RAIL TRAFFIC	
Principal Commodities:	Food and kindred products, farm products, scrap materials, biofuels, and utility poles

Annual Carloads in Iowa (2014):	Carloads in 2013: 4,424 (IATR system is entirely within Iowa) Note: Carload data for 2014 unavailable.

IOWA ROUTE MILES

Subdivision or Segment and Limits	Length	Operated	Out of Service	Owned	Leased	Trackage Rights	Average Number of Trains per day
Mason City-Clear Lake	10	10	0	10	0	0	0-1
Total	10	10	0	10	0	0	

TRACK CHARACTERISTICS (AS NECESSARY BY LINE SEGMENT)

FRA Track Class:	Class 1
Operating Speed:	10 mph
Signal System:	None
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions):	0.25 GTM
Weight Limits:	286,000 lbs.
Vertical Clearance and Restrictions:	19' 6" Above Top of Rail
FRA Excepted Track:	Unknown

INTERCHANGE POINTS

Location:	Railroad:
Mason City	CP, UP

FACILITIES

Type:	Location:
Classification Yards	None
Transload Facility	Mason City, Emery
Intermodal Facility	None
Mechanical Facility	Emery

BRIDGES

Number of Bridges on IATR in Iowa:	**Number of Bridges in Need of Repair:**
Number of Bridges in Need of Upgrade to Handle 286K Loads:	**Other Bridge Comments, if applicable:**

PRESENT CAPACITY CONSTRAINTS AND OPERATIONAL BOTTLENECKS

Location:	Description:

FUNDED CAPITAL PROJECTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)

Identification and Description:	Estimated Costs, if known:

FUTURE PLANNED IMPROVEMENTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)

Identification and Description:	Estimated costs, if known:

OTHER IMPROVEMENT AND INFRASTRUCTURE NEEDS (NOT YET FUNDED OR PLANNED), INCLUDING REHABILITATION OR CONSTRUCTION OF SPUR TRACKS FOR INCREASED OR RENEWED USE BY RAIL SHIPPERS

Identification and Description:	Estimated costs, if known:

OTHER COMMENTS

Identification:	Description:

Source: IATR and Iowa DOT

A.4.11 Keokuk Junction Railway (KJRY)

The Keokuk Junction Railway (KJRY) is a Class III railroad based in Peoria, Illinois, and one of several railroads owned and operated by short line conglomerate Pioneer Railcorp. of Peoria, Illinois. KJRY was established in 1981 to operate former Chicago, Rock Island & Pacific Railroad trackage at Keokuk, Iowa, and later expanded with the 1986 acquisition from the Atchison, Topeka & Santa Fe Railway of the former Toledo, Peoria & Western Railroad between Keokuk, Iowa, and La Harpe, Illinois (east of Keokuk, Iowa). Subsequent expansions included trackage acquisition from La Harpe to Peoria and Lomax, Illinois, and trackage rights over the BNSF Railway Chillicothe Subdivision between Lomax, Illinois, and Fort Madison, Iowa. KJRY operates 1 mile in Iowa (a segment of the KJRY Iowa Subdivision at Keokuk) and has 3 miles of trackage rights in Iowa.

Table A.25 below includes a datasheet for KJRY identifying additional details and operating and physical characteristics of the KJRY network in Iowa.

Table A.25: KJRY Datasheet

RAILROAD:	KEOKUK JUNCTION RAILWAY						
Alpha Code:	KJRY						
Operator:	KJRY						
Parent Company:	Pioneer Railcorp						
Contact:	Nathan Johns						
Phone:	(309) 697-1400						
Email:	njohns@pioneer-railcorp.com						
Company Website:	www.pioneer-railcorp.com						
SERVICE AREA							
Counties in Iowa:	Lee						
Principal Stations in Iowa:	Keokuk						
RAIL TRAFFIC							
Principal Commodities:	Food and Kindred Products and Farm Products						
Annual Carloads in Iowa (2014):	6,428 (KJRY system in Iowa and Illinois); 3,112 (in Iowa only)						
IOWA ROUTE MILES							
Subdivision or Segment and Limits	**Length**	**Operated**	**Out of Service**	**Owned**	**Leased**	**Trackage Rights**	**Average Number of Trains per day**
KJRY Iowa Subdivision — Keokuk, Iowa — Iowa/Illinois state line at Keokuk, Iowa	1	1	0	1	0	0	0-1
Iowa / Illinois state line at Fort Madison, Iowa — Fort Madison, Iowa	3	3	0	0	0	3 (over BNSF Chillicothe Subdivision)	0
Total	9	9	0	9	0	0	
TRACK CHARACTERISTICS (AS NECESSARY BY LINE SEGMENT)							
FRA Track Class:	Class 1						
Operating Speed:	10 mph						

Signal System:	None
Current Traffic Density (2014) in Annual Gross Tons per Mile (in Millions):	Under 1.0 GTM
Weight Limits:	263,000 lbs.
Vertical Clearance and Restrictions:	Unknown
FRA Excepted Track:	None
INTERCHANGE POINTS	
Location:	**Railroad:**
Keokuk	BNSF
Fort Madison	UP
FACILITIES	
Type:	**Location:**
Classification Yards	Keokuk
Transload Facility	Keokuk
Intermodal Facility	None
Mechanical Facility	La Harpe (Illinois)
BRIDGES	
Number of Bridges on KJRY in Iowa: 1	**Number of Bridges in Need of Repair:**
Number of Bridges in Need of Upgrade to Handle 286K Loads:	**Other Bridge Comments, if applicable:**
PRESENT CAPACITY CONSTRAINTS AND OPERATIONAL BOTTLENECKS	
Location:	**Description:**
Keokuk	Limited yard space for storage of primary shippers' private railcars
FUNDED CAPITAL PROJECTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Identification and Description:	**Estimated Costs, if known:**
KJRY Keokuk Yard Enhancements Phase I — Includes rehabilitation of 4 miles of yard tracks and replacement of one switch.	$350,000
FUTURE PLANNED IMPROVEMENTS (INFRASTRUCTURE AND OTHER IMPROVEMENTS)	
Identification and Description:	**Estimated costs, if known:**
KJRY Keokuk Yard Enhancements Phase II — Includes replacement of four yard switches and a rehabilitation of corresponding yard tracks.	$380,000
OTHER IMPROVEMENT AND INFRASTRUCTURE NEEDS (NOT YET FUNDED OR PLANNED), INCLUDING REHABILITATION OR CONSTRUCTION OF SPUR TRACKS FOR INCREASED OR RENEWED USE BY RAIL SHIPPERS	
Identification and Description:	**Estimated costs, if known:**
Keokuk Transload Facility Enhancements	
OTHER COMMENTS	
Identification:	**Description:**

Source: KJRY and Iowa DOT

A.5 Non-Operating Railroad Owners in Iowa

The following two entities own trackage in Iowa that is part of the state rail network, but are considered non-operators. Each non-operating railroad owner has established an agreement with an operator to provide rail service. The location of these segments within the Iowa rail network was identified previously in Figure A.8 in Appendix A.4 above. The general physical characteristics for the networks of each non-operating railroad owner are included in the discussion for the designated Class III railroad operator of each segment included earlier in Appendix A.4.

A.5.1 North Central Iowa Rail Corridor (NCIRC)

The North Central Iowa Rail Corridor, LLC (NCIRC), based in Forest City, Iowa, was established as a locally owned entity in 2009 to preserve rail service in three Iowa counties. NCIRC acquired approximately 28 miles of former Chicago, Rock Island & Pacific Railroad trackage between Belmond and Forest City, Iowa, from then-owner UP in 2011. The corridor is today privately owned by a consortium of rail shippers, private citizens, and the IANR. Rail service on NCIRC is provided under contract by IANR and the line between Belmond and Forest City is designated as the IANR Garner Subdivision.

A.5.2 State of South Dakota (SD)

The State of South Dakota (SD) is a non-carrier in Iowa. The Chicago, Milwaukee, St. Paul & Pacific Railroad (CMStP&P) retrenched from much of South Dakota and Iowa in 1980. The state of South Dakota acquired the essential components of the CMStP&P network in South Dakota in stages during 1980-1982 to preserve rail service and sustain local economies. Additional essential rail lines owned by other carriers — notably the Chicago & North Western Railway (C&NW) — were also acquired by the state of South Dakota. This growing network included rail lines with connectivity to Iowa and the Iowa rail network. The state of South Dakota subsequently sold the core network of former CMStP&P lines to BNSF in 2005, but retained ownership of approximately 406 miles of active rail lines and approximately 124 miles of railbanked lines in South Dakota, Iowa, and North Dakota[3].

Segments of state of South Dakota owned trackage that feature some mileage in Iowa include the former CMStP&P line between Elk Point and Canton, South Dakota, via Hawarden, Iowa, and the former C&NW line between Hawarden, Iowa, and Beresford, South Dakota. This cluster is known as the Sioux Valley Line, which presently includes approximately 69 route miles, of which approximately 35 miles are located in Iowa[4]. The Sioux Valley Line is currently owned by the state of South Dakota, leased to the Sioux Valley Regional Railroad Authority (SVRRA), and operated by DAIR.

A.6 Industrial Railroads in Iowa

Industrial railroads exist in Iowa that typically provide intraplant and interplant rail switching service to industrial and manufacturing customers and to coordinate and facilitate carload interchange with Class I, II, or III railroads. These small privately owned switching railroads operate over short segments of private industrial track on private property, and exist at many grain elevators, ethanol plants, and other manufacturing and industrial facilities in Iowa. These operations can be owned and operated by the company they serve or can be operated under a contract agreement with an outside party. Due to their classification, the mileage of privately owned industrial track is not included in route-mile calculations of the Iowa rail network. Specific industrial railroad applications and private track ownership in Iowa are not identified in the Iowa State Rail Plan.

A.7 Major Railroad Yards and Facilities in Iowa

The section identifies the location of known major Class I, II, and III railroad yards and facilities in Iowa, including the following:

3 *Official South Dakota Rail Map; South Dakota Department of Transportation, June 2015*
4 *Ibid*

- **Yard/Terminal** — Locations with yards where railcars are switched, classified, and stored and where trains are built and staged. Iowa's principal rail yards are located throughout the state.
- **Freight Car Repair Facilities** — Locations where railcars used for freight transportation may be repaired in Iowa.
- **Locomotive Repair and Servicing Facilities** — Locations where railroad locomotives may be repaired and/or serviced (which may include fueling) in Iowa.

Class I Railroads

Major freight rail yards and facilities of Class I railroads in Iowa, to the extent known through coordination with the state's railroads, are shown in Table A.26 below.

Table A.26: Iowa Class I Railroads Major Freight Rail Yards and Facilities in Iowa

CITY	YARD/TERMINAL	FREIGHT CAR REPAIR FACILITIES	LOCOMOTIVE REPAIR AND/OR SERVICING FACILITIES
Boone	UP (Boone Yard)		UP
Burlington	BNSF		
Cedar Rapids	• CN (A Yard and B Yard) • UP (Beverly Yard and North Yard)	UP	
Clinton	UP (Clinton Yard)	UP	UP
Council Bluffs	• BNSF • CN • UP (Council Bluffs Yard)	UP	UP
Creston	BNSF (Creston Yard)		
Davenport	CP (Nahant Yard)	CP	CP
Des Moines	• BNSF • NS (Glake Yard) • UP (Short Line Yard, Hull Yard, and Highland Yard)	UP	UP
Dubuque	CN, CP		
Eagle Grove	UP	UP	UP
Fort Dodge	CN, UP		
Fort Madison	BNSF		
Marquette	CP		
Marshalltown	UP		
Mason City	CP, UP	CP, UP	CP, UP
Missouri Valley	UP		
Muscatine	CP		
Omaha, Nebraska (opposite Council Bluffs, Iowa)		BNSF	BNSF
Ottumwa	BNSF, CP		
Sioux City	BNSF, CN, UP	BNSF	BNSF
Tara	CN		
Waterloo	CN (Waterloo Yard)	CN	CN

Source: BNSF, CP, NS, UP, Iowa DOT, and Iowa DOT "Iowa Rail Toolkit," October 2014

Class II and Class III Railroads

Major freight rail yards and facilities of Class II and Class III railroads in Iowa, to the extent known through coordination with the state's railroads, are shown in Table A.27 below.

Table A.27: Iowa Class II and III Railroads Major Freight Rail Yards and Facilities in Iowa

CITY	YARD/TERMINAL	FREIGHT CAR REPAIR FACILITIES	LOCOMOTIVE REPAIR AND/OR SERVICING FACILITIES
Boone	BSV		BSV
Burlington	BJRY	BJRY	BJRY
Butler (Shell Rock)	IANR (Butler Yard)		
Cedar Rapids	CIC (Shops Yard, Smith-Dows / 900 Yard, and other industrial yards)	CIC	CIC
Council Bluffs	IAIS (Council Bluffs Yard)	IAIS	IAIS
Emery (Mason City / Clear Lake)	IATR		IATR
Iowa City	IAIS (Iowa City Yard)		
Keokuk	KJRY		
Manly	IANR (Manly Yard)	IANR	IANR
Newton	IAIS (Newton Yard)		
Sioux City	DAIR		
South Amana	IAIS (South Amana Yard)	IAIS	IAIS
Waterloo	IANR (Bryant Yard)	IANR	IANR

Source: BJRY, CIC, DAIR, IAIS, IANR, IARR, IATR, KJRY, Iowa DOT, and Iowa DOT "Iowa Rail Toolkit," October 2014

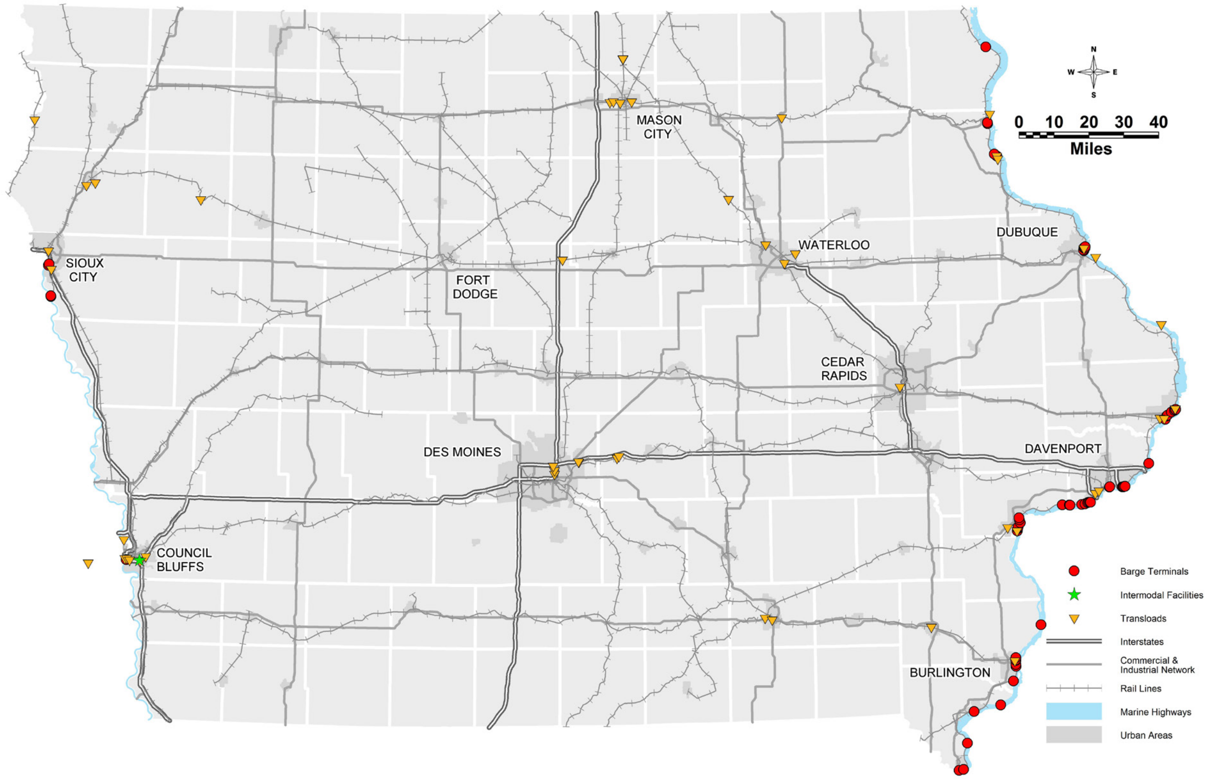
A.8 Multimodal Connections to the Iowa Rail Network

Multimodal connections to the Iowa rail network are the subject of this section and include the following facilities:

- **Rail Intermodal Facility** — Location where the transfer of containers and trailers between road (truck) and rail modes occurs. There is presently one rail intermodal facility in Iowa.
- **Rail Transload Facility** — Other "intermodal" facility location where freight is transferred between two modes of transportation — generally between road (truck) and rail modes. There are several transload facilities on the Iowa rail network. Commonly transloaded commodities include finished and unfinished goods, food and beverage products, lumber, metals, paper, building materials, and other packaged bulk commodities.
- **River Barge Terminal Facility** — Other "intermodal" facility location where freight is transferred between two modes of transportation — rail and barge. Commonly transloaded commodities are bulk commodities, including grains, fertilizer, coal, and sand.

Figure A.10 below shows the distribution of these multimodal connections across the Iowa rail network, which are identified and described by type and location later in this section.

Figure A.10: Map of Multimodal Facilities with Connections to the Iowa Rail Network



Source: Iowa DOT

Rail Intermodal Facilities

Iowa currently has one intermodal freight rail facility — the Council Bluffs Railport — which is located on and operated by Class II railroad Iowa Interstate (IAIS) in Council Bluffs and provides direct access to Class I UP's national network and the IAIS' regional network. This UP/IAIS facility provides an interface between truck and rail transportation modes and handles domestic and international intermodal freight. Iowa's shippers have access to international markets via seaports on the U.S. West Coast. The terminal is capable of handling Container on Flat Car (COFC) and Trailer on Flat Car (TOFC) freight shipments by rail.

According to UP data, the Council Bluffs Railport currently handles domestic and international Container on Flat Car (COFC) shipments. The intermodal service lanes or network corridors over which services are provided and on which shippers at Council Bluffs have access are described below.

Domestic COFC shipments to/from[5]:

- ICTF at Long Beach, California
- Lathrop, California
- Oakland, California
- Seattle, Washington

International COFC shipments to/from international ports on the U.S. West Coast at[6]:

- ICTF at Long Beach, California
- Oakland, California
- Seattle, Washington

5 *Union Pacific Railroad Intermodal Domestic Container Service Matrix; May 25, 2015*

6 *Union Pacific Railroad Intermodal International Service Matrix (Marine Containers Only); June 9, 2015*

IAIS also offers intermodal service between the Council Bluffs Railport and an IAIS intermodal facility in Blue Island (Chicago), Illinois[7].

The location of the Council Bluffs Railport and proximity to local roadways and Interstate Highways 29 and 80 is shown in Figure A.11 below.

Figure A.11: Council Bluffs Railport

Source: Google Earth; October 14, 2014 image

The Council Bluffs Auto Facility, a distribution center where finished automobiles are transferred from railcars to trucks, is located west of the Council Bluffs Railport on the UP at Council Bluffs.

Other UP intermodal facilities located in proximity to Iowa shippers include Chicago (multiple facilities) and Rochelle, Illinois (west of Chicago), and Kansas City, Missouri.

BNSF Railway also currently offers intermodal services to and from the Council Bluffs, Iowa, area via its Omaha Intermodal Facility in Omaha, Nebraska[8]. The facility provides access to BNSF intermodal services east to Chicago, south to Texas, and west to ports on the U.S. West Coast.

Other BNSF intermodal facilities and logistics parks located in close proximity to Iowa shippers include Chicago and Joliet, Illinois; Kansas City, Kansas; and St. Paul, Minnesota.

7 *http://iaisrr.com/ship-with-iais/intermodal/*

8 *http://www.bnsf.com/customers/where-can-i-ship/facility-hours-directions/omaha.html*

Rail Transload Facilities

In its broadest definition, transloading is the process of transferring freight between two modes of transportation; the section refers to instances in which freight is transferred between rail and truck in the state. Transloads located across Iowa — and in close proximity, in the neighboring states of Illinois and Nebraska — provide a variety of services, facilities, and equipment to transfer freight of varying commodity and shipment types. For example, some bulk commodities require augers or blowers to load rail cars, while other commodities use bottom dump and pit facilities to move product from rail to truck or from truck to rail. Some transloads may only consist of a team track, while others may have more extensive facilities and storage capabilities. Some commodities may require warehouse or cross-dock facilities for packaged products. There are many service combinations available at a rail transload location and many logistics service providers are able to customize service for local users in the state based upon specialized freight characteristics. For example, some transloading facilities specialize in refrigerated or frozen goods, which require a cold storage transload and / or warehouse. Additional details about the types and functions of various transloads are described in the Iowa State Freight Plan and the Iowa Rail Toolkit developed by Iowa DOT.

Transload facilities with connections to the Iowa rail network, to the extent known through outreach conducted by Iowa DOT for the companion Iowa State Freight Plan, are identified and described in Table A.28 below.

River Barge Terminal Facilities

Owing to its inland position, Iowa does not have any seaports; however, the state is located on two major inland waterways navigable for trade or commercial transportation purposes. These waterways include the Mississippi River and the Missouri River, which provide nearly 500 miles of navigable waterways serving Iowa and a connection to the Gulf of Mexico[9]. The Mississippi River, which is commercially navigable between Minneapolis, Minnesota, and the Gulf of Mexico near New Orleans, Louisiana, defines Iowa's eastern boundary between New Albin and Keokuk, Iowa. Major Iowa cities on the Mississippi River include Marquette, Dubuque, Clinton, Bettendorf, Davenport, Muscatine, Burlington, Fort Madison, and Keokuk. The Missouri River, which is commercially navigable between Sioux City, Iowa, and its confluence with the Mississippi River at St. Louis, Missouri, defines Iowa's western boundary between Sioux City and Hamburg, Iowa. Major Iowa cities on the Missouri River include Sioux City, Sergeant Bluff, and Council Bluffs. Iowa's freight railroads serve all major Iowa cities identified on the Mississippi and Missouri rivers.

Iowa has 60 river ports or barge terminals — 55 on the Mississippi River and five on the Missouri River[10]. Several of these facilities have multimodal connections to the Iowa rail network, although these connections may or may not be currently active. Some river barge terminals have public access, while others are private terminals. River barge terminals in Iowa with connections to the Iowa rail network, to the extent known through outreach conducted by Iowa DOT during development of the Iowa State Freight Plan, are identified and described in Table A.28 below.

Inventory of Multimodal Facilities with Connections to the Iowa Rail Network

Table A.28 below identifies specific multimodal facilities with connections to the Iowa rail network, to the extent known through outreach undertaken to assemble a state transload inventory by Iowa DOT during development of the Iowa State Freight Plan.

Additional details about the access, services, capabilities, and capacity for each multimodal facility can be found in the Iowa State Freight Plan.

9 Iowa DOT River Barge Terminal Directory, Revised April 2011
10 Ibid

Table A.28: Inventory of Multimodal Facilities with Connections to the Iowa Rail Network

NAME	CITY	PUBLIC FACILITY	INTERMODAL	TRANSLOAD	CROSS-DOCK	TEAM TRACK	WAREHOUSE	TRUCK TO RAIL	TRUCK TO BARGE	RAIL TO BARGE	KNOWN RAILROAD CONNECTIONS
ADM Terminal Services — Camanche Terminal	Camanche, Iowa	●		●	●		●	●	●	●	BNSF, CP, UP
ADM Terminal Services — Clinton Terminal	Clinton, Iowa	●		●			●	●	●	●	BNSF, CP, UP
BAT Logistics	Council Bluffs, Iowa			●				●			
Big Soo Terminal	Sioux City, Iowa			●				●	●	●	UP
Burlington Junction Railway	Mount Pleasant, Iowa	●		●				●			BJRY, BNSF
Bryant Yard	Waterloo, Iowa	●		●	●		●	●			IANR
Buesing Bulk Transport Inc.	Mason City, Iowa	●									IATR, UP, CP
Burlington Junction Railway	Burlington, Iowa	●		●	●	●	●	●		●	BJRY, BNSF
Burlington Junction Railway	Ottumwa, Iowa	●		●	●	●		●			BJRY, BNSF
Burlington Junction Railway Transload	Le Mars, Iowa	●		●	●	●		●			BJRY, CN
Butler Logistics Park	Shell Rock, Iowa										IANR
CAM II Warehouse	Muscatine, Iowa	●					●	●			CP
Cartersville Elevator Inc.	Mason City, Iowa	●		●				●			CP
Catch-Up Logistics	Davenport, Iowa										CP
Clausen Companies Warehousing	Clinton, Iowa	●		●	●		●	●			UP
Cloverleaf Cold Storage	Cherokee, Iowa	●					●	●			CN
Consolidated Grain and Barge	Clayton, Iowa			●				●		●	CP
Council Bluffs Railport	Council Bluffs, Iowa	●	●					●			IAIS, UP
Cox Contracting Company Inc.	Council Bluffs, Iowa			●				●			
CRANDIC Railroad — Wilson Avenue Team Track	Cedar Rapids, Iowa	●		●	●	●		●			CIC
Des Moines Cold Storage	Des Moines, Iowa										
Gavilon	Dubuque, Iowa			●			●	●	●	●	
Gavilon	Prairie du Chien, Wisconsin (opposite Marquette, Iowa)	●		●				●	●	●	
GCC Dakotah Cement/L.G. Everist	Hawarden, Iowa	●		●				●			DAIR

Geo Transload, LLC	Omaha, Nebraska (opposite Council Bluffs, Iowa)	●		●			●	●			UP
IEI Barge Services	East Dubuque, Illinois (opposite Dubuque, Iowa)	●		●		●	●	●	●	●	CN
Iowa Cold Storage	Altoona, Iowa	●			●			●			IAIS
Iowa Dry Warehouse	Mason City, Iowa	●		●	●	●	●	●			IATR, UP, CP
Iowa Interstate Railroad	Newton, Iowa	●				●		●			IAIS
Iowa Interstate Railroad Intermodal Facility	Council Bluffs, Iowa		●					●			IAIS
Iowa Traction Railroad/ Progressive Rail	Mason City, Iowa			●	●	●		●			IATR
Kinder Morgan/Black Hawk Terminal	Waterloo, Iowa	●		●			●	●			UP
Kinder Morgan/Muscatine	Muscatine, Iowa	●		●			●	●			CP
Kinder Morgan/Omaha Terminal	Omaha, Nebraska	●		●			●	●	●		UP
L.G. Everist	Sioux City, Iowa	●		●				●			DAIR
Le Mars Public Storage, Inc.	Le Mars, Iowa				●		●	●			CN
Luckey Logistics	Des Moines, Iowa			●				●			UP
Luckey Logistics	Newton, Iowa			●				●			IAIS
Manly Terminal	Manly, Iowa			●				●			IANR
Manly Yard	Manly, Iowa	●		●			●	●			IANR
Merchants Distribution Service	Altoona, Iowa	●		●	●		●	●			IAIS
Merchants Distribution Service	Des Moines, Iowa	●		●	●		●	●			UP
Murrays Warehousing	Davenport, Iowa	●		●	●		●				CP
New Hampton Transfer and Storage	New Hampton, Iowa	●		●	●		●	●			CP
Omaha Transloading	Omaha, Nebraska (opposite Council Bluffs, Iowa)	●		●			●	●			BNSF
Pattison Sand Company	Near Garnavillo, Iowa										CP
Quest Liner/Foodliner	Ottumwa, Iowa			●				●			CP
Riverport Railroad, LLC	Savanna, Illinois (opposite Sabula, Iowa)	●		●			●	●			BNSF
Standard Distribution Rail Facility	Cedar Falls, Iowa	●		●	●		●	●			CN
Union Pacific Distribution Services	Council Bluffs, Iowa				●	●					UP
Union Pacific Distribution Services	Camanche, Iowa										UP

Williams Bulk Transfer	Williams, Iowa	●		●	●	●	●	●			CN

Source: Iowa DOT

Iowa State Rail Plan Final

Appendix B

Iowa Crude Oil and Biofuels Rail Transportation Study Executive Summary

IOWA DOT

Crude Oil and Biofuels Rail Transportation Study

Final Study: Executive Summary

April 2016

Executive Summary

Purpose

The Iowa Crude Oil and Biofuels Rail Transportation Study (the Study) was created through an initiative of the Iowa Department of Transportation's (Iowa DOT) Office of Rail Transportation in cooperation with the Iowa Homeland Security and Emergency Management Department (Iowa HSEMD). These agencies sought to define the characteristics, risks, prevention, and emergency response system status and capabilities for crude oil and biofuels rail transportation in the state, and to measure Iowa's preparedness, prevention, response, and recovery capabilities in the event that a crude oil or biofuel rail transportation incident were to occur.

Key items that the Study sought to accomplish were as follows:

- Inform the state about the likely current and near-term future frequency, routes, volumes, and transportation characteristics of crude oil and biofuels by rail within and through Iowa
- Assess the potential risks to public health and safety, and the potential environmental impacts, created by rail transportation of crude oil and biofuels by rail
- Document current private- and public-sector programs and plans related to rail incident prevention and management, including access to emergency equipment and services
- Identify actions to address potential gaps in prevention, preparedness, response, and recovery methods and make public health and safety and environmental protection recommendations for appropriate federal, state, and local agencies, or the private sector
- Establish internal assignments and timelines to quantify successful implementation of findings and recommendations provided in the Study
- Formulate recommendations to close potential gaps in the following areas that would cause a shortfall in Iowa's capabilities for prevention, preparedness, response, and recovery: rail transportation infrastructure, rail transportation practices, rail transportation regulations and regulatory oversight, emergency response resources, organization, training, and response capabilities, communication systems and methods, and other concerns identified through the Study

Crude Oil and Biofuels in Iowa

This Study examined both crude oil and biofuels rail transportation. Both commodities are at present transported by railroads in large volumes in and through Iowa.

Crude Oil

No crude oil shipments originate and terminate in Iowa at present, nor are likely to in the future; however, substantial quantities of crude oil shipments originating in other states pass through

Iowa en route to their destination. Current principal sources of crude oil passing through Iowa include the Williston Basin (Bakken) Field of North Dakota, synthetic and blended oil extracted from oil sands in Alberta and Saskatchewan, Canada. This crude oil is typically sold for markets in the southern and eastern U.S. Other origins of crude oil moving through Iowa include the Niobrara Field of northeast Colorado and the Uinta Basin of northeast Utah. The crude oil consists of various specific gravities and volatility ranging from heavy bitumen to light crude oil.

Biofuels

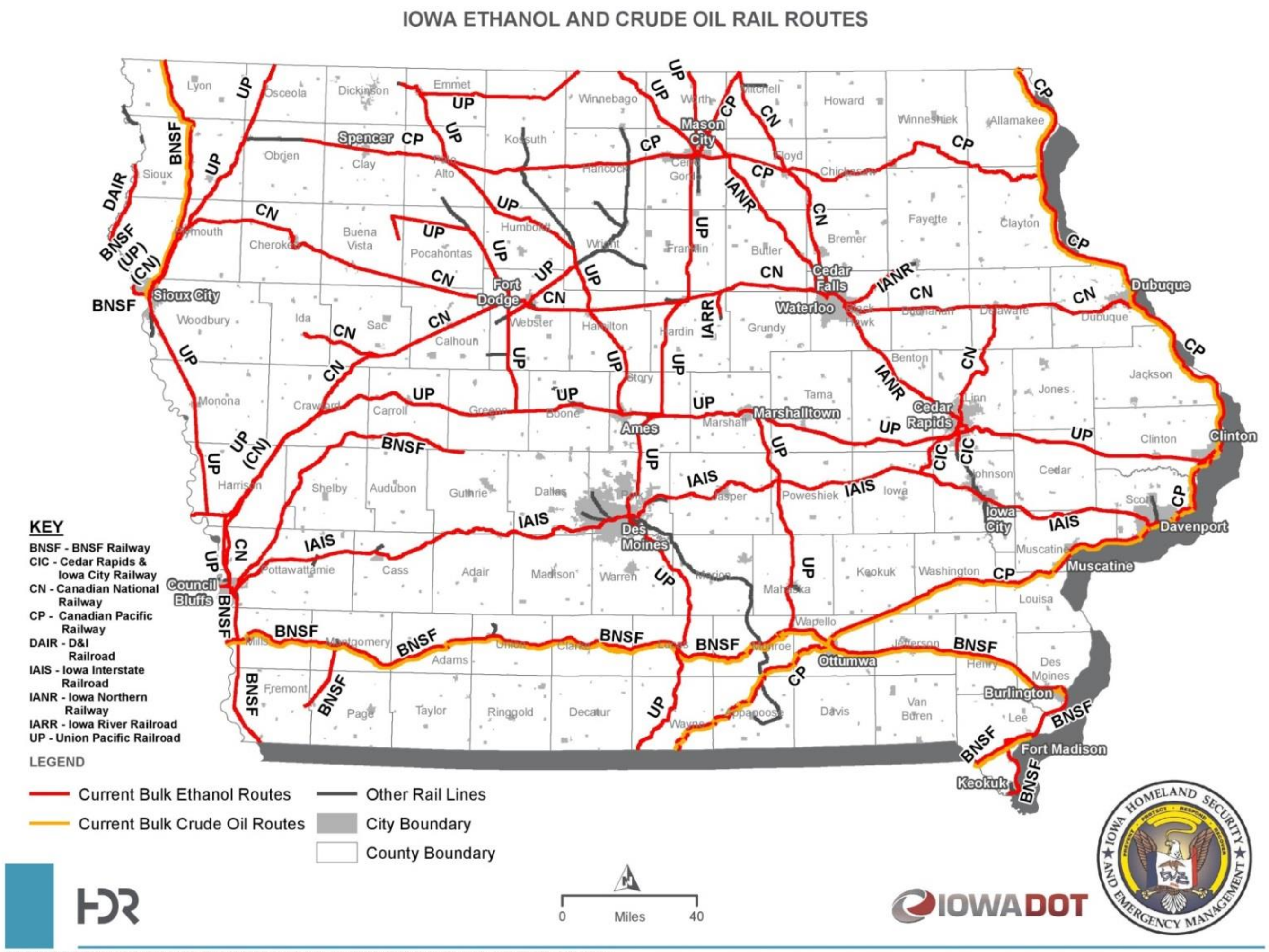
Biofuels transported by rail in and through Iowa consist principally of ethanol and biodiesel. Biodiesel is produced in small quantities relative to ethanol, and is almost exclusively consumed locally to its points of origin, and not moved in large quantities by rail. Ethanol is produced in relatively large quantities. Because ethanol is consumed universally throughout the U.S. but is principally produced only in states with high corn production levels, such as Iowa, and because ethanol is not commercially feasible to be moved by pipeline, ethanol is moved by rail between production and consumption points. The state of Iowa is one of the chief producers of ethanol in the United States. The Iowa Renewable Fuels Association estimated that Iowa produced approximately 26 percent of the nation's ethanol (3.92 billion gallons) in 2015; much of this ethanol moved by rail out of Iowa.[1]

Since only small volumes of biodiesel moves by rail in Iowa, biodiesel transportation practices, risks, and vulnerabilities were not examined in detail in this Study.

Figure ES-A, below, depicts current primary railroad routes of crude oil and ethanol transportation by rail in Iowa.

[1] Renewable Fuels Association, *Where Ethanol is Made*, http://www.ethanolrfa.org/consumers/where-is-ethanol-made/

Figure ES-A. Current Iowa Railroad Routes for Bulk Crude Oil and Ethanol Transportation



Source: HDR, Inc. as of 01/27/2016

Methodology

The Study used desktop research, interviews and surveys, a Stakeholder Steering Committee, and workshops to gather and assess information, develop findings, form recommendations, and design an action plan. Desktop research used public sources to assess current practices, regulations, risks, and vulnerabilities. Interviews and surveys were used to focus on the capabilities, practices, and programs of railroads, ethanol shippers, first responders, and federal, state, and local agencies. The Stakeholder Steering Committee included all Iowa railroads currently engaged in large-scale transportation of crude oil and ethanol by rail, selected Iowa producer/shippers of ethanol, selected Iowa emergency responders, and Iowa DOT and Iowa HSEMD. Workshops were used to present findings, discuss gaps and develop strategies to close gaps, to refine recommendations, and to develop implementable action plans. The Study consultant, HDR, Inc., used mapping to relate rail routes used for crude oil and ethanol to various public and environmental risks and vulnerabilities. The mapping informed a Risk and Vulnerability Analysis (RVA) that quantified risks on a county-by-county basis. Stakeholders participating in interviews and workshops included all Iowa railroads currently engaged in large-scale transportation of crude oil and ethanol by rail, selected Iowa producer/shippers of ethanol, many of Iowa's emergency responders, and the principal federal and state agencies involved in the regulation of crude oil and ethanol transportation safety.

Interviews and surveys were designed to discover information related to railroad and ethanol producer/shipper stakeholders' organization, operating characteristics, transportation routes and volumes, prevention programs, response resources, and recovery plans, with respect to the transportation of crude oil and ethanol by rail. Regulating agencies were interviewed to gain insight into the efficacy of current and possible future regulations and regulatory compliance programs, and to obtain their ideas about how Iowa could improve its Study and reduce its risks and vulnerabilities to crude oil and ethanol rail transportation risks.

The Stakeholder Steering Committee (SSC) was created to guide and inform the Study, and provide opportunities for collaboration and improvement related to findings and recommendations. Two SSC meetings were conducted to review. The first discussed the Study's methodology and initial findings from interviews and research, and the second discussed proposed recommendations and actions.

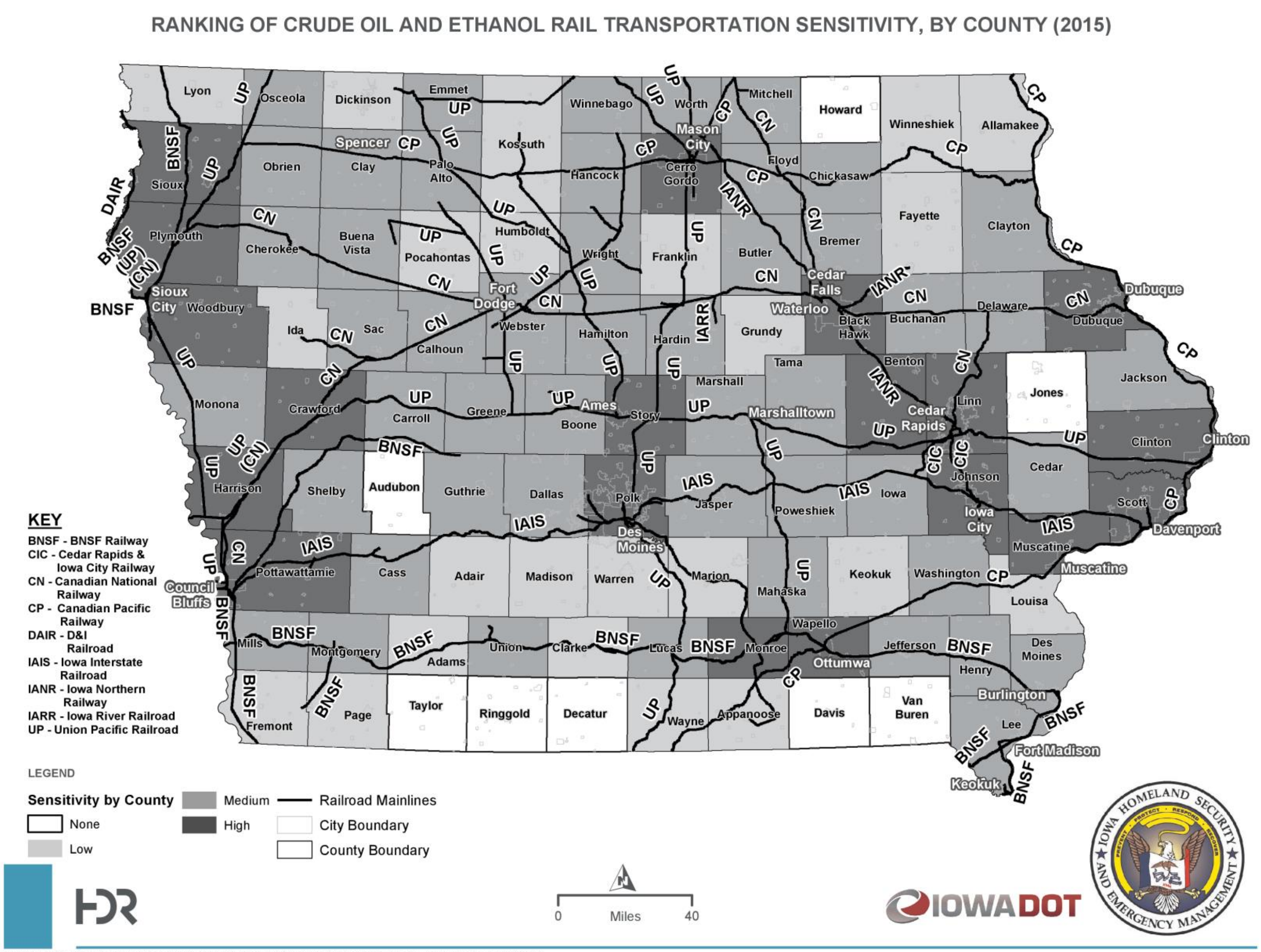
Risk and Vulnerability Assessment

The Risk and Vulnerability Assessment (RVA) considered bulk crude oil and ethanol transportation routes and volumes, recorded previous incidents including main track derailments, spills, and fires, likelihood of future incidents, key public safety and environmental risk factors, and potential impacts from those incidents. These quantities were used to derive an aggregate value for risk.

The RVA was constructed as a building block process on a county-by-county basis, using various factors, such as length of railroad segments carrying crude oil or ethanol within a county, volume of rail traffic, and populations, critical facilities, and environmentally important segments within an identified hazard area. The individual factors were analyzed to determine and overall risk for a given county. The data and information provided for this RVA were the best available data at the time of collection and should be regarded as a snapshot in time, as data changes over time. In addition, all risk assessment results are based on methodology designed specifically for the State of Iowa using Iowa-specific data, statistics, and conditions. Therefore, the results of the RVA are used to prioritize and develop prevention, protection, mitigation, response, and recovery strategies and resources for Iowa.

Figure ES-B, below, depicts the ranking by Iowa county of bulk crude oil and ethanol rail transportation sensitivity. It is crucial to note that this map does not indicate the likelihood of a rail transportation incident, but aids in reinforcing the intended actions of the RVA.

Figure ES-B. Ranking of Crude Oil and Ethanol Rail Transportation Sensitivity, by County (2015)



Source: HDR, Inc. as of 3/24/2016

Findings, Recommendations, and Improvement Actions

Findings, recommendations, and improvement actions are presented in the following tables: ES-A through ES-D. Recommendations were developed by the Study Team using feedback from stakeholders and Iowa DOT and Iowa HSEMD. Improvement actions were guided by several principles:

1. Cooperation and voluntary action by stakeholders would be the preferred methods, instead of new regulation requiring legislative action at the state or federal level.
2. Proposed improvements would be implementable within the near term, and would be practical and meaningful.
3. Proposed improvements would work within existing commercial, economic, regulatory, and technological parameters.
4. Proposed improvements would be amenable to tracking to enable measurement of improvement and the efficacy of actions.
5. Where feasible, improvements would extend to other hazardous commodities transported by rail in or through Iowa.

Table ES-A. Improvement Implementation Strategy - Prevention

Findings/Challenges	Recommendations	Improvement Actions
Prevention		
1. At-grade crossing collisions, which can lead to derailments and incidents, are a single type of risk that requires coordination among state and local government entities to reduce and eliminate. At-grade grade-crossing signal improvements, separations, or closures can be costly and/or difficult to accomplish.	**1.A:** The state should consider ranking at-grade crossings based on their risk relative to their exposure to crude oil, ethanol, and other high-risk hazardous commodities such as toxic inhalation gases, and the crossing's proximity to the public, and develop an investment program in conjunction with railroads and local and county governments that targets public funds onto higher-risk crossings.	**1.A-1:** Reassess the current at-grade crossing benefit-cost process related to hazardous commodities risk. **1.A-2:** Include hazardous materials as a variable in the crossing consolidation formula. **1.A-3:** Build awareness through education and enforcement via the law enforcement and judiciary communities.
	1.B: The state should consider increasing its funding level for at-grade crossing improvement projects, focusing on high safety benefit-cost ratio improvements such as closure, signage, and signaling.	**1.B-1:** Advocate for state and federal funding for railroad-highway grade crossings.
2. The state has limited knowledge of shipper mechanical and safety inspection practices and execution for ethanol tank cars loaded at ethanol producers in Iowa.	**2.A:** The Iowa DOT should consider hiring an FRA-certified motive power and equipment (MP&E) inspector to visit each Iowa ethanol facility on an annual basis to observe inspection practices and report on training, qualifications, and hand-off of tank cars from the ethanol refinery to the handling railroad. The state should consider coordinating with the FRA to obtain its ethanol refinery inspection reports.	**2.A-1:** Work with the Regional FRA to determine whether a state MP&E inspector is necessary and beneficial. **2.A-2:** If determined necessary, advocate for a new position. **2.A-3:** Discuss with ethanol producers and railroads on how a program could be implemented. **2.A-4:** Increase communication with regional FRA MP&E and hazmat inspectors.
	2.B: The state should evaluate and refine an ethanol refinery tank car mechanical inspection program based on its findings from its first year of inspections and coordination.	**2.B-1:** Collect related information from the FRA and refineries for program evaluation. Include Iowa railroads

Findings/Challenges	Recommendations	Improvement Actions
		during implementation process.
3. Railroad infrastructure investment programs help reduce risk of derailments. Potential impacts of derailments, from the state's perspective, are different in each area based on the built and physical environment adjacent to the rail line, and the capabilities of the local response system. Railroad infrastructure investment programs would help the state to reduce risk of derailments. Public investments could include track, bridges, signaling and grade crossings improvements, or installation of asset-protection devices such as Wheel Impact Load Detectors, Hot-Box Detectors, or Dragging-Equipment Detectors.	**3.A:** The state should consider an annual discussion with Iowa's railroads regarding their infrastructure investment and improvement needs. This discussion would enable private /public partnerships for Iowa to target public investments in derailment prevention to the areas that the state perceives to have higher physical and natural environment risks and lower response capabilities.	**3.A-1:** Set up a regular channel to discuss infrastructure investment and improvement needs.
	3.B: The state should consider developing a "public investment inventory" to share with the railroads that identifies improvements supported with public funds including past and anticipated decision criteria.	**3.B-1:** Annually track infrastructure improvements that have been made through public investment.
	3.C: The state should consider increasing state funding and seeking federal grants to focus on high safety benefit-cost ratio improvements such as removal of rail joints in bridges, bridge approaches, and crossings; and installation of asset-protection devices.	**3.C-1:** Advocate for additional funding and seek grant opportunities.

Table ES-B. Improvement Implementation Strategy - Preparedness

Findings/Challenges	Recommendations	Improvement Actions
Preparedness		
1. Local emergency preparedness activities, including that for rail incidents involving crude oil or ethanol, is the responsibility of local emergency managers/coordinators. Many local emergency coordinators are not full-time employees and/or have multiple responsibilities/assignments often not related to emergency management.	**1.A:** County officials should consider prioritizing the identification and maintenance of revenue to fund a full-time emergency manager in each county, or consider resource sharing among neighboring counties to create a full-time emergency manager position that serves a larger community or region. This increase in emergency management capacity would better serve the local planning, preparedness, and response needs of the local communities.	**1.A-1:** Conduct outreach to the Iowa Emergency Managers Association, League of Cities, and Iowa State Association of Counties to fully inform them of the importance of the roles the Emergency Manager undertakes, and form a study group to identify areas where regional emergency management coverage would be of benefit.
2. Many counties and municipalities plan along "all-hazards lines" in Iowa and generally do not specifically separate out the risks and vulnerabilities related to crude oil and ethanol transportation by rail or related mitigation measures that can reduce risk.	**2.A:** In counties where crude oil and ethanol are transported by rail, local emergency management could profile and analyze rail incident risk and vulnerability to identify and prioritize mitigation measures through their local and regional Incident Management Standard Operating Guidelines/Procedures.	**2.A-1:** Continue to support activities through current and future funding streams. **2.A-2:** Encourage coordination at a systems level for this particular hazard.
3. Many local jurisdictions do not have adequate mapping or information gathering capabilities to identify critical infrastructure or vulnerable populations within a 0.5-mile buffer area of railroad main tracks carrying crude oil or ethanol, or within 0.5 miles of major yards.	**3.A:** Counties and municipalities, with support from the state, should consider identifying, mapping, and assessing the vulnerability of the critical infrastructure and vulnerable populations located within 0.5 mile of all railroad main tracks and major yards to determine areas of highest risk, and then prioritize preparedness, response, or mitigation actions for those areas to reduce the risk and improve response.	**3.A-1:** Develop a better understanding of GIS capabilities at the state and local level. Update the status of GIS capabilities by exploring ways to enhance and support locals. **3.A-2:** Iowa HSEMD could advocate for an additional GIS position to help support these activities. **3.A-3:** Iowa DOT/HSEMD can provide critical infrastructure and vulnerable population data created for this study **3.A-4:** Iowa DOT and HSEMD should determine and maintain an appropriate update cycle for this shareable GIS

Findings/Challenges	Recommendations	Improvement Actions
		data. **3.A-5:** Quadrenially update risk vulnerability assessment by county.
4. Not all local jurisdictions have written evacuation and shelter plans related to a rail incident involving crude oil or ethanol and other hazardous materials transported by rail.	**4.A:** Iowa HSEMD could assist local emergency managers with the development of local evacuation and sheltering plans tailored for rail incidents where public health and safety is at risk.	**4.A-1:** Iowa HSEMD can provide tailored technical assistance and guidance when evacuation and sheltering plans are updated. **4.A-2:** Create public outreach for instructional media related to evacuation and sheltering activities for people in the hazard areas or buffer zones.
5. Emergency Managers noted that railroads do not typically attend Local Emergency Planning Committee (LEPC) meetings. Some ethanol plants attend, but not all.	**5.A:** LEPCs should consider actively seeking attendance by railroads and shippers, and providing them with a statewide schedule of LEPC meetings and agendas.	**5.A-1:** Disseminate LEPC meeting information and dates, with advanced notice, to all interested stakeholders. **5.A-2:** Encourage Iowa DOT District involvement in LEPCs. **5.A-3:** Advocate rail issues in general emergency management venues.
	5.B: Iowa DNR and Iowa HSEMD may consider polling local emergency managers and first responder groups to determine which counties need assistance enhancing LEPC membership, participation, and best practices.	**5.B-1:** Iowa HSEMD can provide an online survey tool to gauge the needs of LEPC management. **5.B-2:** Provide a LEPC best-practices workshop. **5.B-3:** Advocate rail issues in general emergency management venues.
	5.C: Iowa DOT, Iowa DNR, and Iowa HSEMD may consider developing a crude oil and ethanol transportation incident response planning committee to develop guidance and work with LEPCs and emergency management coordinators to develop local incident specific response plans and capabilities.	**5.C-1:** Develop a crude oil and ethanol transportation incident response planning working group from the IERC

Findings/Challenges	Recommendations	Improvement Actions
6. Federal, state, and industry training and readiness information is often difficult to locate and access.	6.A: Iowa HSEMD, state agencies, and association partners should consider development of a comprehensive, one-stop web portal to provide access and guidance to training opportunities, grants, and other preparedness and response resources.	**6.A-1:** Iowa HSEMD will create a consolidated training calendar on their website. **6.A-2:** Iowa HSEMD can internally try to coordinate grant resources and rail training in a more consolidated form.
7. Federally required crude oil traffic notifications from the railroads to the state have too great a range of traffic volume for effective situational awareness and response planning purposes in some areas. The 25 percent range of change in volume is too broad for some local planners to be comfortable about knowing how much crude oil is being transported through their community.	**7.A:** The state should consider requesting of the FRA that it adjust railroad advance crude oil transportation reporting requirements to notify Iowa HSEMD on behalf of the State Emergency Response Commission (SERC) in advance of scheduled shipments, from a 25 percent change in volume to a smaller range of traffic volume (e.g. no more than a 10 train per week range variance or when a 10 percent or greater change in traffic volume is scheduled to occur).	**7.A-1:** Continue to work with the railroads to find satisfactory reporting regimens that work with both the local responders and the railroads.
8. Federally required Bakken oil train traffic notifications are provided by the railroads to the Iowa HSEMD, on behalf of the SERC, then passed on to the LEPC, local emergency management coordinator, Iowa DOT, and other response entities with a need to know as allowed by state and federal law. Some counties do not have LEPCs that meet regularly to receive and act on new information.	**8.A:** Iowa HSEMD, on behalf of the SERC, should continue to work with local LEPC coordinators and emergency management coordinators to ensure the oil train traffic notifications are shared with emergency response partners who would normally be a member of an active LEPC including the fire chief, police chief, and other response operational groups.	**8.A-1:** Iowa HSEMD will continue to notify Iowa LEPCs and emergency managers on the affected routes. **8.A-2:** Iowa HSEMD will continue to notify relevant state partners. **8.A-3:** Iowa HSEMD will assure all emergency managers understand what to expect from the reporting process.
9. Under the standing USDOT Emergency Order, Class I railroads are required to share information on changes to Bakken oil train traffic volume with the SERC. They are not required to share the same	**9.A:** The state should consider working with the USDOT to address the information-sharing gap between Bakken oil, and other oil, ethanol, and other commodities when carried in quantity and identified as high-hazard flammable trains by the FRA and PHMSA, and present similar risks to local communities.	**9.A-1:** Local, state, and railroads should continue to work together to find common ground on these issues.

Findings/Challenges	Recommendations	Improvement Actions
information for ethanol trains or other trains that also operate as High-Hazard Flammable Trains (HHFT), and present a similar hazard to railroad communities across Iowa.	**9.B:** Local emergency managers and first responders should consider requesting hazardous commodity flow information from the railroads so that they have a better understanding of all potential hazardous materials that are transported along the tracks through their jurisdiction.	**9.B-1:** Local, state, and railroads should continue to work together to find common ground on these issues.
10. Local and rail industry information sharing related to exemplary practices for preparedness, response capability, and mutual aid, as well as public sector outreach and rail-specific training opportunities are not equal for all communities across the state.	**10.A:** The state should consider developing a web portal that allows for better information sharing, lessons learned, exemplary practices, and railroad incident training opportunities to be accessible to all local first responders and emergency managers in the state	**10.A-1:** Iowa HSEMD can open discussion with the rail industry to determine ways to improve information sharing.
11. Iowa's railroads do not have similar methods for measuring the effectiveness or accomplishments of their preparedness programs.	**11.A:** To maximize public-private coordination efforts, Iowa should recommend that the state, railroads, TRANSCAER, and other railroad-related organizations report annually on the results of their preparedness programs, using simple metrics such as number of local emergency managers and first responder organizations contacted and offered training and exercises; number of coordination meetings attended; and number of first responders trained and number of exercises held. Iowa could facilitate preparedness through tracking and providing the contact information of all local emergency managers and first responder organizations for each of the Iowa railroads, with respect to each railroad's territory.	**11.A-1:** The state is willing to work with the railroads on tracking and reporting of all preparedness, response, and training efforts as part of the public outreach and education program. **11.A-2:** Iowa HSEMD can provide emergency manager and first responder contact information to the railroads. **11.A-3:** Iowa DOT can provide the railroad contact information to Iowa HSEMD for dissemination to appropriate local authorities. **11.A-4:** Iowa HSEMD and Iowa DOT will work with the railroads to encourage exercises when testing planning assumptions.

Table ES-C. Improvement Implementation Strategy - Response

Findings/Challenges	Recommendations	Improvement Actions
Response		
1. Many local emergency operations plans, annexes, incident response plans, and standard operating procedures/guidelines take an all-hazards approach and do not specifically address rail incidents involving crude oil or ethanol or other flammable liquids.	**1.A:** State departments including Iowa DOT, Iowa HSEMD, and Iowa DNR should consider working with local emergency managers to develop local crude oil, ethanol, and other flammable liquids transportation incident response standard operating procedures or guidelines.	**1.A-1:** Iowa HSEMD will work with local emergency managers and LEPCS to provide technical assistance on their plans.
2. Many local first responders are not trained or equipped to appropriately respond to a large rail incident involving crude oil or ethanol on their own. (It is not the goal, however, to have every responder capable of an active response where scene security and notification is the appropriate response).	**2.A:** The Iowa Fire Service Training Bureau, the Iowa Firefighter's Association, Hazmat Task Force, and the crude oil transportation industry and ethanol transportation industry (including shippers and carriers) should work together to identify, fund, and offer specialized hazardous materials response training to all local, state, and tribal first responders. These partners should consider identifying and providing a mobile, local program of training and exercises that meets the appropriate response level criteria for the level of response anticipated by the local first responders. This response level capability should run from active firefighting response (when adequately trained staff are available) to appropriate geographical and situation stabilization activities in tandem with coordination with specialty response teams sent for support. Some responders may only need training on how to evacuate, shelter, and protect lives, while others may need training to support the regional hazardous materials responders (including foam application and hazardous materials decontamination).	**2.A-1:** Encourage the formation of an IERC crude oil transportation incident response planning working group to coordinate these issues.
	2.B: The state, along with the Hazmat Task Force, Iowa Firefighters Association, and railroads operating in Iowa, may consider assembling a focus group to identify ways to improve training, preparedness, and response capabilities for volunteer emergency responders.	**2.B-1:** Encourage the formation of an IERC crude oil transportation incident response planning working group to coordinate these issues.
3. Local firefighting foam resources in rural areas are not sufficient to fight large-scale rail incidents involving crude oil, ethanol, or other flammable liquids.	**3.A:** Iowa HSEMD, the Hazmat Task Force, and the Fire Service Training Bureau of the Department of Public Safety should consider conducting a study to determine how much firefighting foam should be accessible on a regional basis that can be deployed to a rail incident involving crude oil, ethanol, or other flammable liquids.	**3.A-1:** Iowa HSEMD can take the lead in coordinating the group on this issue. **3.A-2:** Coordinate with the railroads on this issue.

Findings/Challenges	Recommendations	Improvement Actions
	3.B: Iowa HSEMD, the Hazmat Task Force, and the Fire Service Training Bureau of the Department of Public Safety should consider establishing a statewide standard for firefighting foam resources for municipal fire department operations at a crude oil, ethanol, or other flammable liquids spill and assist local fire departments and partner resources with designing a path that brings all responders to the same standard.	**3.B-1:** Iowa HSEMD can take the lead in coordinating the group on this issue. **3.B-2:** Coordinate with the railroads on this issue.
	3.C: Iowa HSEMD, the Hazmat Task Force, and the Fire Service Training Bureau of the Department of Public Safety should consider purchasing and strategically placing firefighting foam and application tools around the state for rapid deployment.	**3.C-1:** Iowa HSEMD can take the lead in coordinating the group on this issue. **3.C-2:** Coordinate with the railroads on this issue.
4. Counties across the state rely on Hazmat teams to provide hazardous materials response capabilities, usually at a subscription fee, and with varied degrees of capability and availability to respond due to distance from the hazmat team's home base.	**4.A:** Iowa HSEMD may consider developing and maintaining a capabilities list of all the regional hazmat teams as a database to maintain situational awareness of their varied response capabilities including: equipment caches, location, team training and certification levels, availability, and procedures for activation, deployment, and mobilization.	**4.A-1:** Iowa HSEMD can take the lead in coordinating the group on this issue. **4.A-2:** Coordinate with the railroads on this issue.
5. No individual state department maintains a centralized, comprehensive database of private crude oil, ethanol, or other flammable liquids incident response equipment, qualified spill response contractors, and related resources.	**5.A:** Iowa HSEMD may consider developing and maintaining a response capabilities list of all the railroads as a database to maintain situational awareness of their varied response capabilities including: equipment caches, location, team training and certification levels, and procedures for activation, deployment, and mobilization.	**5.A-1:** Iowa HSEMD and Iowa DNR will work with the railroads, AAR, and ASLRRA to devise an easy and well-maintained process.
	5.B: Iowa HSEMD should consider working with Iowa DNR to update Iowa DNR's list of private contractors operating in Iowa, and to ensure the list of capabilities, their location, certifications, training, and equipment can then be made available to local emergency managers, first responders, and incident responsible parties.	**5.B-1:** Iowa HSEMD and Iowa DNR will work with the railroads, AAR, and ASLRRA to devise an easy and well-maintained process.
6. Local first responders need real-time electronic access to cargo manifest data for rail shipments.	**6.A:** Railroads, state and local authorities should work together to promote and facilitate, statewide, the use of "AskRail" mobile application and work with first responders to obtain the required training and clearances to access the application.	**6.A-1:** Poll stakeholders to determine obstacles to the use of "AskRail," if any. **6.A-2:** Ask the AAR for plain language summaries of appropriate and inappropriate use of the "AskRail"

Findings/Challenges	Recommendations	Improvement Actions
		application. **6.A-3:** Promote the clarification of the legal concerns related to the access and use of the "AskRail" application.
	6.B: Iowa DOT and Iowa HSEMD should work with the short line railroad association and the AAR to include Class II and Class III railroads in the "AskRail" mobile application.	**6.B-1:** Iowa HSEMD and Iowa DOT should contact AAR and ASLRRA.
7. GIS databases that identify railroad ownership and operators are not completely accurate, particularly in urban areas where trackage is complex. First responders may be delayed in contacting the correct railroad in the event of an incident.	**7.A:** The state should consider updating its railroad GIS databases with accurate information on the railroad responsible for dispatching each line segment, including contact information for that railroad. The state should consider annually furnishing this database to Iowa railroads and request verification of the information.	**7.A-1:** Promote the railroad crossing identifiers (Emergency Notification System signs) that provide the railroad contact information. **7.A-2:** Promote the availability to Iowa DOT's current GIS data. **7.A-3:** Explore the feasibility of adding and improving GIS staffing, capabilities, and data.
8. Railroad notification in the event of an incident is unique to each railroad.	**8.A:** The state should consider meeting with Iowa railroads and discussing methods to simplify and standardize how railroads are contacted and coordinated with during an incident and share that information with local emergency managers.	**8.A-1:** Facilitate an open discussion with railroads on this issue. **8.A-2:** Iowa DOT will continue education and outreach to local responders and dispatch centers on the meaning and use of Emergency Notification System.

Table ES-D. Improvement Implementation Strategy - Recovery

Findings/Challenges	Recommendations	Improvement Actions
Recovery		
1. The railroads methods for recovering from incidents are unique to each railroad. Railroads may have different financial and organizational capability to respond to in incident. The state has low visibility into railroad capabilities.	1.A: The state should consider requesting Iowa railroads to report annually on their recovery program.	**1.A-1:** Work with the railroads to refine the challenge and recommendation, then determine a path forward.

Iowa State Rail Plan Final

Appendix C

Economic Impacts

IOWADOT

Contents

Executive Summary

Rail economic impacts to Iowa are derived from the IMPLAN® economic model with input data and assumptions from freight movement data (via the STB WAYBILL) and passenger rail operations and visitor characteristics. Impacts of rail activities in Iowa emanate from firms providing freight and passenger transport services, industries using such services to trade goods (shippers/receivers), and tourism-related visitors to Iowa via rail. Of these activities, freight-users generate the most significant impacts.

Impacts are calculated and presented by activity (service provision and rail users), type (direct, indirect, induced, and total), and measure (employment, income, value added, output, and tax revenue) for year 2013 to provide a comprehensive perspective on how rail in Iowa impacts the economy:

- ***Employment*** — Economic impacts of rail extend beyond the 3,520 directly employed in the provision of rail transport (both passenger and freight). When the freight and visitor user impact activities and multiplier impacts are included, rail-related employment in Iowa totals 219,380 jobs, which represent 10.8% of the 2.0 million jobs statewide.
- ***Income*** — $13.8 billion earned by these total employees represent 13.6% of Iowa's total labor income.
- ***Value-Added*** — And, the combined value-added impact, $24.2 billion, associated with the rail services and users represent 14.7% of the state's Gross State Product (GSP).

Table C.1: Rail Economic Impacts in Iowa

MEASURE AND TYPE	TRANSPORT SERVICES			TRANSPORT USERS			TOTAL		
	PASS.	FREIGHT	SERVICES	PASS.	FREIGHT	USERS	PASS.	FREIGHT	TOTAL
EMPLOYMENT*									
Direct	20	3,500	3,520	230	66,450	66,680	250	69,960	70,200
Total	40	8,830	8,860	300	210,220	210,510	330	219,040	219,380
INCOME**									
Direct	$1.1	$365.9	$367.0	$4.8	$6,411.3	$6,416.1	$5.9	$6,777.2	$6,783.1
Total	$1.7	$600.6	$602.4	$7.6	$13,214.2	$13,221.8	$9.4	$13,814.8	$13,824.2
VALUE ADDED**									
Direct	$1.9	$1,075.5	$1,077.4	$7.1	$11,196.9	$11,204.0	$9.0	$12,272.4	$12,281.4
Total	$3.0	$1,448.0	$1,451.0	$12.0	$22,705.5	$22,717.6	$15.0	$24,153.6	$24,168.6
OUTPUT**									
Direct	$3.6	$1,725.8	$1,729.4	$13.4	$43,029.3	$43,042.6	$17.0	$44,755.0	$44,772.0
Total	$5.6	$2,428.0	$2,433.6	$22.3	$66,970.4	$66,992.7	$27.9	$69,398.4	$69,426.3
TAX REVENUE**									
Direct	$0.05	$18.3	$18.4	$1.2	$475.0	$476.2	$1.3	$493.3	$494.6
Total	$0.14	$49.5	$49.6	$1.6	$1,325.5	$1,327.1	$1.8	$1,375.0	$1,376.7

Source: CDM Smith, Amtrak, WAYBILL, and IMPLAN

* Employment rounded to nearest ten job-years; totals may not sum due to rounding
** in millions of 2013 dollars

C.1 Introduction

Economic impacts of rail activities in Iowa emanate from firms providing freight and passenger rail services, industries using such services to trade goods (shippers/receivers), and tourism-related visitors to Iowa via rail. Of these activities, freight-users generate the most significant impacts.

The Surface Transportation Board (STB) WAYBILL SAMPLE freight database is used to analyze Iowa rail goods movements. WAYBILL-derived, inbound, outbound, and intrastate commodity volumes and values[1] are applied, together with the IMPLAN® economic model, to determine how commodity movements generate direct economic impacts in Iowa relating to shippers/receivers.

Additionally, visitors to Iowa via rail (spending on accommodations, food and beverages, recreational activities, etc.) and the provision of freight and passenger rail services also yield direct economic impacts.

Indirect impacts associated with suppliers, and induced impacts associated with the re-spending of income, are also quantified. Combined, the direct, indirect, and induced comprise total economic impacts, with each measured in terms of employment, income, value-added (i.e., Gross State Product), output, and taxes. The following sections outline the methodology employed, relevant commodity/input data, and modeling results.

C.2 Methodology, Data Sources, and Analysis Assumptions

The analysis categorically addresses the range of economic impacts directly and tangentially related to rail transportation. The following subsection outlines this methodology, data sources, economic model, and the applied assumptions for freight and passenger movements.

C2.1 Methodology and Terminology

Economic impacts of rail are categorized into two broad activities: transport service providers and transport users. For each activity, three types are quantified: direct, indirect, and induced. And for each type, five measures are derived: jobs (employment), income, value-added, output, and taxes. Activities, types, and measures are defined below.

Activities — Iowa rail-related economic impacts are categorized into service provider and user impacts. Rail transport services would be curtailed in the absence of rail activity (elimination of goods or passenger movements). And, transport user impacts pertain to industries using freight rail to transport goods or the industries supporting visitors to Iowa travelling by rail.

- ***Transport Service Providers*** — Impacts associated with the provision of rail transport (e.g., the rail industry) include a wide range of primarily modal transport activity, but also may include other support administrative operations. Service provider impacts are based on existing transportation industry information in the IMPLAN® model (e.g., "rail transportation" and "scenic and sightseeing transportation"). It reflects freight (e.g., BNSF), passenger (i.e., Amtrak), and scenic railroad operations.
- ***Transport Users*** — Impacts associated with shippers/receivers of freight and the industries that supply goods and services to out-of-state visitors traveling via rail.
    - ***Freight Users*** — Impacts associated with shippers/receivers using freight rail for goods movement (e.g., intermediate and final goods, etc.), excepting the rail industry itself. Rail users have several options available to transport freight and could possibly substitute other modal transport (truck and/or water) if rail services became unavailable. However, the choice to use railroads to ship/receive freight indicates cost and/or logistical advantages, and as such, removal of such advantages would negatively affect rail users.

1 Freight rail volumes are readily available from the STB WAYBILL database; however, values for the movements are not supplied; as such, values per ton for commodities from the TRANSEARCH® database pertaining to proximate geographies were applied to the STB WAYBILL database for Iowa.

- ◦ ***Visitors*** — Similarly, economic impacts arise in industry sectors that service visitors to Iowa who arrive by passenger rail (i.e., Amtrak) or come for scenic tours. Rail visitors have several transport options and could possibly substitute other modal transport (highway and/or air) if rail services became unavailable. However, the choice to travel via Amtrak indicates cost, convenience and/or amenity advantages, and as such, removal of such advantages would negatively affect rail users and the industries serving them.

Types — Transport services and users each consist of three types (and a combined total):

- ***Direct*** — Impacts from the provision of rail transport (i.e., "transport services"), as well from the firms/industries that use such rail transport services to ship and receive goods or service out-of-state visitors (i.e., "transport users").
- ***Indirect*** — Impacts associated with the suppliers that provide intermediate goods and services to the directly impacted industries.
- ***Induced*** — Impacts associated with the re-spending of earned income from both the direct and indirect industries in the study area[2].
- ***Total*** — Aggregated direct, indirect, and induced types.

Measures — Each type is measured in terms of five economic metrics[3]:

- ***Jobs/Employment*** — Measured in terms of full-time-equivalent (FTE) job-years.
- ***Income*** — Wage/salary earnings paid to the associated jobs.
- ***Value-Added*** — Net additional economic activity (i.e., total output less gross intermediate inputs), synonymous with GRP (gross regional product); includes employee and proprietor income, other income types, taxes, etc., required to produce final goods and services.
- ***Output*** — Total sales value associated with all levels of economic activity (comprised of gross intermediate inputs and value added, combined).
- ***Taxes*** — Various taxes on production and imports (sales, property, excise, etc.), fines, fees, licenses, permits, etc., resulting from business economic activity; and, include all federal, state, and local tax revenues.

C.2.2 Data Sources and Models

For the two impact activities, various data and modeling data are utilized. Reflective of assorted production sectors, freight rail user impacts are typically much greater than those related to transport services, and especially dwarf the visitor-related impacts. Generating comprehensive freight user-related estimates requires converting commodity movement data into direct industry output estimates. This is done by bridging the STB WAYBILL commodity movement data and the IMPLAN® economic model. Passenger-related impacts are derived from IMPLAN®, Amtrak and other visitor-related data.

WAYBILL SAMPLE — Based on traditional Standard Transportation Commodity Classifications (STCC) developed for railroads, and by the Surface Transportation Board (STB), the WAYBILL provides detailed movement data by commodity at the county level. It uses a 2% stratified sample of carload waybills for all domestic rail traffic submitted by carriers that terminate 4,500 or more revenue carloads annually. STCC data were obtained from the WAYBILL at the four-digit level to ascertain the economic impact associated with firms that export locally produced goods, and/or import materials used in the production process (intermediate goods) or sold as finished products (final consumption). Although the WAYBILL database provides freight rail volumes, values for the movements are not supplied; as such, values per ton for commodities from the TRANSEARCH® database pertaining to other geographies were applied to WAYBILL database for Iowa, effectively serving as a proxy estimate for the directional commodity movement values.

IMPLAN® — The IMPLAN® v3 model, produced by the IMPLAN® Group, LLC, is an economic modeling, input-output based, social account matrix software. It is used to estimate the economic impacts to a defined geography (i.e., Iowa) ensuing from expenditures in an industry or commodity[4]. A social account matrix

2 Note that the indirect and induced impact types are often referred to, jointly, as multiplier impacts.

3 Note that all monetary measures are presented in constant 2013 dollar terms (i.e., income, value-added, output, and taxes).

4 Note that all results presented pertain only to one-year static impacts for year 2013 flows (in year 2013 values), and do not provide any dynamic or feedback changes.

reflects the economic interrelationships between the various industries (and commodities), households, and governments in an economy and measures the economic interdependency of each industry on others through impact multipliers. Multipliers are developed within IMPLAN® from regional purchase coefficients, production functions, and socioeconomic data for each of the economic impact variables and are geographically-specific. IMPLAN® data and industry-accounts closely follow the conventions used in the "Input-Output Study of the U.S. Economy" by the U.S. Bureau of Economic Analysis. IMPLAN® is one of the most commonly accepted models used for economic impact analysis and estimation throughout the country.

Additionally, IMPLAN® provides commodity-to-industry production and absorption matrices that enable the quantification, for example, of how inbound commodities are used (absorbed) across Iowa industries in the respective production processes to create final goods and services, or by institutions for final consumption. Further, algorithms developed for this analysis translate commodity (Standard Transportation Commodity Classification, or STCC) data into IMPLAN® industry categories. Such data and translation processes are used to estimate the impacts associated with directional commodity movements.

Combined — The WAYBILL commodity detail (supplemented with proxy values for the directional commodity tonnage movements) is bridged with the IMPLAN® economic model to assess the economic interrelationships underpinning the Iowa economy, and to derive the economic impacts of freight. WAYBILL data provides the requisite commodity detail for translation into detailed economic interrelationships between commodities, industries, and institutions in the economy, made transparent via the IMPLAN® model.

IMPLAN® does not identify commodity tonnage movements (only the underlying commodity to industry structure), and the WAYBILL does not provide the economic interrelationships necessary to determine how the commodity movements interact within the economy. As such, the two sources are combined to derive the freight-related economic impacts to Iowa. Lastly, both the commodity detail and the IMPLAN® model reflect year 2013 activity.

Visitor Data — Expenditures were estimated for out-of-state visitors arriving by Amtrak, based on various sources. Amtrak "Fact Sheets"[5] were used to estimate passenger movements. Travel expenditure data and overall visitor characteristics were estimated via similarly-conducted previous studies, "Amtrak's Economic Contribution"[6], and the Iowa Economic Development Authority (Tourism Office)[7]. Tourist rail services-related data and assumptions (e.g. the Boone and Scenic Valley Railroad in Boone) were estimated from online data in the respective webpages of the tourist rail lines and Consultant interviews of tourist rail operators.

C.2.3 Freight Tonnage and Value

Freight tonnage volumes used in the economic analysis are based on the data and findings presented in Chapter 2. Economically-relevant directional movements include outbound (originating within Iowa, terminating beyond), inbound (originating beyond Iowa, terminating within), and intra (originating and terminating within Iowa). However, through traffic is not directly applicable to freight users based in Iowa, and are thus excluded; albeit, such movements affect on the magnitude of freight transport service providers in Iowa.

For economic analysis, two considerations to the data presented in Chapter 2 were made:

- ***Commodity Detail*** —To translate between WAYBILL commodity categories with those of IMPLAN®, commodity flow data are analyzed from a detailed four-digit STCC code level, whereas the freight flow analysis is aggregated at the two-digit STCC level[8].

5 https://www.amtrak.com/pdf/factsheets/IOWA13.pdf
6 https://www.amtrak.com/ccurl/256/745/Amtrak-Economic-Contribution-Brochure-051915.pdf
7 http://www.traveliowa.com/UserDocs/2015_WC_Survey_Report_2_26_16_FINAL.pdf
8 STCC4 and STCC2 are commodity aggregation designations, with STCC4 reflecting more detailed commodity sub-categorization, whereas STCC2 reflect higher level category subtotals; the freight flow analysis presents STCC2 results for the sake of simplifying and presenting multidimensional results; however, the economic analysis necessitates the greater commodity detail because of the detailed commodity-to-industry economic model structure.

- ***Intrastate Movements*** — Are combined with outbound movements, since both reflect industry production within Iowa.

While the detailed commodity freight flows (i.e., four-digit STCC) are evaluated in the economic impact calculations, the consolidated tons and value movements (i.e., two-digit STCC) are summarized in Table C.2.

Table C.2: Economically-Relevant Freight Movements

STCC2	COMMODITY	TONS AMOUNT	TONS PERCENT	VALUE (IN MILLIONS) AMOUNT	VALUE (IN MILLIONS) PERCENT	AVERAGE VALUE/TON
	OUTBOUND/INTRA					
28	Chemicals or Allied Prods.	10,280,937	24.3%	$15,019	43.6%	$1,461
20	Food or Kindred Prods.	19,415,563	45.9%	$13,163	38.2%	$678
46	Misc. Mixed Shipments	398,800	0.9%	$2,110	6.1%	$5,290
33	Primary Metal Prods.	981,544	2.3%	$1,431	4.2%	$1,458
35	Machinery	107,236	0.3%	$845	2.4%	$7,875
01	Farm Prods.	4,411,181	10.4%	$754	2.2%	$171
37	Transportation Equipment	258,998	0.6%	$292	0.8%	$1,126
40	Waste or Scrap Materials	804,620	1.9%	$236	0.7%	$294
32	Clay, Concrete, Glass, or Stone	772,904	1.8%	$155	0.4%	$200
29	Petroleum or Coal Prods.	135,368	0.3%	$152	0.4%	$1,121
	Remaining Commodities	4,724,433	11.2%	$315	0.9%	$67
	Total	**42,291,584**	**100.0%**	**$34,471**	**100.0%**	**$815**
	INBOUND					
28	Chemicals or Allied Prods.	4,229,255	12.0%	$5,292	40.7%	$1,251
46	Misc. Mixed Shipments	367,000	1.0%	$1,942	14.9%	$5,290
20	Food or Kindred Prods.	2,510,984	7.1%	$1,496	11.5%	$596
33	Primary Metal Prods.	500,324	1.4%	$1,133	8.7%	$2,265
11	Coal	22,363,841	63.3%	$802	6.2%	$36
37	Transportation Equipment	173,128	0.5%	$735	5.7%	$4,247
29	Petroleum or Coal Prods.	387,588	1.1%	$456	3.5%	$1,176
01	Farm Prods.	2,277,752	6.4%	$365	2.8%	$160
26	Pulp, Paper or Allied Prods.	268,040	0.8%	$280	2.2%	$1,046
40	Waste or Scrap Materials	754,940	2.1%	$230	1.8%	$304
	Remaining Commodities	1,509,948	4.3%	$269	2.1%	$178
	Total	**35,342,800**	**100.0%**	**$13,001**	**100.0%**	**$368**

Source: STB WAYBILL 2013 and CDM Smith

Outbound/Intrastate — Combining outbound and intrastate rail movements, 42.3 million tons of freight, valued at $34.5 billion, originates in Iowa. *Chemicals or Allied Products* and *Food and Kindred Products* comprise the majority of originating freight tonnage (70.2%, combined) and value (81.8%). Impacts associated with outbound/intrastate movements are derived by mapping the freight values with the respective industrial production in Iowa from the IMPLAN® model. While *Miscellaneous Mixed Shipments* category is a relatively small tonnage share (0.9%), the relatively high value per ton (mostly containers with a heterogeneous composition of goods) results in the third largest-valued movement originating in Iowa (6.1%). Such undefined commodities are mapped into the economic model by allocating the associated value across the various existing physical goods production within the existing economy.

Inbound — In 2013, 35.4 million economically-relevant tons were moved into Iowa, valued at $13.0 billion. *Coal*, by far the largest commodity by volume at 63.3%, only amounts to 6.2% of the inbound value. In contrast, *Chemicals and Allied Products* comprise 12.0% of the inbound volumes, but 40.7% of the value. In combination with *Miscellaneous Mixed Shipments* (i.e., containerized goods), those two categories comprise more than half of all inbound freight value (55.6%). Inbound commodities are translated into economic impacts by mapping the value of the inbound goods via the absorption of such respective goods into the industry production in Iowa. Non-defined miscellaneous commodities are reallocated to the various existing Iowa industries that absorb physical products into the production process[9].

C. 2.4 Passenger Rail Assumptions

Various data sources used include: Amtrak, tourist rail operator interviews, rail industry journals, annual reports, IMPLAN®, the Iowa Economic Development Authority Tourism Office, the internet, and consultant experience. Data sought included number of passengers (equally split between boardings and alightings), employment, revenues, operating expenses, visitor characteristics (percent of passengers, average expenditures), etc. Such information was used to estimate direct transport-service and transport-user impacts input into the IMPLAN® model.

Passenger Transport — IMPLAN® industry data provides various economic measures associated with the direct provision of rail transport in Iowa (e.g., employment, output, etc.). Unfortunately, such data are not subcategorized by passenger versus freight transport. As such, to estimate the passenger share of direct transport service impacts required evaluation of the Amtrak "Fact Sheets" for Iowa[10] in year 2013, which provide total employment and labor income for Amtrak passenger rail transport service. While such Amtrak data exclude any freight transport activity, it is comparable to the overall industry sector IMPLAN® totals. Consequently, the difference between the IMPLAN® rail transport industry sector totals (i.e., 3,511 jobs) and the estimated direct passenger transport activity impacts (i.e., about 7 Amtrak rail jobs) provides an estimate for direct freight rail provision activity impacts (i.e., 3,504 jobs). In addition to Amtrak service provision employment, employment for the tourist railroads were included, amounting to an additional 13 FTE direct jobs in the scenic transportation and museum industries.

Passenger Visitor Expenditures — Out-of-state visitor expenditures reflect Amtrak and tourist rail passengers arriving in Iowa (obtained from the Amtrak Fact Sheets and tourist rail interviews). Such information, in conjunction with visitor profiles and Consultant experience, is used to estimate the share of rail visitors (i.e., out-of-state) and average visitor spending.

In the case of Amtrak, total annual passenger movements for the six Iowa stations totaled 59,825 in 2013. Since each passenger typically embarks (boards) and disembarks (alights), it is necessary to divide total passenger movements by two to estimate the actual number of Amtrak passengers (29,913). It was estimated that half of the boarding passengers are out-of-state visitors. Assuming an average visit duration of 3.5 days and an estimated visitor expenditure per day of $114, a total Amtrak visitor expenditure to Iowa is estimated at $6.0 million.

In addition to the Amtrak visitors, similar assumptions for the tourism rail lines and museum were based on information directly from the respective operations, other visitor studies, and consultant estimates to yield an out-of-state visitor spending estimate of $8.7 million. Combined, Amtrak and tourism rail visitor spending is estimated at $14.7 million in 2013, as summarized in Table C.3.

9 *Allocated in proportion to the existing economic composition of imported physical products to the region.*
10 *http://www.amtrak.com/pdf/factsheets/IOWA13.pdf*

Table C.3: Passenger Rail Visitor Expenditures

ACTIVITY	INTERCITY	TOURIST						
RR NAME	AMTRAK	BOONE & SCENIC VALLEY	MIDWEST CENTRAL	MIDWEST ELECTRIC	THRESHERS REUNION	UP RR MUSEUM	SUBTOTAL	TOTAL
LOCATION	STATEWIDE	BOONE	MT. PLEASANT	MT. PLEASANT	MT. PLEASANT	COUNCIL BLUFFS		
ANNUAL PASSENGERS								
Boardings	29,913	52,000	14,000	25,000	N/A	N/A	91,000	120,913
Alightings	29,913	52,000	14,000	25,000	N/A	N/A	91,000	120,913
Total Movements	59,825	104,000	28,000	50,000	N/A	N/A	182,000	241,825
VISITORS (OUT-OF-STATE)								
Percent	50%	60%	50%	50%	50%	73%	57%	104,845
Number	14,955	31,200	7,000	12,500	18,750	20,440	89,890	
Expenditures/Day	$114	$114	$88	$88	$88	$88	$97	
Days/Visit	3.5	1.0	1.0	1.0	1.0	1.0	1.0	
Visitor Expenditures	$5,976,885	$3,562,666	$612,500	$1,093,750	$1,640,625	$1,788,500	$8,698,041	$14,674,926

Sources: Amtrak, Iowa Economic Development Authority, Tourism Office, CDM Smith

C.3 Rail Economic Impacts

Rail impacts total 219,380 jobs across Iowa, reflecting the various impact activities (services provision and users) and types (direct plus multipliers). A vast majority of these total employment impacts arise from rail users who move goods via the freight system, with the fractional balance attributable to transport services and visitor impacts.

The ensuing discussion details the composition of the employment impact estimates, as well as the other impact measures (e.g., output, value-added, income, and taxes). Impact types (e.g., direct, indirect, and induced) and measures are first presented for rail transport-services, and then for freight and visitor users.

C.3.1 Transport Service Impacts

Provisioning rail transportation to Iowa yields a direct employment impact of 3,520 jobs, comprised of 20 passenger-related transport jobs and 3,500 freight transport jobs. As reflective of the multiplier impacts, the indirect and induced effects associated with rail operations yield an additional 5,340 jobs (2,450 and 2,890 indirect and induced, respectively) throughout the State. Combined, an estimated 8,860 people owe their jobs, directly or tangentially to the physical movement of freight or passengers by rail. This excludes freight user impacts associated with the shippers/consignees that ship/receive goods (as quantified in the following subsection).

As gleaned from the summary services impacts, presented in Table 4 by activity, measure (output, jobs, etc.) and type (direct, indirect, etc.), the passenger-related transportation service impacts constitute less than 1% of all Iowa rail transport impacts. Summary findings shown in the table indicate that the freight movement is a larger relative contributor to economic activity than the passenger component, which is relatively trivial.

Table C.4: Transport Service Impacts

MEASURE AND TYPE	PASSENGER	FREIGHT	SERVICES TOTAL
EMPLOYMENT*			
Direct	20	3,500	3,520
Indirect	10	2,440	2,450
Induced	10	2,880	2,890

Total	40	8,830	8,860
INCOME**			
Direct	$1.1	$365.9	$367.0
Indirect	$0.4	$129.7	$130.1
Induced	$0.3	$105.0	$105.3
Total	$1.7	$600.6	$602.4
VALUE ADDED**			
Direct	$1.9	$1,075.5	$1,077.4
Indirect	$0.5	$180.9	$181.4
Induced	$0.6	$191.7	$192.2
Total	$3.0	$1,448.0	$1,451.0
OUTPUT**			
Direct	$3.6	$1,725.8	$1,729.4
Indirect	$1.0	$365.6	$366.6
Induced	$1.0	$336.7	$337.6
Total	$5.6	$2,428.0	$2,433.6
TAX REVENUE**			
Direct	$0.05	$18.3	$18.4
Indirect	$0.03	$13.1	$13.2
Induced	$0.05	$18.0	$18.1
Total	$0.14	$49.5	$49.6

Source: CDM Smith, Amtrak, and IMPLAN

* emp. rounded to nearest 10 job-years; totals may not sum due to rounding
** in millions of 2013 dollars

- ***Direct*** — Combining the passenger and freight providers yields a direct impact of 3,520 jobs, earning $367 million in labor income, producing $1.08 billion in value-added activity, which equates to $1.73 billion in economic output, with tax revenues (on direct output) of $18.4 million.
- ***Total*** — Including the Iowa multiplier effects, transport service-related activity impacts total 8,860 jobs, earning $602 million in labor income, producing $1.45 billion in economic value-added, which equates to a total economic output of $2.43 billion, and yields a tax impact of $49.6 million to the State and Federal governments.

C.3.2 Transport User Impacts

Provided below (per Table C.5) are the impacts to Iowa from rail users, including passenger and freight activities.

- Passenger-related activities reflect expenditures within the region by out-of-state visitors, based on Amtrak and tourist rail related passenger movements and assumptions regarding visitors (versus residents), average length of stay, average visitor expenditure per day, and an allocation to various expenditure categories (e.g., retail purchases, ground transportation, entertainment and recreation, lodging, and food purchases).
- Freight-related activities reflect the extent to which inbound goods via rail are absorbed into the existing production processes as intermediates into the final production of saleable goods and services, and how outbound/intrastate goods via rail are produced by the various existing industries in the region.

A compositional breakdown of the directional-related freight user impacts is also provided in Table C.5. Combining passenger and freight users yields the following combined impacts:

- ***Direct*** — Passenger and freight users, combined, yields a direct impact of 66,680 jobs, earning $6.4 billion in labor income, producing $11.2 billion in value-added activity, which equates to $43.2 billion in economic output; with tax revenues (on direct output) equating to $0.5 billion.
- ***Total*** — Including the multipliers, transport user-related activity impacts total 210,510 jobs, earning $13.2 billion in labor income, producing $22.7 billion in economic value-added, which equates to a total economic output of $67.0 billion, and yields a tax impact of $1.3 billion to the State and Federal governments.

Table C.5: Transport User Impacts

MEASURE AND TYPE	PASSENGER	FREIGHT			USERS TOTAL
		OUT/INTRA	INBOUND	SUBTOTAL	
EMPLOYMENT*					
Direct	230	24,490	41,960	66,450	66,680
Indirect	30	56,310	24,080	80,390	80,420
Induced	40	39,850	23,530	63,370	63,410
Total	300	120,870	89,350	210,220	210,510
INCOME**					
Direct	$4.8	$3,626.5	$2,784.8	$6,411.3	$6,416.1
Indirect	$1.5	$3,249.9	$1,249.9	$4,499.8	$4,501.2
Induced	$1.3	$1,447.8	$855.4	$2,303.1	$2,304.5
Total	$7.6	$8,313.0	$4,901.3	$13,214.2	$13,221.8
VALUE ADDED**					
Direct	$7.1	$6,426.7	$4,770.2	$11,196.9	$11,204.0
Indirect	$2.5	$5,267.0	$2,039.8	$7,306.8	$7,309.3
Induced	$2.4	$2,641.1	$1,560.7	$4,201.8	$4,204.3
Total	$12.0	$14,332.8	$8,372.7	$22,705.5	$22,717.6
OUTPUT**					
Direct	$13.4	$28,872.7	$14,156.6	$43,029.3	$43,042.6
Indirect	$4.6	$12,199.5	$4,359.3	$16,558.8	$16,563.4
Induced	$4.3	$4,640.4	$2,741.9	$7,382.4	$7,386.6
Total	$22.3	$45,696.4	$21,274.0	$66,970.4	$66,992.7
TAX REVENUE**					
Direct	$1.2	$163.3	$311.7	$475.0	$476.2
Indirect	$0.2	$302.9	$151.8	$454.8	$454.9
Induced	$0.2	$248.8	$147.0	$395.7	$396.0
Total	$1.6	$727.2	$598.4	$1,325.5	$1,327.1

Source: CDM Smith, Amtrak, WAYBILL, and IMPLAN

* employment rounded to nearest 10 job-years; totals may not sum due to rounding
** in millions of 2013 dollars

C.3.2.1 Visitor Impacts

As per Table C.5, the passenger-related rail user impacts are dwarfed by the freight user impacts, which is intuitive, considering the volumes on each respective rail purpose. The impact differential is a function of the relative volumes and the value carried. In addition, the passenger-related user impacts reflect spending in service industries. Conversely, the freight-related user impacts are dispersed throughout various industries in the economy, including those almost entirely rail dependent. As such, the narrowly-focused passenger user-related impacts are overshadowed by the more broadly-encompassing freight-related impacts.

- ***Direct*** — Passengers and the tourism-related spending yield a direct impact of 230 jobs, earning $4.8 million in labor income, producing $7.1 million in value-added activity, which equates to $13.4 million in economic output, with tax revenues (on direct output) of $1.2 million.
- ***Total*** — Including the multipliers, passenger-related user activity impacts a total of 300 jobs, earning $7.6 million in labor income, producing $12.0 million in economic value-added, which equates to a total economic output of $22.3 million, and yields a tax impact of $1.6 million to the State and Federal governments.

C.3.2.2 Freight User Impacts

In addition to the transport-service impacts detailed above, many consignees and shippers heavily rely on rail service to receive and/or ship freight; in doing so, they generate significant impacts. While these firms/industries are not entirely dependent on rail for shipping freight (as alternative modes are available, such as trucking), it is hard to envision continued operations without such access. In fact, rail access is often instrumental in major manufacturing business location decisions.

If railroads did not accommodate demand, consignees and shippers could use other modes (i.e., truck, water, air, etc.) to transport freight. However, the use of other modes would likely entail higher transport costs (due to longer transport distances, price, logistics, etc.) and could increase overall demand (and resulting handling costs) for all users of other modes (both the diverted rail users as well as current users). The long-term result would be a migration of industry away from Iowa to other locations with relatively better rail accessibility and better modal options/mix.

The following analysis identifies the economic impacts associated with industries in Iowa that rely on freight rail transport. To estimate such impacts associated with rail tonnage movements requires an understanding of how the various inbound and outbound/intrastate commodities are used or produced by various industries to generate output, income, and employment. To do so, the IMPLAN® commodity-to-industry matrices and other algorithms were applied to estimate direct impact measures. Indirect and induced multipliers were then applied to the direct impact estimates to derive total economic impacts.

Outbound/Intrastate — 42.3 million tons of freight originating in Iowa is either shipped via rail out-of-state (35.4 million tons) or internally (6.9 million tons). Combined, rail freight originating in Iowa is valued at $34.5 billion (see Table 2), and generates an estimated 120,870 total jobs (Table 5).

Inbound — 35.3 million tons of inbound freight originating beyond Iowa, valued at $13.0 million (Table 2), are used by Iowa industries and institutions to generate 89,350 total jobs (Table 5). Inbound freight user impacts comprise final demand and intermediate demand. Final demand goods are distributed via wholesale or retail outlets, or through direct sales, with economic impacts stemming from the trade margins associated with the transfer of goods from suppliers to end-users. Intermediately demanded physical commodities imported via rail are used/absorbed by Iowa industries in their production processes based on relative commodity absorption patterns.

Freight User Directional Overlap — Impact overlap issues arose between outbound/intra and inbound commodity conversion to economic impacts[11]. To avoid double-counting impacts, such potential overlaps were identified at an aggregate level and subtracted-out of the analysis to ensure conservative estimates. Such potential overlaps comprise between 12% and 23% of the total unadjusted freight user impacts, depending on the impact measure and type.

- ***Direct*** — Combining the directional components of freight users (and reflecting removal of the potential overlap) yields a direct subtotal impact of 66,450 jobs, earning $6.4 billion in labor income, producing $11.2

11 As an example, when commodities, such as seed, are imported by a grain producer, the user impacts quantified allocate a share of the inbound seed to the grain industry and then estimate the industry-associated output. Potential overlap arises when the grain is subsequently transported outbound by rail, since impacts are also estimated for outbound rail movements. So in effect, the output associated with the grain industry would be counted twice: once associated with the inbound movement of seed and fertilizer, and second with the outbound movement of grain.

billion in value-added activity, which equates to $43.0 billion in economic output, with tax revenues (on direct output) of $0.5 billion.

- ***Total*** — Including the multipliers, freight user activity impacts total 210,220 jobs, earning $13.2 billion in labor income, producing $22.7 billion in economic value-added, which equates to a total economic output of $67.0 billion, and yields a tax impact of $1.3 billion.

C.3.3 Total Rail Activity Impacts

Rail service is essential to Iowa's economy. While the basic provision of rail service generates a modest 3,520 direct jobs (8,860 including multipliers), rail users generate 66,680 direct jobs, a significant majority relating to freight users (compared with passengers). Impacts to Iowa by rail activity (transport services and users, differentiated by passenger and freight rail purposes), by impact measure (output, employment, labor income, value-added, and taxes), and by type (direct, indirect, induced, and total) are summarized below in Table C.6.

- ***Direct*** — Combining the various rail-related activities yields a direct impact of 70,200 jobs, earning $6.8 billion in labor income, producing $12.3 billion in value-added activity, which equates to $44.8 billion in economic output, with tax revenues (on direct output) of $0.5 billion.
- ***Total*** — Including the multipliers, the various rail-related activities total 219,380 jobs, earning $13.8 billion in labor income, producing $24.2 billion in economic value-added, which equates to a total economic output of $69.4 billion, and yields a tax impact of $1.4 billion.

Table C.6: Rail Impacts, 2013

MEASURE AND TYPE	TRANSPORT SERVICES			TRANSPORT USERS			TOTAL		
	PASS.	FREIGHT	SERVICES	PASS.	FREIGHT	USERS	PASS.	FREIGHT	TOTAL
EMPLOYMENT*									
Direct	20	3,500	3,520	230	66,450	66,680	250	69,960	70,200
Total	40	8,830	8,860	300	210,220	210,510	330	219,040	219,380
INCOME**									
Direct	$1.1	$365.9	$367.0	$4.8	$6,411.3	$6,416.1	$5.9	$6,777.2	$6,783.1
Total	$1.7	$600.6	$602.4	$7.6	$13,214.2	$13,221.8	$9.4	$13,814.8	$13,824.2
VALUE ADDED**									
Direct	$1.9	$1,075.5	$1,077.4	$7.1	$11,196.9	$11,204.0	$9.0	$12,272.4	$12,281.4
Total	$3.0	$1,448.0	$1,451.0	$12.0	$22,705.5	$22,717.6	$15.0	$24,153.6	$24,168.6
OUTPUT**									
Direct	$3.6	$1,725.8	$1,729.4	$13.4	$43,029.3	$43,042.6	$17.0	$44,755.0	$44,772.0
Total	$5.6	$2,428.0	$2,433.6	$22.3	$66,970.4	$66,992.7	$27.9	$69,398.4	$69,426.3
TAX REVENUE**									
Direct	$0.05	$18.3	$18.4	$1.2	$475.0	$476.2	$1.3	$493.3	$494.6
Total	$0.14	$49.5	$49.6	$1.6	$1,325.5	$1,327.1	$1.8	$1,375.0	$1,376.7

Source: CDM Smith, Amtrak, WAYBILL, and IMPLAN

* Employment rounded to nearest ten job-years; totals may not sum due to rounding
** in millions of 2013 dollars

Impacts as Percentage of Economy — It is important to contextualize the preceding economic impact estimates, as it is difficult to visualize millions of jobs and billions of dollars, etc. As such, the economic impacts can be compared with the existing economic composition of Iowa in 2013, by the same economic measures as the presented economic impacts, per Table C.7.

Table C.7: Iowa Economic Measures, 2013

MEASURE	VALUE
Employment	2,031,434
Income*	$101,512
Value Added*	$164,460
Output*	$356,288
Tax Revenue*	$9,449

Source: IMPLAN

* in millions of 2013 dollars

Total economic impacts related to rail movements in Iowa range between 10.8% (employment) to 19.5% (economic output) of the statewide economy, depending on measure, as seen in Table C.8. Again, the largest relative contribution to the statewide economy from rail pertains to the freight users, with the transport services and passenger-related impacts a mere fraction of freight.

Table C.8: Impacts as Percentage of Iowa Economy

MEASURE AND TYPE	TRANSPORT SERVICES			TRANSPORT USERS			TOTAL		
	PASS.	FREIGHT	SERVICES	PASS.	FREIGHT	USERS	PASS.	FREIGHT	TOTAL
EMPLOYMENT									
Direct	0.001%	0.2%	0.2%	0.011%	3.3%	3.3%	0.012%	3.4%	3.5%
Indirect	0.000%	0.1%	0.1%	0.002%	4.0%	4.0%	0.002%	4.1%	4.1%
Induced	0.000%	0.1%	0.1%	0.002%	3.1%	3.1%	0.002%	3.3%	3.3%
Total	0.002%	0.4%	0.4%	0.015%	10.3%	10.4%	0.016%	10.8%	10.8%
INCOME									
Direct	0.001%	0.4%	0.4%	0.005%	6.3%	6.3%	0.006%	6.7%	6.7%
Indirect	0.000%	0.1%	0.1%	0.001%	4.4%	4.4%	0.002%	4.6%	4.6%
Induced	0.000%	0.1%	0.1%	0.001%	2.3%	2.3%	0.002%	2.4%	2.4%
Total	0.002%	0.6%	0.6%	0.008%	13.0%	13.0%	0.009%	13.6%	13.6%
VALUE ADDED									
Direct	0.001%	0.7%	0.7%	0.004%	6.8%	6.8%	0.005%	7.5%	7.5%
Indirect	0.000%	0.1%	0.1%	0.002%	4.4%	4.4%	0.002%	4.6%	4.6%
Induced	0.000%	0.1%	0.1%	0.001%	2.6%	2.6%	0.002%	2.7%	2.7%
Total	0.002%	0.9%	0.9%	0.007%	13.8%	13.8%	0.009%	14.7%	14.7%
OUTPUT									
Direct	0.001%	0.5%	0.5%	0.004%	12.1%	12.1%	0.005%	12.6%	12.6%
Indirect	0.000%	0.1%	0.1%	0.001%	4.6%	4.6%	0.002%	4.8%	4.8%
Induced	0.000%	0.1%	0.1%	0.001%	2.1%	2.1%	0.001%	2.2%	2.2%
Total	0.002%	0.7%	0.7%	0.006%	18.8%	18.8%	0.008%	19.5%	19.5%
TAX REVENUE									
Direct	0.001%	0.2%	0.2%	0.013%	5.0%	5.0%	0.013%	5.2%	5.2%
Indirect	0.000%	0.1%	0.1%	0.002%	4.8%	4.8%	0.002%	5.0%	5.0%
Induced	0.001%	0.2%	0.2%	0.002%	4.2%	4.2%	0.003%	4.4%	4.4%
Total	0.001%	0.5%	0.5%	0.017%	14.0%	14.0%	0.019%	14.6%	14.6%

Source: CDM Smith, Amtrak, WAYBILL, and IMPLAN

Employment by Industry — In Table C.9 and Figure C.1, the employment impacts to Iowa from the combined transport services and user-related impacts are presented by industry (according to the North American Industry Classification System, or NAICS, at the two-digit industry aggregation level).

More than 50% of the total (i.e., direct and multiplier) 219,380 employment impacts stemming from rail are concentrated within the top five NAICS-defined industry sectors: *Manufacturing, Retail Trade, Forestry, Fishing, and Hunting, Health and Social Services, and, Transportation and Warehousing Services*. Direct *Manufacturing* employment (38,580) is a noted portion of the impacts, and the *Manufacturing* industry subcategories are thus detailed further in Figure C.2. As depicted, the largest *Manufacturing* subsector impacts pertain to *Food Product*s and *Chemical Manufacturing*. The finding is intuitive, given the large movements of food and ethanol products.

In contrast to *Manufacturing*, many of the other top industries impacts by rail are predominately done via indirect and induced-related impacts; that is, those industries supplying materials to the *Manufacturing* and other industries, and via the re-spending of income earned by the directly and indirectly affected employee base. Also notably, *Health and Social Services* employment impacts attributable to rail total 17,578, of which 84% (14,852) reflect induced impacts. This illustrates how the respending of direct and indirect income circulates through the economy.

Table 9: Rail Employment Impacts by Industry

INDUSTRY	DIRECT	INDIRECT	INDUCED	TOTAL
31-33 Manufacturing	38,580	2,715	622	41,918
44-45 Retail Trade	4,572	5,322	11,509	21,403
11 Ag, Forestry, Fish and Hunting	5,944	14,282	186	20,412
62 Health and Social Services	2,715	11	14,852	17,578
48-49 Transportation and Warehousing	4,929	10,575	1,395	16,899
42 Wholesale Trade	528	12,324	1,683	14,535
72 Accommodation and Food Services	3,059	2,127	8,669	13,854
56 Administrative and Waste Services	1,211	8,513	2,923	12,646
81 Other Services	1,513	2,823	7,317	11,654
52 Finance and Insurance	84	5,588	4,927	10,599
54 Professional- Scientific and Tech Services	443	4,616	2,028	7,087
23 Construction	3,567	2,541	639	6,748
53 Real Estate and Rental	445	2,978	2,465	5,889
55 Management of Companies	65	3,246	310	3,621
71 Arts- Entertainment and Recreation	333	747	2,188	3,268
61 Educational Services	385	85	2,784	3,255
51 Information	287	1,459	1,059	2,805
22 Utilities	1,200	1,003	231	2,434
92 Government and Non NAICS	221	1,295	474	1,990
21 Mining	122	620	42	783
Total	**70,203**	**82,872**	**66,302**	**219,377**

Source: CDM Smith, Amtrak, WAYBILL, and IMPLAN

Figure C.1: Employment Impacts by Industry and Type

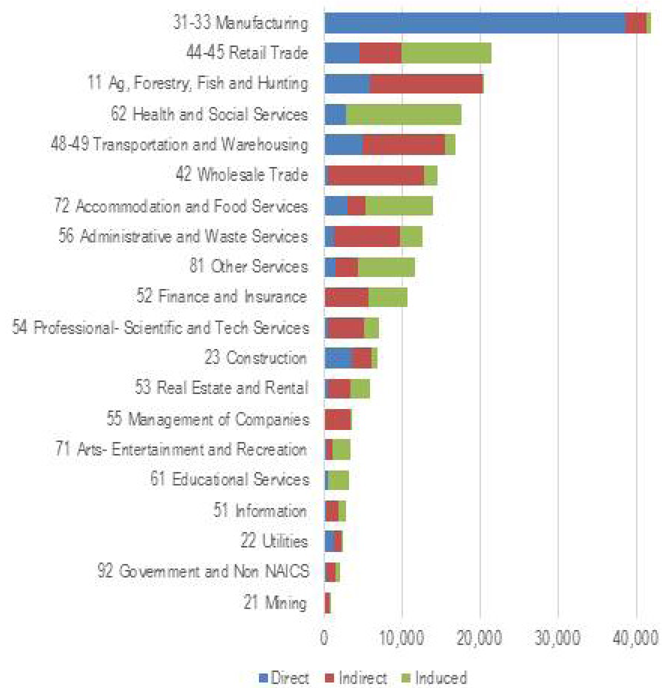
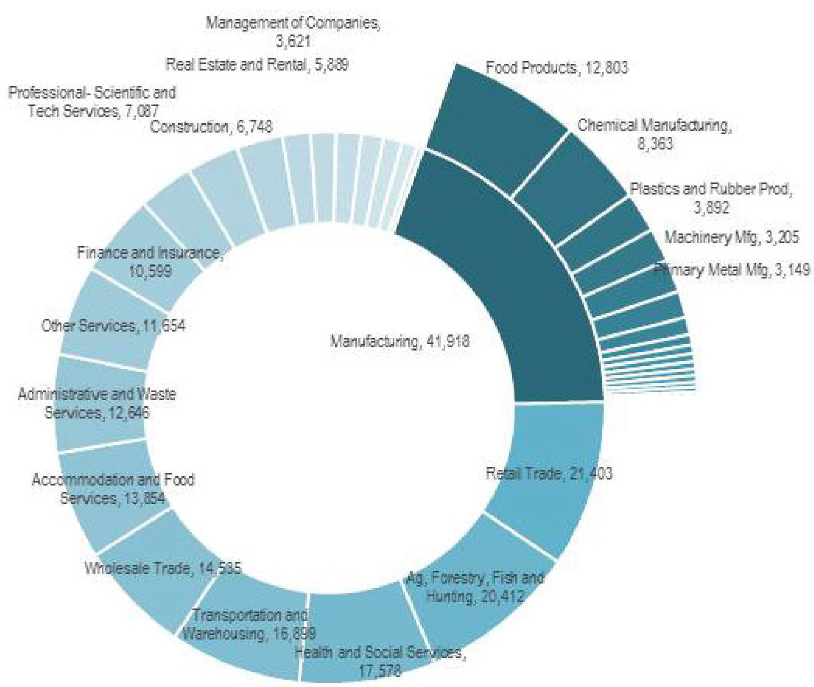


Figure C.2: Total Employment Impact Composition



C.4 Conclusion

Rail accommodates the movement of both goods (freight) and people (passengers), which facilitates economic activity. Freight movements reflect the reallocation of intermediate goods for production and final goods for consumption; and, passenger movements are linked with personal consumption patterns. Both such movements are supported by rail and can be captured by economic impact metrics via tracing the movement volumes, translated into applicable values (and, subject to economic/geographic factors) through the various interrelationships within the economy.

Translation of rail passenger and freight volumes into economic impacts demonstrates the vital role rail provides in Iowa's economy. Such economic impact analysis provides a complementary perspective for traditional freight-related analysis that predominately emphasizes the volume (units and/or tons) of the movements and the capacity of the transportation route.

An economic analysis supplies an alternative means to assess the relative importance of freight rail. In instances, the volume of a certain commodity movement is substantial and would thus be considered relevant from a traditional freight analysis perspective; however, that same high-volume movement may be a low-value (per weight) commodity with little economic relevance (e.g., certain waste material movements). Consequently, not all traditionally-assessed freight movements (from a volume perspective) would be considered equally relevant, as compared with other freight movements observed from an economic perspective. In effect, volumes do not always translate into relevant values, and into direct economic impacts (and thus, into total impacts, reflective of multiplier effects as economic activity permeates through the economy).

Impacts, as measured in terms such as employment, income, value added, and output, span all industries and reach every region of the state:

- ***Employment*** — Economic impacts of rail extend beyond the 3,520 direct employed in the provision of rail transport (both passenger and freight). When the freight and visitor user impact activities and multiplier impacts are included, rail-related employment in Iowa totals 219,380 jobs, which represent 10.8% of the 2.0 million jobs statewide.
- ***Income*** — $13.8 billion earned by these total impacted employees represent 13.6% of Iowa's total labor income.
- ***Value-Added*** — And, the combined value-added impact, $24.2 billion, associated with the rail services and users represent 14.7% of the state's Gross State Product (GSP).

It would be erroneous to conclude that all of these impacts are entirely and solely dependent on rail and would disappear if rail ceased operating (i.e., no modal substitutability). Rather, the findings show that rail service facilitates business throughout the State. Specifically, these impacts highlight the magnitude of freight rail use by manufacturers across the State, as well as dealers, retailers, and others who transport materials, component parts, and products.

Of the rail activities analyzed, passenger-related economic impacts are relatively insignificant in comparison to the comparatively large-scale freight-related impacts; and, the rail users (especially the freight users, including both outbound/intrastate and inbound movements, pertaining to production and absorption, respectively) far exceed the economic impacts associated with provisioning the services that facilitate the movement of both people and goods. In conclusion, the rail industry provides some economic activity, in itself; but, it facilitates far more economic activity via the services rendered to people and industries, particularly by enabling the movement of goods necessary to conduct economic pursuits.

Iowa State Rail Plan Final

Appendix D

Commodity Movements

Contents

D.1 Introduction

The purpose of this appendix is to provide tables to support Section 2.2.2 (Freight Demand and Growth) of the Iowa State Rail Plan. The data in these tables reflects freight movements only and should not necessarily be construed as a direct reflection of production and/or consumption in the state. This section includes tables showing:

- Rail Movement by Commodity (All Directions), 2013
- Rail Outbound Movement by Commodity, 2013
- Rail Inbound Movement by Commodity, 2013
- Rail Intra Movement by Commodity, 2013
- Rail Through Movement by Commodity, 2013
- Rail Outbound Tons by Geography, 2013
- Rail Inbound Tons by Geography, 2013
- FHWA FAF Rail Tons by SCTG, 2013 and 2040

Table D.1: Rail Movement by Commodity (All Directions), 2013

STCC2	COMMODITY	TONS		UNITS (CARLOADS)	
		AMOUNT	PERCENT	AMOUNT	PERCENT
01	Farm Prods.	20,042,353	6.9%	214,088	4.8%
08	Forest Prods.	8,920	0.0%	280	0.0%
09	Fresh Fish or Marine Prods.	15,200	0.0%	440	0.0%
10	Metallic Ores	1,452,258	0.5%	14,791	0.3%
11	Coal	134,395,851	46.3%	1,215,557	27.1%
13	Crude Petrol. or Natural Gas	3,338,685	1.2%	35,954	0.8%
14	Nonmetallic Minerals	17,358,788	6.0%	169,889	3.8%
19	Ordnance or Accessories	10,640	0.0%	440	0.0%
20	Food or Kindred Prods.	37,994,887	13.1%	526,973	11.8%
21	Tobacco Prods.	0	0.0%	0	0.0%
22	Textile Mill Prods.	42,560	0.0%	3,160	0.1%
23	Apparel or Related Prods.	1,262,440	0.4%	98,480	2.2%
24	Lumber or Wood Prods.	3,945,156	1.4%	52,108	1.2%
25	Furniture or Fixtures	264,400	0.1%	27,240	0.6%
26	Pulp, Paper or Allied Prods.	2,108,960	0.7%	53,720	1.2%
27	Printed Matter	204,080	0.1%	10,960	0.2%
28	Chemicals or Allied Prods.	31,244,820	10.8%	402,477	9.0%
29	Petroleum or Coal Prods.	3,912,492	1.3%	49,684	1.1%
30	Rubber or Misc Plastics	539,720	0.2%	40,480	0.9%
31	Leather or Leather Prods.	7,960	0.0%	520	0.0%
32	Clay, Concrete, Glass, or Stone	3,415,660	1.2%	39,144	0.9%
33	Primary Metal Prods.	4,773,064	1.6%	59,880	1.3%
34	Fabricated Metal Prods.	417,780	0.1%	28,876	0.6%
35	Machinery	406,992	0.1%	20,762	0.5%
36	Electrical Equipment	295,374	0.1%	26,330	0.6%

37	Transportation Equipment	5,766,574	2.0%	317,018	7.1%
38	Instrum., Photo Eq., Optical Eq.	21,360	0.0%	1,800	0.0%
39	Misc Manufacturing Prods.	232,240	0.1%	24,560	0.5%
40	Waste or Scrap Materials	2,427,380	0.8%	32,524	0.7%
41	Misc Freight Shipments	448,816	0.2%	61,492	1.4%
42	Shipping Containers	512,040	0.2%	88,160	2.0%
43	Mail or Contract Traffic	3,760	0.0%	520	0.0%
44	Freight Forwarder Traffic	141,280	0.0%	8,000	0.2%
45	Shipper Association Traffic	0	0.0%	0	0.0%
46	Misc Mixed Shipments	12,529,640	4.3%	837,920	18.7%
47	Small Packaged Shipments	110,080	0.0%	8,760	0.2%
48	Waste	623,421	0.2%	6,611	0.1%
49	Hazardous Materials	0	0.0%	0	0.0%
50	Secondary Traffic	0	0.0%	0	0.0%
60	Unclassified	0	0.0%	0	0.0%
	Total	**290,275,631**	**100.0%**	**4,479,598**	**100.0%**

Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Table D.2: Rail Outbound Movement by Commodity, 2013

STCC2	COMMODITY	TONS		UNITS (CARLOADS)	
		AMOUNT	PERCENT	AMOUNT	PERCENT
01	Farm Prods.	3,053,980	8.6%	29,378	7.3%
08	Forest Prods.	0	0.0%	0	0.0%
09	Fresh Fish or Marine Prods.	0	0.0%	0	0.0%
10	Metallic Ores	0	0.0%	0	0.0%
11	Coal	0	0.0%	0	0.0%
13	Crude Petrol. or Natural Gas	0	0.0%	0	0.0%
14	Nonmetallic Minerals	1,293,345	3.7%	11,876	3.0%
19	Ordnance or Accessories	0	0.0%	0	0.0%
20	Food or Kindred Prods.	18,490,932	52.2%	193,089	48.2%
21	Tobacco Prods.	0	0.0%	0	0.0%
22	Textile Mill Prods.	0	0.0%	0	0.0%
23	Apparel or Related Prods.	14,960	0.0%	920	0.2%
24	Lumber or Wood Prods.	0	0.0%	0	0.0%
25	Furniture or Fixtures	0	0.0%	0	0.0%
26	Pulp, Paper or Allied Prods.	162,480	0.5%	2,280	0.6%
27	Printed Matter	0	0.0%	0	0.0%
28	Chemicals or Allied Prods.	9,632,687	27.2%	102,799	25.6%
29	Petroleum or Coal Prods.	135,368	0.4%	1,548	0.4%

30	Rubber or Misc Plastics	400	0.0%	40	0.0%
31	Leather or Leather Prods.	0	0.0%	0	0.0%
32	Clay, Concrete, Glass, or Stone	599,464	1.7%	5,876	1.5%
33	Primary Metal Prods.	928,544	2.6%	10,836	2.7%
34	Fabricated Metal Prods.	0	0.0%	0	0.0%
35	Machinery	107,236	0.3%	3,156	0.8%
36	Electrical Equipment	0	0.0%	0	0.0%
37	Transportation Equipment	191,030	0.5%	7,145	1.8%
38	Instrum., Photo Eq., Optical Eq.	0	0.0%	0	0.0%
39	Misc Manufacturing Prods.	0	0.0%	0	0.0%
40	Waste or Scrap Materials	387,632	1.1%	5,572	1.4%
41	Misc Freight Shipments	0	0.0%	0	0.0%
42	Shipping Containers	31,840	0.1%	4,280	1.1%
43	Mail or Contract Traffic	0	0.0%	0	0.0%
44	Freight Forwarder Traffic	0	0.0%	0	0.0%
45	Shipper Association Traffic	0	0.0%	0	0.0%
46	Misc Mixed Shipments	398,800	1.1%	22,040	5.5%
47	Small Packaged Shipments	0	0.0%	0	0.0%
48	Waste	0	0.0%	0	0.0%
49	Hazardous Materials	0	0.0%	0	0.0%
50	Secondary Traffic	0	0.0%	0	0.0%
60	Unclassified	0	0.0%	0	0.0%
	Total	**35,428,698**	**100.0%**	**400,835**	**100.0%**

Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Table D.3: Rail Inbound Movement by Commodity, 2013

STCC2	COMMODITY	TONS		UNITS (CARLOADS)	
		AMOUNT	PERCENT	AMOUNT	PERCENT
01	Farm Prods.	2,277,752	6.4%	23,563	6.5%
08	Forest Prods.	8,520	0.0%	240	0.1%
09	Fresh Fish or Marine Prods.	0	0.0%	0	0.0%
10	Metallic Ores	0	0.0%	0	0.0%
11	Coal	22,363,841	63.2%	187,395	51.9%
13	Crude Petrol. or Natural Gas	132	0.0%	76	0.0%
14	Nonmetallic Minerals	430,140	1.2%	4,652	1.3%
19	Ordnance or Accessories	0	0.0%	0	0.0%
20	Food or Kindred Prods.	2,510,984	7.1%	25,140	7.0%
21	Tobacco Prods.	0	0.0%	0	0.0%
22	Textile Mill Prods.	0	0.0%	0	0.0%

23	Apparel or Related Prods.	4,040	0.0%	320	0.1%
24	Lumber or Wood Prods.	285,320	0.8%	3,160	0.9%
25	Furniture or Fixtures	960	0.0%	80	0.0%
26	Pulp, Paper or Allied Prods.	268,040	0.8%	3,640	1.0%
27	Printed Matter	2,440	0.0%	120	0.0%
28	Chemicals or Allied Prods.	4,229,255	11.9%	45,730	12.7%
29	Petroleum or Coal Prods.	387,588	1.1%	4,604	1.3%
30	Rubber or Misc Plastics	720	0.0%	40	0.0%
31	Leather or Leather Prods.	0	0.0%	0	0.0%
32	Clay, Concrete, Glass, or Stone	773,756	2.2%	7,388	2.0%
33	Primary Metal Prods.	500,324	1.4%	5,388	1.5%
34	Fabricated Metal Prods.	0	0.0%	0	0.0%
35	Machinery	0	0.0%	0	0.0%
36	Electrical Equipment	1,600	0.0%	80	0.0%
37	Transportation Equipment	173,128	0.5%	7,304	2.0%
38	Instrum., Photo Eq., Optical Eq.	0	0.0%	0	0.0%
39	Misc Manufacturing Prods.	0	0.0%	0	0.0%
40	Waste or Scrap Materials	754,940	2.1%	8,960	2.5%
41	Misc Freight Shipments	1,480	0.0%	80	0.0%
42	Shipping Containers	59,640	0.2%	5,760	1.6%
43	Mail or Contract Traffic	0	0.0%	0	0.0%
44	Freight Forwarder Traffic	0	0.0%	0	0.0%
45	Shipper Association Traffic	0	0.0%	0	0.0%
46	Misc Mixed Shipments	367,000	1.0%	27,000	7.5%
47	Small Packaged Shipments	840	0.0%	40	0.0%
48	Waste	0	0.0%	0	0.0%
49	Hazardous Materials	0	0.0%	0	0.0%
50	Secondary Traffic	0	0.0%	0	0.0%
60	Unclassified	0	0.0%	0	0.0%
	Total	**35,402,440**	**100.0%**	**360,760**	**100.0%**

Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Table D.4: Rail Intra Movement by Commodity, 2013

STCC2	COMMODITY	TONS		UNITS (CARLOADS)	
		AMOUNT	PERCENT	AMOUNT	PERCENT
01	Farm Prods.	1,357,201	19.7%	17,390	18.5%
08	Forest Prods.	0	0.0%	0	0.0%
09	Fresh Fish or Marine Prods.	0	0.0%	0	0.0%
10	Metallic Ores	0	0.0%	0	0.0%

11	Coal	3,115,724	45.2%	26,180	27.9%
13	Crude Petrol. or Natural Gas	0	0.0%	0	0.0%
14	Nonmetallic Minerals	137,524	2.0%	1,372	1.5%
19	Ordnance or Accessories	0	0.0%	0	0.0%
20	Food or Kindred Prods.	924,631	13.4%	19,252	20.5%
21	Tobacco Prods.	0	0.0%	0	0.0%
22	Textile Mill Prods.	0	0.0%	0	0.0%
23	Apparel or Related Prods.	0	0.0%	0	0.0%
24	Lumber or Wood Prods.	0	0.0%	0	0.0%
25	Furniture or Fixtures	0	0.0%	0	0.0%
26	Pulp, Paper or Allied Prods.	0	0.0%	0	0.0%
27	Printed Matter	0	0.0%	0	0.0%
28	Chemicals or Allied Prods.	648,250	9.4%	19,776	21.1%
29	Petroleum or Coal Prods.	0	0.0%	0	0.0%
30	Rubber or Misc Plastics	0	0.0%	0	0.0%
31	Leather or Leather Prods.	0	0.0%	0	0.0%
32	Clay, Concrete, Glass, or Stone	173,440	2.5%	1,560	1.7%
33	Primary Metal Prods.	53,000	0.8%	600	0.6%
34	Fabricated Metal Prods.	0	0.0%	0	0.0%
35	Machinery	0	0.0%	0	0.0%
36	Electrical Equipment	0	0.0%	0	0.0%
37	Transportation Equipment	67,968	1.0%	2,848	3.0%
38	Instrum., Photo Eq., Optical Eq.	0	0.0%	0	0.0%
39	Misc Manufacturing Prods.	0	0.0%	0	0.0%
40	Waste or Scrap Materials	416,988	6.0%	4,932	5.3%
41	Misc Freight Shipments	0	0.0%	0	0.0%
42	Shipping Containers	0	0.0%	0	0.0%
43	Mail or Contract Traffic	0	0.0%	0	0.0%
44	Freight Forwarder Traffic	0	0.0%	0	0.0%
45	Shipper Association Traffic	0	0.0%	0	0.0%
46	Misc Mixed Shipments	0	0.0%	0	0.0%
47	Small Packaged Shipments	0	0.0%	0	0.0%
48	Waste	0	0.0%	0	0.0%
49	Hazardous Materials	0	0.0%	0	0.0%
50	Secondary Traffic	0	0.0%	0	0.0%
60	Unclassified	0	0.0%	0	0.0%
	Total	**6,894,726**	**100.0%**	**93,910**	**100.0%**

Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Table D.5: Rail Through Movement by Commodity, 2013

STCC2	COMMODITY	TONS		UNITS (CARLOADS)	
		AMOUNT	PERCENT	AMOUNT	PERCENT
01	Farm Prods.	13,353,420	6.3%	143,757	4.0%
08	Forest Prods.	400	0.0%	40	0.0%
09	Fresh Fish or Marine Prods.	15,200	0.0%	440	0.0%
10	Metallic Ores	1,452,258	0.7%	14,791	0.4%
11	Coal	108,916,286	51.2%	1,001,982	27.6%
13	Crude Petrol. or Natural Gas	3,338,553	1.6%	35,878	1.0%
14	Nonmetallic Minerals	15,497,779	7.3%	151,989	4.2%
19	Ordnance or Accessories	10,640	0.0%	440	0.0%
20	Food or Kindred Prods.	16,068,340	7.6%	289,492	8.0%
21	Tobacco Prods.	0	0.0%	0	0.0%
22	Textile Mill Prods.	42,560	0.0%	3,160	0.1%
23	Apparel or Related Prods.	1,243,440	0.6%	97,240	2.7%
24	Lumber or Wood Prods.	3,659,836	1.7%	48,948	1.4%
25	Furniture or Fixtures	263,440	0.1%	27,160	0.7%
26	Pulp, Paper or Allied Prods.	1,678,440	0.8%	47,800	1.3%
27	Printed Matter	201,640	0.1%	10,840	0.3%
28	Chemicals or Allied Prods.	16,734,628	7.9%	234,172	6.5%
29	Petroleum or Coal Prods.	3,389,536	1.6%	43,532	1.2%
30	Rubber or Misc Plastics	538,600	0.3%	40,400	1.1%
31	Leather or Leather Prods.	7,960	0.0%	520	0.0%
32	Clay, Concrete, Glass, or Stone	1,869,000	0.9%	24,320	0.7%
33	Primary Metal Prods.	3,291,196	1.5%	43,056	1.2%
34	Fabricated Metal Prods.	417,780	0.2%	28,876	0.8%
35	Machinery	299,756	0.1%	17,606	0.5%
36	Electrical Equipment	293,774	0.1%	26,250	0.7%
37	Transportation Equipment	5,334,448	2.5%	299,721	8.3%
38	Instrum., Photo Eq., Optical Eq.	21,360	0.0%	1,800	0.0%
39	Misc Manufacturing Prods.	232,240	0.1%	24,560	0.7%
40	Waste or Scrap Materials	867,820	0.4%	13,060	0.4%
41	Misc Freight Shipments	447,336	0.2%	61,412	1.7%
42	Shipping Containers	420,560	0.2%	78,120	2.2%
43	Mail or Contract Traffic	3,760	0.0%	520	0.0%
44	Freight Forwarder Traffic	141,280	0.1%	8,000	0.2%
45	Shipper Association Traffic	0	0.0%	0	0.0%
46	Misc Mixed Shipments	11,763,840	5.5%	788,880	21.8%

47	Small Packaged Shipments	109,240	0.1%	8,720	0.2%
48	Waste	623,421	0.3%	6,611	0.2%
49	Hazardous Materials	0	0.0%	0	0.0%
50	Secondary Traffic	0	0.0%	0	0.0%
60	Unclassified	0	0.0%	0	0.0%
	Total	**212,549,767**	**100.0%**	**3,624,093**	**100.0%**

Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Table D.6: Rail Outbound Tons by Geography, 2013

STCC2	ORIGINATING IOWA COUNTIES							
	POTTAWATTAMIE	WAPELLO	CLINTON	WOODBURY	LINN	REMAINING	Total	Percent
20 Food or Kindred Prods.	2,567,292	2,837,823	1,406,656	1,799,898	1,756,578	8,122,685	**18,490,932**	**52.2%**
28 Chemicals or Allied Prods.	197,900	56,360	909,872	303,922	71,778	8,092,855	**9,632,687**	**27.2%**
01 Farm Prods.	1,205,882	0	94,216	174,944	11,520	1,567,418	**3,053,980**	**8.6%**
14 Nonmetallic Minerals	152,320	4,640	0	84,885	0	1,051,500	**1,293,345**	**3.7%**
33 Primary Metal Prods.	3,040	0	191,680	0	0	733,824	**928,544**	**2.6%**
Remaining Commodities	532,956	15,560	61,256	60,400	188,160	1,170,878	**2,029,210**	**5.7%**
Total	**4,659,390**	**2,914,383**	**2,663,680**	**2,424,049**	**2,028,036**	**20,739,160**	**35,428,698**	**100.0%**
Percent	**13.2%**	**8.2%**	**7.5%**	**6.8%**	**5.7%**	**58.5%**	**100.0%**	

STCC2	TERMINATING STATE							
	ILLINOIS	TEXAS	CALIFORNIA	MISSOURI	ARIZONA	REMAINING	Total	Percent
20 Food or Kindred Prods.	5,637,863	4,153,627	2,300,692	1,158,872	586,929	4,652,949	**18,490,932**	**52.2%**
28 Chemicals or Allied Prods.	4,497,444	1,513,155	404,589	152,000	500,564	2,564,935	**9,632,687**	**27.2%**
01 Farm Prods.	242,744	127,407	468,726	81,350	258,240	1,875,513	**3,053,980**	**8.6%**
14 Nonmetallic Minerals	83,716	741,784	0	0	0	467,845	**1,293,345**	**3.7%**
33 Primary Metal Prods.	29,880	102,440	26,600	5,160	0	764,464	**928,544**	**2.6%**
Remaining Commodities	418,460	137,076	287,800	18,120	0	1,167,754	**2,029,210**	**5.7%**
Total	**10,910,107**	**6,775,489**	**3,488,407**	**1,415,502**	**1,345,733**	**11,493,460**	**35,428,698**	**100.0%**
Percent	**30.8%**	**19.1%**	**9.8%**	**4.0%**	**3.8%**	**32.4%**	**100.0%**	

Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Note: Though Linn County produces a large volume of ethanol, included in the Chemical and Allied Products category, the data includes a large quantity of outbound movements to adjoining Johnson County for repositioning.

Table D.7: Rail Inbound Tons by Geography, 2013

STCC2	ORIGINATING STATE						Total	Percent
	WYOMING	ILLINOIS	MINNESOTA	NEBRASKA	SASKATCHEWAN	REMAINING		
11 Coal	22,097,744	266,097	0	0	0	0	**22,363,841**	**63.2%**
28 Chemicals or Allied Prods.	254,927	391,434	144,500	3,600	207,696	3,227,098	**4,229,255**	**11.9%**
20 Food or Kindred Prods.	0	295,260	247,032	1,065,448	228,996	674,248	**2,510,984**	**7.1%**
01 Farm Prods.	0	202,897	880,463	49,812	521,268	623,312	**2,277,752**	**6.4%**
32 Clay, Concrete, Glass, or Stone	38,000	58,400	0	80,808	0	596,548	**773,756**	**2.2%**
Remaining Commodities	7,400	411,300	220,016	228,228	25,120	2,354,788	**3,246,852**	**9.2%**
Total	**22,398,071**	**1,625,388**	**1,492,011**	**1,427,896**	**983,080**	**7,475,994**	**35,402,440**	**100.0%**
Percent	**63.3%**	**4.6%**	**4.2%**	**4.0%**	**2.8%**	**21.1%**	**100.0%**	

STCC2	TERMINATING IOWA COUNTIES						Total	Percent
	POTTAWATTAMIE	WAPELLO	WOODBURY	LINN	LEE	REMAINING		
20 Food or Kindred Prods.	5,745,710	5,531,658	4,512,618	2,652,985	1,624,716	2,296,154	**22,363,841**	**63.2%**
28 Chemicals or Allied Prods.	203,960	200,560	664,240	45,160	148,040	2,967,295	**4,229,255**	**11.9%**
01 Farm Prods.	1,015,412	113,632	339,980	182,680	0	859,280	**2,510,984**	**7.1%**
14 Nonmetallic Minerals	96,212	0	28,017	512,063	76,476	1,564,984	**2,277,752**	**6.4%**
33 Primary Metal Prods.	23,988	0	27,928	0	0	721,840	**773,756**	**2.2%**
Remaining Commodities	927,848	34,720	215,552	122,204	50,268	1,896,260	**3,246,852**	**9.2%**
Total	**8,013,130**	**5,880,570**	**5,788,335**	**3,515,092**	**1,899,500**	**10,305,813**	**35,402,440**	**100.0%**
Percent	**22.6%**	**16.6%**	**16.4%**	**9.9%**	**5.4%**	**29.1%**	**100.0%**	

Source: Prepared by CDM Smith, based on the STB Waybill Sample data for 2013

Note: For Nebraska's Food and Kindred Products, 76 percent of such inbound movement goes to just one Iowa county (Pottawattamie) to rail yards for repositioning.

Table D.8: FHWA FAF Rail Tons by SCTG, 2013 and 2040

SCTG	DESCRIPTION	OUTBOUND			INBOUND			INTRA		
		2013	2040	CAGR	2013	2040	CAGR	2013	2040	CAGR
	Agricultural									
1	Live Animals/ Fish	0	0	#N/A	0	0	#N/A	0	0	#N/A
2	Cereal Grains	6,334,523	4,851,376	-1.0%	2,187,039	8,040,631	4.9%	2,506,016	5,058,032	2.6%
3	Other Ag Prods.	755,577	1,377,145	2.2%	21,577	40,966	2.4%	416,559	993,129	3.3%
4	Animal Feed	6,092,010	8,417,124	1.2%	186,998	366,394	2.5%	431,587	858,608	2.6%
5	Meat/Seafood	23,532	21,556	-0.3%	77	202	3.6%	0	0	#N/A
6	Milled Grain Prods.	1,564,079	1,157,541	-1.1%	79,765	469,372	6.8%	132,593	232,699	2.1%

7	Other Foodstuffs	6,197,705	8,321,280	1.1%	627,830	1,581,406	3.5%	186,403	281,196	1.5%
8	Alcoholic Beverages	2,166,355	6,624,060	4.2%	255	1,793	7.5%	12,835	26,077	2.7%
9	Tobacco Prods.	0	0	#N/A	0	0	#N/A	0	0	#N/A
	SUBTOTAL	**23,133,781**	**30,770,081**	**1.1%**	**3,103,540**	**10,500,764**	**4.6%**	**3,685,994**	**7,449,741**	**2.6%**
	Mining/ Extraction									
10	Building Stone	0	0	#N/A	0	0	#N/A	0	0	#N/A
11	Natural Sands	0	0	-5.7%	0	0	#N/A	0	0	#N/A
12	Gravel	221,305	154,786	-1.3%	1,123,432	1,685,276	1.5%	1,340,938	1,976,559	1.4%
13	Nonmetallic Minerals	215,147	197,663	-0.3%	478,903	1,455,514	4.2%	0	0	#N/A
14	Metallic Ores	1,346	1,417	0.2%	206	289	1.3%	0	0	#N/A
15	Coal	0	0	#N/A	21,608,858	20,218,593	-0.2%	0	0	#N/A
16	Crude Petroleum	0	0	#N/A	0	0	#N/A	0	0	#N/A
	SUBTOTAL	**437,799**	**353,866**	**-0.8%**	**23,211,400**	**23,359,672**	**0.0%**	**1,340,938**	**1,976,559**	**1.4%**
	Manufacturing									
17	Gasoline	0	0	#N/A	7,452	5,415	-1.2%	0	0	#N/A
18	Fuel Oils	0	0	#N/A	0	0	#N/A	0	0	#N/A
19	Coal NEC	499,342	308,037	-1.8%	418,266	511,689	0.7%	38,922	35,983	-0.3%
20	Basic Chemicals	605,156	360,140	-1.9%	1,731,864	2,953,554	2.0%	108,771	107,688	0.0%
21	Pharmaceuticals	1,215	9,043	7.7%	0	0	#N/A	0	0	#N/A
22	Fertilizers	88,764	46,712	-2.3%	1,965,818	5,000,200	3.5%	61,238	27,243	-3.0%
23	Chemical Prods.	156,016	1,023,870	7.2%	890,418	1,890,721	2.8%	12,194	33,385	3.8%
24	Plastics/Rubber	684,132	993,910	1.4%	270,405	543,014	2.6%	117,026	223,172	2.4%
25	Logs	954	4,072	5.5%	0	0	#N/A	0	0	#N/A
26	Wood Prods.	12,242	12,809	0.2%	267,377	381,942	1.3%	16,114	11,347	-1.3%
27	Newsprint/ Paper	24,197	12,100	-2.5%	260,769	665,767	3.5%	0	0	#N/A
28	Paper Articles	7,583	8,327	0.3%	125,620	316,954	3.5%	0	0	#N/A
29	Printed Prods.	73,467	66,249	-0.4%	70	57	-0.7%	5,575	7,232	1.0%
30	Textiles/Leather	31,698	33,767	0.2%	1,036	2,646	3.5%	0	0	#N/A
31	Nonmetal Min. Prods.	1,221,430	1,970,745	1.8%	340,558	582,459	2.0%	138,217	235,164	2.0%
32	Base Metals	798,552	1,223,861	1.6%	832,978	1,302,988	1.7%	331,398	271,462	-0.7%
33	Articles-Base Metal	102,222	163,415	1.8%	71,822	91,786	0.9%	11,311	11,522	0.1%
34	Machinery	19,845	84,723	5.5%	11,047	82,799	7.7%	0	0	#N/A
35	Electronics	5,985	4,199	-1.3%	39	186	6.0%	0	0	#N/A
36	Motorized Vehicles	43,251	59,395	1.2%	34	56	1.9%	0	0	#N/A
37	Transport Equip.	7,215	10,478	1.4%	19,436	127,100	7.2%	0	0	#N/A
38	Precision Instruments	1,784	29,016	10.9%	1	4	5.2%	0	0	#N/A

39	Furniture	4,918	7,948	1.8%	62	417	7.3%	0	0	#N/A
40	Misc. Mfg. Prods.	5,215	30,646	6.8%	2,590	8,345	4.4%	0	0	#N/A
	SUBTOTAL	**4,395,184**	**6,463,458**	**1.4%**	**7,217,659**	**14,468,100**	**2.6%**	**840,765**	**964,198**	**0.5%**
	Other									
41	Waste/Scrap	298,402	466,431	1.7%	525,576	716,333	1.2%	558,015	1,159,021	2.7%
43	Mixed Freight	111	267	3.3%	3,358	11,394	4.6%	0	0	#N/A
99	Unknown	2,432	19,613	8.0%	0	0	#N/A	0	0	#N/A
	SUBTOTAL	**300,945**	**486,311**	**1.8%**	**528,934**	**727,727**	**1.2%**	**558,015**	**1,159,021**	**2.7%**
	Total	**28,267,709**	**38,073,716**	**1.1%**	**34,061,534**	**49,056,264**	**1.4%**	**6,425,712**	**11,549,518**	**2.2%**

Source: Prepared by CDM Smith, based on the FHWA FAFv3.5 and v3.6

Iowa State Rail Plan Final

Appendix E

Highway-Railroad Crossing Safety Program and Grade Crossing Improvement Projects in Iowa, 2015-2017

IOWA DOT

Contents

E.1 Federal Highway-Railroad Crossing Safety Program and Grade Crossing Improvement Projects in Iowa, 2015-2017

Presented below is a list Federal Highway-Railroad Crossing Safety Program and Grade Crossing Improvement Projects in Iowa for 2015-2017. Iowa DOT will also receive additional Federal Highway Safety Improvement Program funding for 2016 that is yet to be programmed to specific projects.

Federal-Aid Highway-Railroad Safety Fund
Proposed 2015 Accomplishment Program Candidates

B/C	FEDERAL ID#	APPLICANT*	RAILROAD	HIGHWAY JURISDICTION	ROAD LOCATION	PRESENT WARNING DEVICE	TYPE OF IMPROVEMENT	FEDERAL FUNDS
3.9	3075908	HA	CC	Cherokee County	J Aveneue	Crossbucks	Signals w/gate arms	$190,000
3.3	195484E	RR	UP	Iowa DOT (Lake Mills)	Main Street	Signals w/ gate arms	Circuitry upgrade	$285.000
2.5	605731E	RR	UP	Warren County	183rd Avenue	Crossbucks	Signals w/gate arms	$200,000
2.5	307486G	HA	CC	Buena Vista County	160th Avenue	Crossbucks	Signals w/gate arms	$180,000
2.4	190469K	HA	UP	Lisbon	Gillete Lane	Crossbucks	Signals w/gate arms	$200,000
2.4	307594D	HA	CC	Cherokee County	H Avenue	Crossbucks	Signals w/gate arms	$190,000
1.6	875901P	RRIHA	UP	Livermore	Fourth Street	Crossbucks	Signals w/gate arms	$200,000
1.6	875906Y	RR	UP	Humbolt County	Pine Avenue	Crossbucks	Signals w/gate arms	$190,000
1.5	197080R	RR	UP	Story County	140th Street	Crossbucks	Signals w/gate arms	$190,000
1.4	063244H	RR	BNSF	Fort Madison	Sixth Street	Signals w/ gate arms	Circuitry upgrade	$50,000
1.3	079190C	RR	BNSF	West Burlington	North Sunset Drive	Crossbucks	Signals w/gate arms	$200,000
1.3	376144U	HA	DME	Guttenberg	Dekalb Street	Crossbucks	Signals w/gate arms	$190,000
1.3	191033M	HA	UP	Harrison County	128th Trail	Crossbucks	Signals w/gate arms	$200,000
1.1	385164E	RRIHA	DME	Luana	Dolphin Avenue	Crossbucks	Signals w/gate arms	$180,000
1.1	607252G	RR	DME	Cotter	Louisa County Road W 38	Signals	Signals w/gate arms	$150,000
1.1	192641K	RR	UP	Des Moines	Dean Avenue	Signals	Signals w/gate arms	$190,000
1.1	382070T	RRIHA	BNSF	Sioux City	Hamilton Boulevard	Signals	Signals w/gate arms	$240,000
1.1	380025S	HA	DME	Plymouth	Broad Street	Crossbucks	Signals w/gate arms	$180,000
1.1	6024710	RR	UP	Polk County	Southeast 60th Street	Signals	Signals w/gate arms	$180,000

1.1	063224W	RR	BNSF	Albia	East Benton Avenue	Signals w/ gate arms	Circuitry upgrade	$120,000
1.0	1904098	HA	UP	Clinton County	122nd Avenue	Crossbucks	Signals w/gate arms	$200,000
1.0	191357P	RRIHA	UP	Sioux City	Dace Avenue	Signals	Signals w/gate arms	$210,000
1.0	191100E	RR	UP	Pottawattamie County	Missouri Avenue	Crossbucks	Signals w/gate arms	$220.000
1.0	195542X	RR	UP	Worth County	Dogwood Avenue	Crossbucks	Signals w/gate arms	$180,000
1.0	079061M	RR	BNSF	Monroe County	180th Avenue	Crossbucks	Signals w/gate arms	$200,000
1.0	067353A	RR	BNSF	Plymouth County	Plymouth County Road G-38	Signals	Signals w/gate arms	$100,000
1.0	079157C	RR	BNSF	Henry County	Marsh Avenue	Signals w/ gate arms	Circuitry upgrade	$75,000
1.0	067349K	RR	BNSF	Merrill	Main street	Signals	Signals w/gate arms	$100,000
1.0	079234A	RR	BNSF	Henry County	Nebraska Avenue	Signals w/ gate arms	Circuitry upgrade	$200,000
1.0	385623X	HA	DME	Kossuth County	Kossuth County Road P 20	Crossbucks	Signals w/gate arms	$125,000
1.0	074107G	RR	BNSF	Union County	Iris Avenue	Crossbucks	Signals w/gate arms	$180,000
0.5	3074768	HA	CC	Newell	Clark Street	Crossbucks	Signals w/gate arms	$185,000
							Crossing closures statewide	$30,000
							Total	**$5,710,000**

** HA = Highway Authority*

Source: Iowa DOT

2016 Highway-Railroad Crossing Safety Program
Recommendations for Highway-Railroad Crossing Safety Projects

BENEFIT/ COST RATIO	AWARD	COUNTY	HIGHWAY JURISDICTION	ROAD LOCATION	CROSSING I.D.	RAILROAD	APPLICANT	TYPE OF IMPROVEMENT	"PRESENT WARNING DEVICE"
5.6	$240,000	Plymouth	Le Mars	12th Street SW	307648G	UP	Le Mars / UP	Signals w/gate arms	Signals
3.8	$225,000	Plymouth	Le Mars	18th Street SW	307649N	UP	Le Mars / UP	Signals w/gate arms	Signals
3.4	$180,000	Cerro Gordo	Cerro Gordo County	330th Street	196370V	UP	UP	Signals w/gate arms	Signals
3.1	$220,000	Boone	Boone County	U Avenue	190718N	UP	UP	Signals w/gate arms	Crossbucks
2.8	$160,000	Polk	Des Moines	Fifth Avenue	603720K	IAIS	Des Moines / IAIS	Signals w/gate arms	Signals
2.4	$180,000	Osceola	Osceola County	180th Street	185848A	UP	UP	Signals w/gate arms	Crossbucks
2.3	$180,000	Story	Story County	280th Street	876051F	UP	UP	Signals w/gate arms	Crossbucks
2.0	$180,000	Buena Vista	Alta	Main Street	307526C	CC	Alta	Signals w/gate arms	Signals
1.7	$180,000	Plymouth	Plymouth County	Otter Avenue	307628V	CC	Plymouth County	Signals w/gate arms	Crossbucks
1.6	$195,000	Harrison	Harrison County	125th Street	191223R	UP	UP	Signals w/gate arms	Crossbucks
1.4	$180,000	Webster	Webster County	Hayes Avenue	196553N	UP	UP	Signals w/gate arms	Crossbucks
1.3	$180,000	Webster	Webster County	160th Street	196529M	UP	UP	Signals w/gate arms	Crossbucks
1.0	$210,000	Pottawattamie	Pottawattamie County	Sumac Road	191097Y	UP	UP	Signals w/gate arms	Signals
0.9	$185,000	Worth	Worth County	Wheelerwood Road	195993B	UP	UP	Signals w/gate arms	Crossbucks
0.9	$180,000	Cerro Gordo	Mason City	Eighth Street SE	379986C	DME	Mason City	Signals w/gate arms	Crossbucks
0.9	$190,000	Boone	Boone County	A Avenue	190335L	UP	UP	Signals w/gate arms	Crossbucks
0.9	$180,000	Cerro Gordo	Ventura	360th Street	385520X	DME	UP	Signals w/gate arms	Crossbucks
0.9	$200,000	Cerro Gordo	Cerro Gordo County	300th Street	195980A	UP	UP	Signals w/gate arms	Signals
0.9	$240,000	Cedar	Cedar County	Echo Avenue	190455C	UP	UP	Signals w/gate arms	Crossbucks
0.9	$190,000	Worth	Worth County	425th Street	195549V	UP	UP	Signals w/gate arms	Crossbucks
0.9	$200,000	Greene	Greene County	I Avenue	190738A	UP	UP	Signals w/gate arms	Crossbucks
0.9	$180,000	Wright	Wright County	Nelson Avenue	196440H	UP	UP	Signals w/gate arms	Crossbucks
0.9	$210,000	Greene	Greene County	D Avenue	190747Y	UP	UP	Signals w/gate arms	Crossbucks
0.9	$160,000	Hancock	Hancock County	Yale Avenue	385526N	DME	Hancock County / DME	Signals w/gate arms	Crossbucks
0.8	$200,000	Clarke	Clarke County	300 Avenue	074064R	BNSF	Clarke County / BNSF	Signals w/gate arms	Crossbucks
0.8	$175,000	Cedar	Cedar County	Spicer Avenue	190425K	UP	UP	Signals w/gate arms	Crossbucks
0.8	$180,000	Clinton	Clinton	105th Avenue	190408U	UP	Clinton	Signals w/gate arms	Crossbucks
0.8	$180,000	Cherokee	Cherokee County	L Avenue	307587T	CC	Cherokee County	Signals w/gate arms	Crossbucks
0.8	$180,000	Lucas	Lucas County	270th Avenue	079121U	BNSF	Lucas County	Signals w/gate arms	Crossbucks
0.7	$180,000	Black Hawk	Raymond	Lafayette Road	307103C	CC	Raymond / CC	Signals w/gate arms	Crossbucks
	$15,000		Statewide					Crossing closure	
Total	**$5,735,000**								

Source: Iowa DOT

2017 Highway-Railroad Crossing Safety Program

Recommendations for Highway-Railroad Crossing Safety Projects

BENEFIT/ COST RATIO	AWARD	COUNTY	HIGHWAY JURISDICTION	ROAD LOCATION	CROSSING I.D.	RAILROAD	APPLICANT	TYPE OF IMPROVEMENT	"PRESENT WARNING DEVICE"
3.8	$200,000	Bremer	Bremer County	205th Street	308835T	CEDR	Bremer County	Signals w/gate arms	Crossbucks
3.5	$180,000	Johnson	Iowa County	Johnson Iowa Road	608030B	IAIS	Iowa County	Signals w/gate arms	Crossbucks
2.7	$250,000	Woodbury	Sioux City	Grant Street	307687X	UP	Sioux City / UP	Signals w/gate arms	Crossbucks
2.4	$180,000	Delaware	Delaware County	Fairview Drive	307012W	CC	Delaware County	Signals w/gate arms	Crossbucks
2.1	$180,000	Buena Vista	Storm Lake	Barton Street	307516W	CC	Storm Lake	Signals w/gate arms	Crossbucks
1.9	$190,000	Hardin	Ackley	Cerro Gordo Street	307258U	CC	Ackley	Signals w/gate arms	Crossbucks
1.8	$185,000	Osceola	Osceola County	250th Street	185855K	UP	UP	Signals w/gate arms	Crossbucks
1.6	$180,000	Pocahontas	Pomeroy	Ontario Street	307447R	CC	Pomeroy	Signals w/gate arms	Crossbucks
1.4	$200,000	Kossuth	Kossuth County	230th Avenue	608587A	UP	UP	Signals w/gate arms	Crossbucks
1.2	$380,000	Polk	Des Moines	Maury Street	864238S	NS	Des Moines	Signals w/gate arms	Crossbucks
1.1	$300,000	Union	Union County	Tulip Avenue	074097D	BNSF	BNSF	Signals w/gate arms	Crossbucks
0.9	$185,000	Pocahontas	Pocahontas County	Jackson Street	200956M	UP	UP	Signals w/gate arms	Crossbucks
0.8	$180,000	Buchanan	Jesup	1st Street	307088C	CC	Jesup	Signals w/gate arms	Signals
0.8	$200,000	Wayne	Wayne County	Main Street	605746U	UP	UP	Signals w/gate arms	Crossbucks
0.7	$180,000	Buena Vista	Storm Lake	Oneida Street	307503V	CC	Storm Lake	Signals w/gate arms	Crossbucks
0.7	$200,000	Wayne	Wayne County	Central Avenue	605747B	UP	UP	Signals w/gate arms	Signals
0.7	$300,000	Greene	Greene County	C Avenue	190750G	UP	UP	Signals w/gate arms	Crossbucks
0.7	$180,000	Story	Gilbert	Mathews Street	196988H	UP	Gilbert	Signals w/gate arms	Signals
0.7	$190,000	Crawford	Dow City	Franklin Street	191010F	UP	UP	Signals w/gate arms	Crossbucks
0.7	$175,000	Clinton	Camanche	7th Street	865547H	DME	Camanche	Signals w/gate arms	Signals
0.7	$180,000	Harrison	Harrison County	Easton Trail	191219B	UP	UP	Signals w/gate arms	Signals
0.6	$180,000	Plymouth	Plymouth County	Marble Avenue	307632K	CC	Plymouth County	Signals w/gate arms	Crossbucks
0.6	$190,000	Marshall	Gilman	Church Street	193067N	UP	UP	Signals w/gate arms	Crossbucks
0.6	$200,000	Bremer	Waverly	20th Street NW	308830J	CC	Waverly	Signals w/gate arms	Crossbucks
0.6	$180,000	Cherokee	Cherokee County	C Avenue	307603A	CC	Cherokee County	Signals w/gate arms	Crossbucks
0.6	$190,000	Lucas	Lucas County	450th Street	604489V	UP	UP	Signals w/gate arms	Crossbucks
0.5	$180,000	Buena Vista	Storm Lake	Hudson	307502N	CC	Storm Lake	Signals w/gate arms	Crossbucks
0.3	$190,000	Bremer	Waverly	20th Street NW	201964H	CC	Waverly	Signals w/gate arms	Crossbucks
	$15,000		Statewide					Crossing closure	
Total	**$5,720,000**								

Source: Iowa DOT

E.2 State Highway-Railroad Crossing Surface Repair Program Grade Crossing Improvement Projects in Iowa, 2015-2017

Presented below is a list of State Highway-Railroad Crossing Surface Repair Program Grade Crossing Improvement Projects in Iowa for 2015-2017. Iowa DOT will also receive additional Federal Highway Safety Improvement Program funding for 2016 that is yet to be programmed to specific projects.

State Highway-Railroad Crossing Surface Repair Program
Fiscal Year 2015

COUNTY	FEDERAL ID#	RAILROAD	HIGHWAY JURISDICTION	ROAD LOCATION	STATE SURFACE REPAIR FUND (60%)
Cerro Gordo	873328P	IATR	Mason City	S. Benjamin Avenue	$36,600
Cerro Gordo	874088N	IATR	Mason City	S. Taft Avenue	$51,000
Pocahontas	307459K	CCP	Fonda	Main Street	$111,075
Black Hawk	908227F	CCP	Waterloo	ML King Jr Drive	$87,420
Black Hawk	931824V	CCP	Waterloo	Rooff Avenue	$56,340
Muscatine	606737Y	DM&E	Muscatine County	Pettibone Avenue	$163,567
Muscatine	606736S	DM&E	Muscatine County	Pettibone Avenue	$114,953
Hancock	599323C	IANR	Hancock	Taft Avenue (240th St)	$27,960
Muscatine	606821G	IAIS	Muscatine County	Co Rd Y14 (Taylor Avenue)	$41,872
Hancock	599346J	IANR	Forest City	Crystal Lake Road	$24,840
Clayton	376146H	DM&E	Guttenberg	Schiller Street	$88,200
Louisa	607234H	DM&E	Louisa County	2nd Street (in Fredonia)	$45,600
O'Brien	385745C	DM&E	O'Brien County	Warbler Avenue	$42,600
Black Hawk	307180C	CCP	Waterloo	West Arline Ave	$69,000
				Total	**$961,027**

Source: Iowa DOT

State Highway-Railroad Crossing Surface Repair Program
Fiscal Year 2016

COUNTY	FEDERAL ID#	RAILROAD	HIGHWAY JURISDICTION	ROAD LOCATION	STATE SURFACE REPAIR FUND (60%)
Mitchell	308975V	CEDR	St. Ansgar	West Fourth Street	$207,000
Polk	603717C	IAIS	Des Moines	Southwest Second Avenue	$54,000
Polk	603718J	IAIS	Des Moines	Third Street	$53,100
Mitchell	308952N	CEDR	Osage	State Street and South Third Street intersection	$124,200
Mitchell	308973G	CEDR	St. Ansgar	Sixth Street	$114,000
Buchanan	307088C	CCP	Jesup	First Street	$62,400
Mitchell	308971T	CEDR	St. Ansgar	Church Street	$103,800
Mitchell	308954C	CEDR	Osage	Chase Street	$133,200
Polk	917605X	IAIS	Urbandale	Aurora Avenue	$44,400
Boone	271479R	BSVR	City of Boone	Greene Street	$23,040
				Total	**$919,140**

Source: Iowa DOT

Recommendations for State Highway-Railroad Crossing Surface Repair Projects
Fiscal Year 2017

AWARD	COUNTY	HIGHWAY JURISDICTION	ROAD LOCATION	CROSSING ID#	RAILROAD	APPLICANT	TYPE OF IMPROVEMENT
$57,600	Jackson	Bellevue	Jefferson Avenue/399th Street	376099C	DME	Bellevue	Roadway surface repair
$54,600	Jackson	Bellevue	Motte Street	376097N	DME	Bellevue	Roadway surface repair
$66,600	Jackson	Bellevue	Market Street	376089W	DME	Bellevue	Roadway surface repair
$46,200	Clinton	City of Clinton	McKinley Street	376046D	DME	City of Clinton	Roadway surface repair
$51,000	Clinton	City of Clinton	32nd Avenue North	376045W	DME	City of Clinton	Roadway surface repair
$67,800	Clinton	City of Clinton	Main Avenue	376040M	DME	City of Clinton	Roadway surface repair
$52,800	Clinton	City of Clinton	15th Avenue North	376033C	DME	City of Clinton	Roadway surface repair
$66,000	Clinton	City of Clinton	5th Avenue South	376022P	DME	City of Clinton	Roadway surface repair
$66,000	Clinton	City of Clinton	6th Avenue South	376021H	DME	City of Clinton	Roadway surface repair
$60,600	Clinton	City of Clinton	25th Avenue North	376041U	DME	City of Clinton	Roadway surface repair
$54,000	Clinton	City of Clinton	23rd Avenue North	376039T	DME	City of Clinton	Roadway surface repair
$195,000	Black Hawk	Waterloo	East Fourth Street	307122G	CCP	Waterloo	Roadway surface repair
$76,800	Linn	Cedar Rapids	42nd Street NE	307839S	CCP	Cedar Rapids	Roadway surface repair
$62,400	Black Hawk	Waterloo	Nevada Street	307117K	CCP	Waterloo	Roadway surface repair
$83,400	Linn	Cedar Rapids	Blairs Ferry Road NE	307836W	CCP	Cedar Rapids	Roadway surface repair
$1,060,800	**Total**						

Source: Iowa DOT

Iowa State Rail Plan Final

Appendix F

Outreach Elements and Comments

Contents

F.1 HLSC Meeting Summaries and Committee Invitee Lists

Iowa Department of Transportation
State Freight Plan and State Rail Plan

High Leverage Stakeholder Committee Meeting #1 Summary

Prepared for the Iowa Department of Transportation

HDR

November 2015

Contents

Meeting Summary

Meeting Overview

The Iowa Department of Transportation (Iowa DOT) hosted the first of three High Leverage Stakeholder Committee (HLSC) meetings to engage a specific group of of stakeholders in the development of the State Freight and Rail Plans. The meeting was held on Wednesday, November 18, 2015, in Ankeny, Iowa, and consisted of two interactive exercises that focused on the following:

- *Determining the level of effort and impact of the State Freight Plan strategies and*
- *Discussing the draft goals of the State Rail Plan.*

Outreach

Invitations were distributed to 40 of recipients and several emails were sent. Table 1 summarizes the invitational outreach efforts for this meeting. See Appendix A: Meeting Invitation. The Iowa DOT followed up with invitees through phone calls.

Table 1

Outreach	Date	Number of Emails Distributed
Agenda Email	11/13/2015	40

Attendees

Twenty-nine stakeholders attended the meeting including representatives from the Iowa DOT, industries related to freight and rail transportation and special interest groups. See Appendix B: Invitation Mailing and Attendee List.

Meeting Roles and Responsibilities

The table below, Table 2, summarizes the roles and responsibilities of each team member.

Table 2

Name	Responsibility
Jara Sturdivant-Wilson	Floater/Facilitator/Registration
Theresa McClure	Facilitator
Kevin Keller	Facilitator
Amanda Martin	IADOT representative, Facilitator
Sam Hiscocks	IADOT representative, Scribe
Garrett Pedersen	IADOT representative
Craig Markley	IADOT representative
Kyle Barichello	IADOT representative
Diane McCauley	IADOT representative, Scribe
Phil Meraz	IADOT representative
Jeff Von Brown	IADOT representative
Laura Hutzell	IADOT representative
Phil Mescher	IADOT representative
Sam Shea	IADOT representative

Meeting Agenda and Outcomes

The meeting was held Wednesday, November 18, 2015, at the Courtyard Des Moines Ankeny located at 2405 SE Creekview Dr, Ankeny, Iowa. Registration began at 11:00 a.m.

11:00 – 11:15 am: Welcome, Safety Briefing, Meeting Purpose

11:15 – 11:25 am: State Freight Plan and State Rail Plan Background

11:25 – 11:35 am: Issues Analysis Discussion and Public Involvement Update
11:35 – 2:00 pm: Input Exercises and Working Lunch
11:35 – 12:30 pm: State Freight Plan
12:30 – 1:00 pm: Working Lunch
1:00 – 2:00 pm: State Rail Plan
2:00 pm: Next Steps and Wrap-up

Welcome, State Freight Plan and State Rail Plan Background, Issues Analysis Discussion and Public Involvement Update

The workshop included a brief introduction from HDR Consultant Theresa McClure. The introduction included background for both the State Freight Plan and State Rail Plan. The introduction also included an update on the public involvement activities to date that include the Issues-Based Workshop and online survey. After presenting the public involvement activity update, McClure introduced the input activities. Participants received a registration packet with a handout, State Freight Plan strategies and a Railroad Service map. See Appendix C: Attendee Handout Packet.

State Freight Plan Input Exercise

McClure introduced the draft State Freight Plan strategies to participants. Although the participants did not have strategies to add, they offered general feedback to current draft strategies. In addition to advancing efforts on the M-35 Marine Highway Corridor (strategy #12, see Appendix D: Draft Freight Plan Strategies), participants proposed adding M-29, Sioux City/Kansas City as an additional corridor to advance efforts on. Participants indicated that including information about the Tiger Grant for strategy #13 could be appropriate. They also recommended adding additional information in the description strategy #14 leveraging information from users of the system to support advanced decision-making and incident avoidance. Participants also mentioned grade crossing mitigation and assistance to smaller railroads with technology as other strategies to consider.

After introducing each of the strategies, McClure walked the group through each of the strategies before moving into a voting technology exercise where participants identified the level of impact and effort it would take to implement each strategy. Participants voted that a majority of the draft strategies would have high effort and impact while also being a moderate priority to implement. The full voting results are located in Appendix E: Draft Freight Plan Strategy Voting Results. The full draft strategies are located in Appendix D: Draft Freight Plan Strategies.

State Rail Plan Input Exercises

Participants, Iowa DOT team members and consultants participated in a working lunch while McClure introduced the State Rail Plan draft vision statement.

State Rail Plan draft vision

> A safe and efficient state rail system that enables the economic wellbeing of Iowans by expanding access and enhancing mobility for people and goods in an environmentally sustainable manner.

Participants responded that this vision sets the tone and meets the needs of the State Rail Plan but needs a statement reflecting the global, far-reaching aspects of rail in Iowa that includes items for both state and regional rail. Although the Federal Railroad Administration (FRA) guidance has a regional perspective, the draft vision could be bolstered by adding emphasis on the regional aspect. In terms of sustainability, the groups were mixed on their thoughts on the term sustainable. Some recommended deleting “environmentally sustainable” as environmental sustainability is a part of everything that the State Rail Plan offers. Others recommended leaving the “environmentally sustainable” statement in the current draft vision.

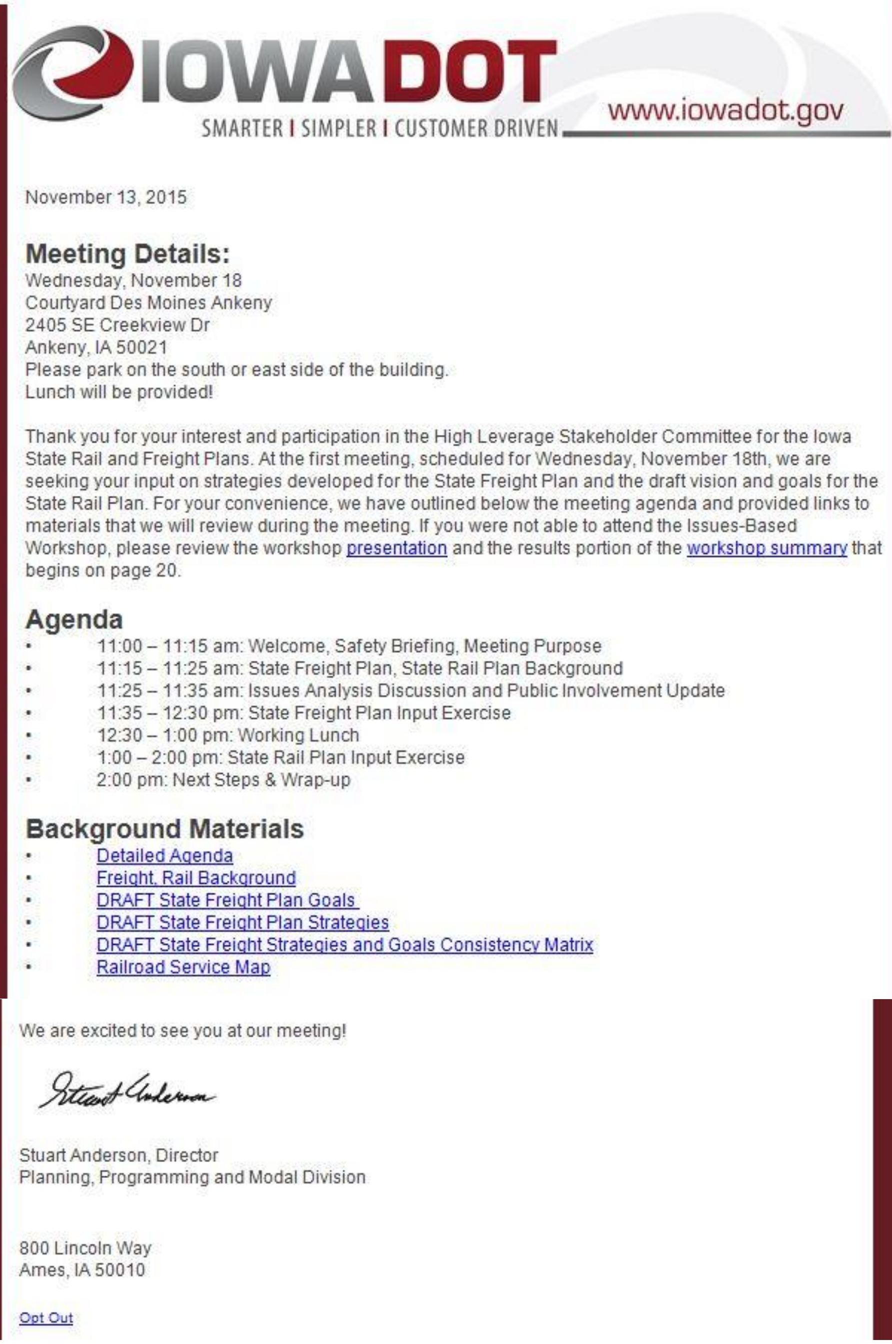
This conversation continued when the participants broke into separate groups to discuss the State Rail Plan draft goals and objectives. Each group had a facilitator who led them in a discussion about the draft goals and objectives. At the end of the session, facilitators shared themes from each breakout session. After the breakout session, participants voted on the level of impact that each draft goal would have on optimizing rail operations in the state of Iowa. See the following appendices for more information:

- *Appendix F: State Rail Plan draft vision, goals and objectives breakout session results*
- *Appendix G: State Rail Plan draft vision, goals and objectives*
- *Appendix H: State Rail Plan Voting Results*

Next Steps

McClure closed the meeting with a description of the next HLSC meetings.

Appendix A: Meeting Invitation



IOWA DOT
SMARTER | SIMPLER | CUSTOMER DRIVEN
www.iowadot.gov

November 13, 2015

Meeting Details:

Wednesday, November 18
Courtyard Des Moines Ankeny
2405 SE Creekview Dr
Ankeny, IA 50021
Please park on the south or east side of the building.
Lunch will be provided!

Thank you for your interest and participation in the High Leverage Stakeholder Committee for the Iowa State Rail and Freight Plans. At the first meeting, scheduled for Wednesday, November 18th, we are seeking your input on strategies developed for the State Freight Plan and the draft vision and goals for the State Rail Plan. For your convenience, we have outlined below the meeting agenda and provided links to materials that we will review during the meeting. If you were not able to attend the Issues-Based Workshop, please review the workshop presentation and the results portion of the workshop summary that begins on page 20.

Agenda

- 11:00 – 11:15 am: Welcome, Safety Briefing, Meeting Purpose
- 11:15 – 11:25 am: State Freight Plan, State Rail Plan Background
- 11:25 – 11:35 am: Issues Analysis Discussion and Public Involvement Update
- 11:35 – 12:30 pm: State Freight Plan Input Exercise
- 12:30 – 1:00 pm: Working Lunch
- 1:00 – 2:00 pm: State Rail Plan Input Exercise
- 2:00 pm: Next Steps & Wrap-up

Background Materials

- Detailed Agenda
- Freight, Rail Background
- DRAFT State Freight Plan Goals
- DRAFT State Freight Plan Strategies
- DRAFT State Freight Strategies and Goals Consistency Matrix
- Railroad Service Map

We are excited to see you at our meeting!

Stuart Anderson

Stuart Anderson, Director
Planning, Programming and Modal Division

800 Lincoln Way
Ames, IA 50010

Opt Out

Appendix B: Invitation Mailing and Attendee List

First Name	Last Name	Organization	Attended?
Chandra	Ravada	Dubuque MPO	✓
Stacy	Timperley	Forbs	✓
Kelli	O'Brien	Union Pacific Railroad	✓
Ron	White	ARTCO Fleeting Service	✓
Jeff	Woods	CRANDIC	✓
John	Dill	Iowa Motor Truck Association	✓
Steve	Lallier	J. B. Hunt Transport	✓
Michael	Heckart	John Deere	✓
Michael	Helgerson	Metropolitan Area Planning Agency	✓
Richard	Grenville	PortKC, Kansas City, MO	✓
David	Toyer	Greater Burlington Partnership	✓
Steve	Falck	Environmental Law and Policy Center	✓
Derrick	James	Amtrak	✓
Gena	McCullough	Bi-State	✓
Greg	Lofstedt		✓
Greg	Reeder	City of Council Bluffs	✓
Bill	Neese	West Central Co-Op	✓
Beth	Bilyeu	Forest City Economic Development	✓
Ned	Lewis	Office of Motor Vehicle Enforcement	✓
Craig	Markley	Iowa DOT	✓
Garrett	Pedersen	Iowa DOT	✓
Amanda	Martin	Iowa DOT	✓
Sam	Hiscocks	Iowa DOT	✓
Diane	McCauley	Iowa DOT	✓
Phil	Meraz	Iowa DOT	✓
Kyle	Barichello	Iowa DOT	✓
Jeff	Von Brown	Iowa DOT	✓

First Name	Last Name	Organization	Attended?
Laura	Hutzell	Iowa DOT	✓
Phil	Mescher	Iowa DOT	✓
Sam	Shea	Iowa DOT	✓

Appendix C: Attendee Handout Packet

2016 **IOWA RAIL PLAN**

HIGH LEVERAGE STAKEHOLDER COMMITTEE

November 2015

WELCOME!

The purpose of today's meeting is to introduce you to details of the High Leverage Stakeholder Committee membership, explain your role in the development of both the State Rail and Freight Plans, provide an update on both plans, and answer questions and receive your comments.

Today we will:

- Discuss the vision and goals for both plans;
- Provide a summary of the Issues-Based Workshop; and
- Gather input on draft strategies for the State Freight Plan and draft goals for the State Rail Plan.

Background

In September 2013, the Federal Railroad Administration (FRA) published its Final State Rail Plan Guidance, which provided direction for State Rail Plan stakeholder and public involvement. We are actively engaging private sector rail and freight infrastructure owners, freight, public planning agencies, transit operators, rail authorities, railroad and freight organizations, and passenger rail stakeholders. The State Rail Plan will identify proposed improvements in urban and rural areas for those who travel through it. The State Freight Plan outlines freight planning activities that will achieve the objective for the State to provide a safe, efficient and convenient freight transportation system to Iowans. The State Freight Plan is a way to connect all planning initiatives and allow each to move forward towards a common goal of optimal freight transportation throughout the state. In addition, the State Freight Plan will guide our investment decisions to maintain and improve the freight transportation system, and ultimately strengthen Iowa's economy and raise the quality of life for our citizens.

The development of a comprehensive State Rail Plan in collaboration with the implementation of the State Freight Plan offers an opportunity for us to accurately define what the rail and freight system in the state looks like today and what it needs to look like in the future.

State Rail and State Freight Plan Overlap

The State Rail and Freight Plans are closely related and have several overlapping activities. Combining public engagement efforts of both the State Rail and State Freight Plans allow us to integrate the feedback appropriately. Due to the subject matter, there is natural overlap of information, data and analysis for both rail and freight.

State Rail Plan Goals

- Create a state rail vision and a supporting program of proposed public rail investments and improvements that will result in quantifiable economic benefits to Iowa.
- Enable Iowa to implement an efficient and effective approach for merging passenger and freight rail elements into the larger multimodal and intermodal transportation framework.
- Incorporate initiatives from the federal and state level, aligning the priorities of Iowa rail stakeholders.
- Provide a vision for integrated freight and passenger rail planning in the state, unifying the common interests of the various stakeholders within Iowa.
- Coordinate with the development of the State Freight Plan and the State Transportation Plan.
- Ensure an open and inclusive process.
- Provide an outline to educate the public on Iowa's rail system.

State Freight Plan Goals

- Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness.
- Reduce congestion on the freight transportation system.
- Improve the safety, security, and resilience of the freight transportation system.
- Improve the state of good repair of the freight transportation system.
- Use advanced technology, innovation, and competition in operating and maintaining the freight transportation system.
- Use performance management and accountability in operating and maintaining the freight transportation system.
- Reduce adverse environmental and community impacts of the freight system.

Rail Plan SWOT Analysis
Issues-Based Workshop
September 2015

2016 IOWA RAIL PLAN

Issues-Based Workshop Analysis

STRENGTHS

1. Private ownership and funding
2. Efficiency driven
3. The need to move large quantities of bulk freight
4. Class 2 and 3 railroad connection to community
5. Connection of modes

WEAKNESSES

1. Bottlenecks associated with yard capacity
2. No major intermodal hub
3. Too many grade crossings
4. High volume of pass-through traffic
5. Availability of railcars – for lease or purchase

OPPORTUNITIES

1. Expand transload and intermodal load facilities
2. Additional state funding for railroads
3. Economic development
4. Railroad capacity expansion
5. Congestion reduction on highway system

THREATS

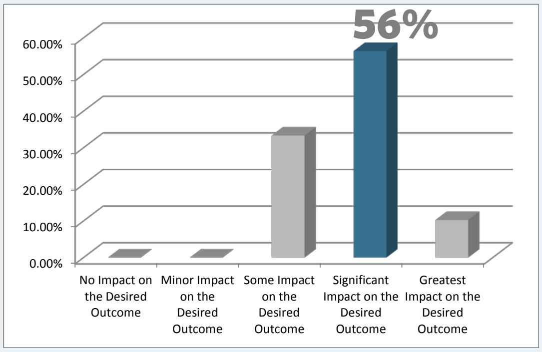
1. Aging infrastructure
2. Truck size and weight – 33' trailers specifically
3. Uncertainty about renewal of 45G rail tax credit
4. Regulatory issues – Positive Train Control (PTC)
5. Passenger rail – lower performance of freight rail

Freight Plan - Goal Verification

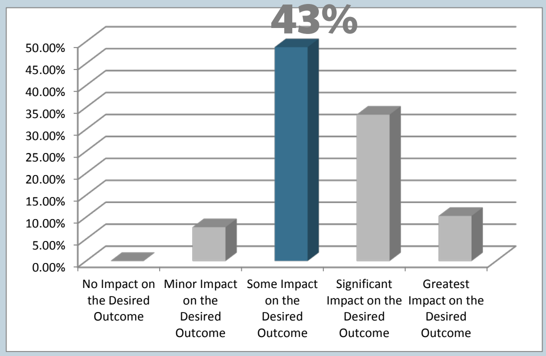
Issues-Based Workshop

September 2015

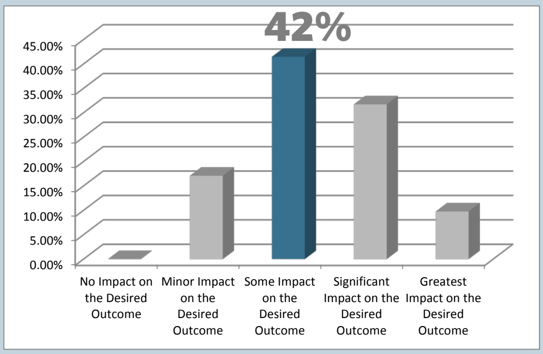
Freight Goals & Percentage of Impact



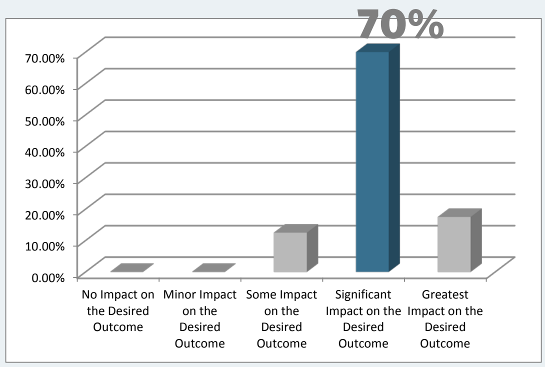
- Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness



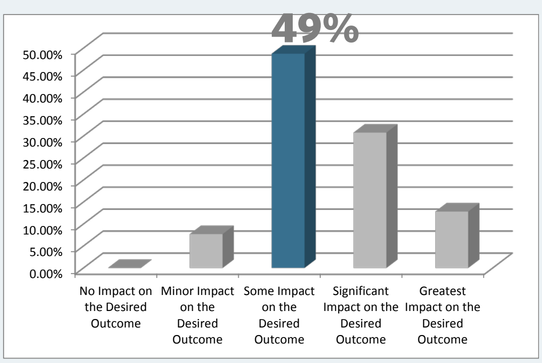
- Reduce congestion on the freight transportation system



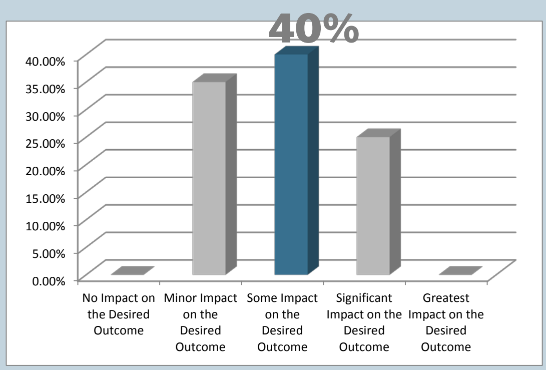
- Improve the safety, security, and resiliency of the freight transportation system



- Improve the state of good repair of the freight transportation system



- Use advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system

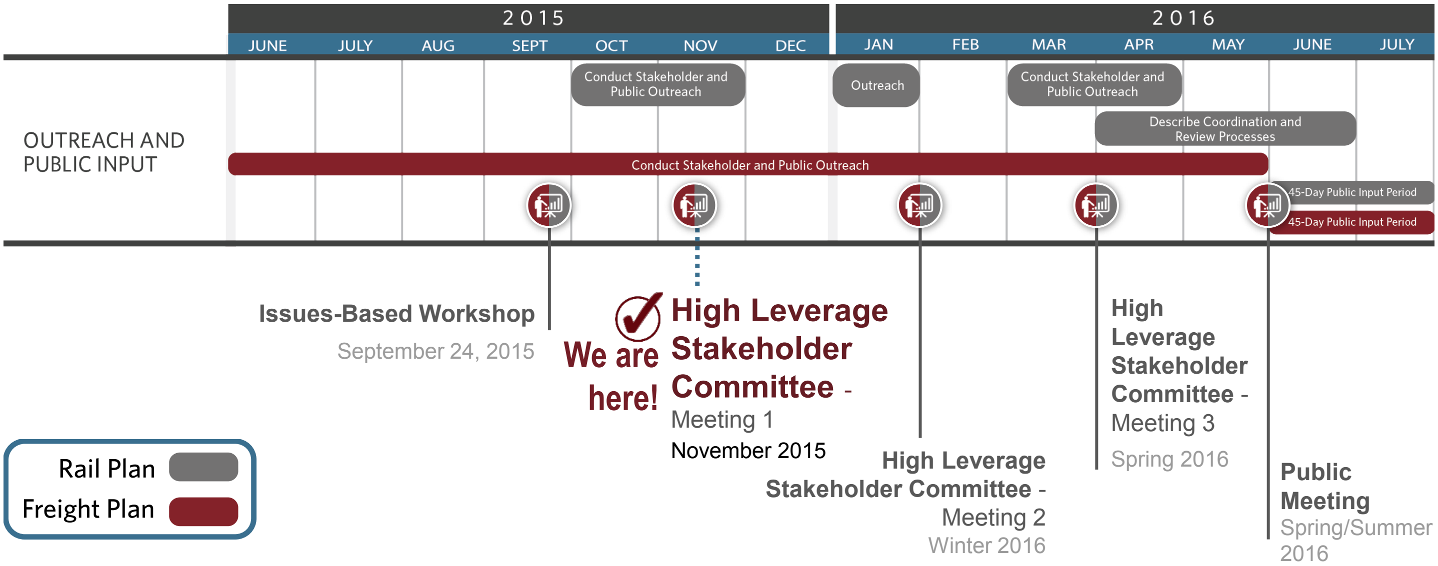


- Reduce adverse environmental and community impacts of the freight system

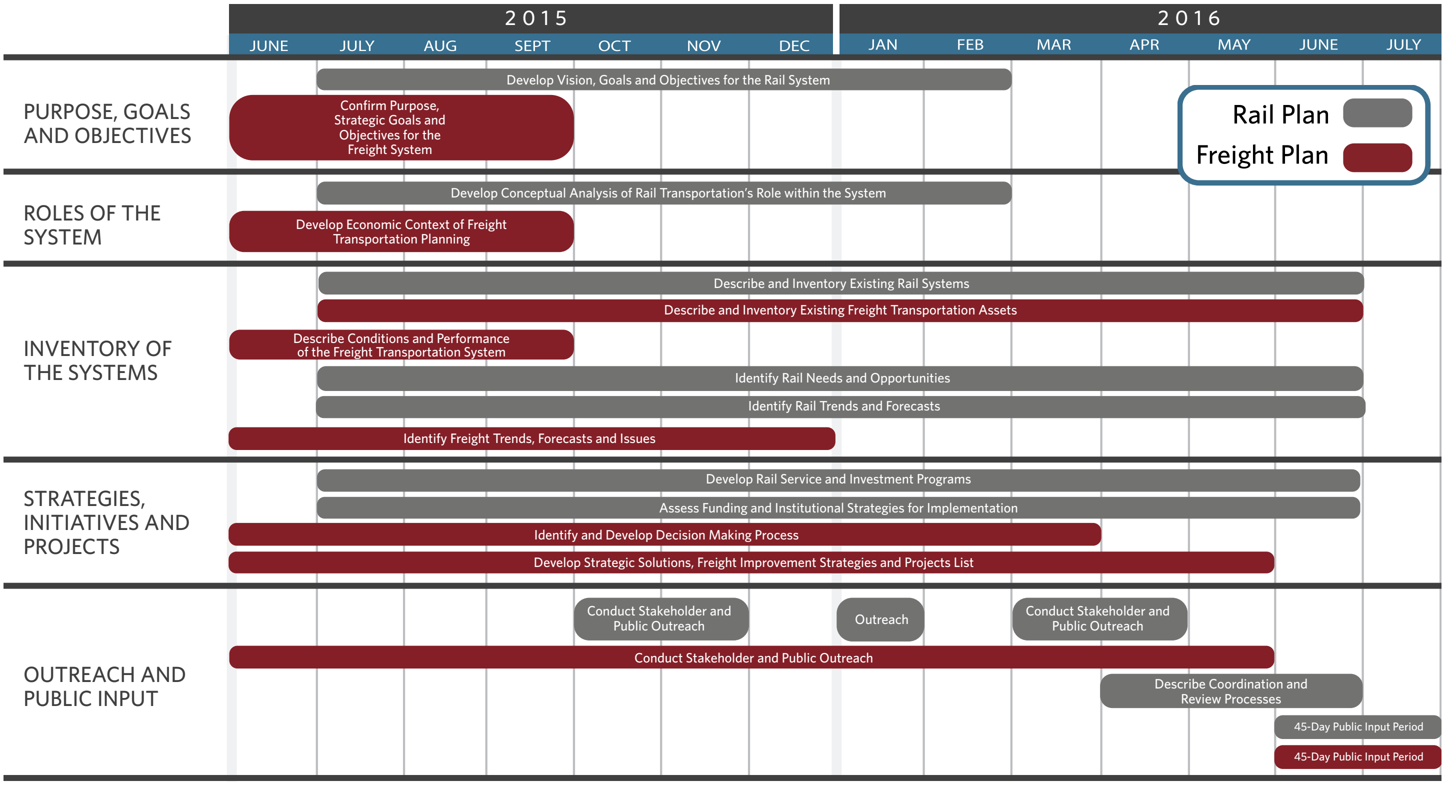
After discussing the current goals, participants discussed additions that could be considered:

- Adding a goal for regulatory environment
- Adding a goal that reflects regional differentiation
- Separating broad goals

What's Next?



What is the Schedule for the Plans?



STAY INVOLVED

- Visit us at: http://engagefreightrailplans.iowadot.gov
- Email us at: info@EngageRailFreightPlans.com

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The State Rail Plan and State Freight Plan Survey

Online Survey

October 23, 2015 to November 11, 2015

2016 IOWA RAIL PLAN

Survey Themes

ECONOMIC WORKFORCE AND DEVELOPMENT

- The condition of infrastructure should be improved.
- Smaller railroads should be, and have support to be, more competitive.
- The connection between transportation modes should increase.
- Railroads should be included to share in improvements.
- While maintaining existing routes, expansion can also be a priority.

PASSENGER RAIL

- People are more likely to use passenger rail for leisure than business.
- Passenger rail should be treated equally with other transportation modes.
- The current routes should expand.
- Legislators need to be educated on the importance of passenger rail.
- There should be an increase in connection with other cities.

MULTIMODAL LINK

- Truck permits are easy to obtain.
- There is a need for increased funding of infrastructure.
- There is a need for more education about transportation opportunities in Iowa (future of transportation).
- There could be additional pipeline networks supported in Iowa. However, the importance of pipelines is overblown. It is only part of the answer to help with freight movement.
- Air cargo is a weak link for Iowa.
- Many businesses either use International and Domestic container transportation, or none at all. Domestic container transport is a low priority.
- Intermodal access is not sufficient.
- There are not enough containers in Iowa.
- Transloading facilities largely make sense and should be located throughout Iowa. There is not enough information available to assess whether or not transloading facilities are the solution for specific businesses.

Survey Themes

SAFETY AND SECURITY

- Progress has been made, but there's still some work needed to make freight transport safe.
- Rail is too loud and quiet zones need stricter enforcement.
- Vehicular accidents account for the majority of safety concerns on highways.
- Infrastructure improvements would likely lead to increase in safety.
- People are at least a little concerned about the volume of oversize/overweight trucks on the highway and believe this is one of the largest causes for road decay.
- High concern for increasing weight and size regulations.
- The majority of respondents do not ship hazardous materials.
- Respondents have some level of concern for rail/freight terrorism and do not know how to prevent it while many also have no concern about this ... not many in between.
- Iowa DOT does an excellent job of promoting safety. Respondents are generally satisfied with effectiveness of Iowa DOT.

MULTIMODAL NETWORKS

- Greater access to modes will reduce rates and improve connectivity.
- Some funding should be directed to barge/river transportation.
- There should be an increase in number of intermodal facilities within Iowa.
- Expanding concentration to other modes (other than just road) will increase freight transportation effectiveness, efficiency.
- Obtaining additional federal interest in the importance of assisting in Iowa infrastructure is important.

Freight Strategies and Goals Consistency Matrix

November 2015

		National Freight Goals						
Iowa's Freight Improvement Strategies		Improve economic efficiency, productivity, and competitiveness	Reduce congestion	Improve safety, security, and resiliency	Improve state of good repair	Use advanced technology, innovation, and competition	Use performance management and accountability	Reduce adverse environmental and community impacts
1	Maximize the advantages inherent to Iowa's geographic proximity	✔	✔			✔	✔	✔
2	Explore/create other funding sources to increase investment in the freight transportation system	✔	✔	✔	✔	✔	✔	✔
3	Target investment to address mobility issues that impact freight facilities	✔	✔	✔	✔	✔	✔	
4	Utilize designs that are compatible with oversize/overweight freight movements	✔	✔	✔		✔		✔
5	Target investment on the interstate system at a level that reflects the importance of this system for moving freight	✔	✔	✔	✔	✔	✔	✔
6	Right-size the highway system and apply cost-effective solutions to locations with existing and anticipated issues	✔	✔	✔	✔	✔	✔	✔
7	Advance a 21st century Farm to Market system that moves products seamlessly across road, rail, and water to global marketplaces	✔			✔	✔	✔	
8	Implement asset management tools and practices and promote their use at the local level	✔	✔	✔	✔	✔	✔	✔
9	Optimize the freight transportation network to minimize cost and travel time and improve supply chain efficiency	✔	✔	✔	✔	✔	✔	✔
10	Optimize the availability and use of freight shipping containers	✔	✔			✔	✔	✔
11	Explore opportunities for increasing value-added production within the state	✔				✔	✔	
12	Continue to advance efforts on the M-35 Marine Highway Corridor	✔	✔	✔	✔	✔	✔	✔
13	Provide real-time information on system conditions to support the movement of freight	✔	✔	✔		✔	✔	✔
14	Leverage information from users of the system to support advanced decision-making and incident avoidance	✔	✔	✔		✔	✔	✔
15	Provide measured, clear, non-technical performance results for the freight system	✔	✔	✔	✔	✔	✔	✔
16	Streamline and align freight-related regulations and minimize unintended consequences	✔				✔	✔	
17	Act as a point of contact and educator on freight transportation options	✔	✔			✔	✔	


IOWA
RAILROAD SERVICE MAP
Prepared by
IOWADOT
Phone (515) 239 - 1664
In Cooperation with
United States
Department of Transportation
July 1, 2015
0 10 20 30 40 50
Miles
0 10 20 30 40 50
Kilometers
N
W E
S
Operating Railroads
Amtrak AMTK
Appanoose County Community R.R. Co. APNC
Boone Scenic Valley R.R. BSV
Burlington Junction Ry. Co. BJRY
BNSF Railway Co. BNSF
Cedar Rapids and Iowa City Ry. Co. CIC
Cedar River Railroad Co. CEDR
Chicago, Central & Pacific Railroad CC
D & I Railroad Co. DAIR
Dakota, Minnesota and Eastern R.R. Co. DME
Iowa Interstate R.R. Ltd. IAIS
Iowa Northern Ry. Co. IANR
Iowa River Railroad Co. IARR
Iowa Traction R.R. Co. IATR
Keokuk Junction Ry. KJRY
Norfolk and Southern Railway Co. NS
Soo Line SOO
Union Pacific Railroad UP
Private Track – Cargill Alliance CGAQ
Non-Operating Railroad Owners
Canadian National Railway Co. CN
Canadian Pacific Railroad CP
CBEC Railway Co. CBRX
D & W Railroad Inc. DWRV
North Central Iowa Rail Corridor NCIRC
Pioneer Rail Corp. PNRC
Progressive Rail PGR
State of South Dakota SD
Trackage Rights Only ( )
Primary Operator (<>)
Trackage Rights
(BNSF) (IANR)
(CC) (KJRY)
(DAIR) (NS)
(DME) (SOO)
(IAIS) (UP)
Special Notes
1 CBRX -- Six Miles of track in the Council Bluffs area
2 IATR -- Thirteen miles of track in Mason City
3 BJRY -- Five miles of track in Burlington
4 CGAQ -- Privately owned track south of Eddyville
LYON
OSCEOLA
DICKINSON
EMMET
KOSSUTH
WINNEBAGO
WORTH
MITCHELL
HOWARD
WINNESHIEK
ALLAMAKEE
SIOUX
OBRIEN
CLAY
PALO ALTO
HANCOCK
CERRO GORDO
FLOYD
CHICKASAW
FAYETTE
CLAYTON
PLYMOUTH
CHEROKEE
BUENA VISTA
POCAHONTAS
HUMBOLDT
WRIGHT
FRANKLIN
BUTLER
BREMER
WOODBURY
IDA
SAC
CALHOUN
WEBSTER
HAMILTON
HARDIN
GRUNDY
BLACK HAWK
BUCHANAN
DELAWARE
DUBUQUE
MONONA
CRAWFORD
CARROLL
GREENE
BOONE
STORY
MARSHALL
TAMA
BENTON
LINN
JONES
JACKSON
HARRISON
SHELBY
AUDUBON
GUTHRIE
DALLAS
POLK
JASPER
POWESHIEK
IOWA
JOHNSON
CEDAR
CLINTON
SCOTT
POTTAWATTAMIE
CASS
ADAIR
MADISON
WARREN
MARION
MAHASKA
KEOKUK
WASHINGTON
MUSCATINE
LOUISA
MILLS
MONTGOMERY
ADAMS
UNION
CLARKE
LUCAS
MONROE
WAPELLO
JEFFERSON
HENRY
DES MOINES
FREMONT
PAGE
TAYLOR
RINGGOLD
DECATUR
WAYNE
APPANOOSE
DAVIS
VAN BUREN
LEE
8 - 19 - 2015

Appendix D: Draft Freight Plan Strategies

Freight Strategies and Goals Consistency Matrix

November 2015

		National Freight Goals						
	Iowa's Freight Improvement Strategies	**Improve economic efficiency, productivity, and competitiveness**	**Reduce congestion**	**Improve safety, security, and resiliency**	**Improve state of good repair**	**Use advanced technology, innovation, and competition**	**Use performance management and accountability**	**Reduce adverse environmental and community impacts**
1	Maximize the advantages inherent to Iowa's geographic proximity	✔	✔			✔	✔	✔
2	Explore/create other funding sources to increase investment in the freight transportation system	✔	✔	✔	✔	✔	✔	✔
3	Target investment to address mobility issues that impact freight facilities	✔	✔	✔	✔	✔	✔	
4	Utilize designs that are compatible with oversize/overweight freight movements	✔	✔	✔		✔		✔
5	Target investment on the interstate system at a level that reflects the importance of this system for moving freight	✔	✔	✔	✔	✔	✔	✔
6	Right-size the highway system and apply cost-effective solutions to locations with existing and anticipated issues	✔	✔	✔	✔	✔	✔	✔
7	Advance a 21st century Farm to Market system that moves products seamlessly across road, rail, and water to global marketplaces	✔			✔	✔	✔	
8	Implement asset management tools and practices and promote their use at the local level	✔	✔	✔	✔	✔	✔	✔
9	Optimize the freight transportation network to minimize cost and travel time and improve supply chain efficiency	✔	✔	✔	✔	✔	✔	✔
10	Optimize the availability and use of freight shipping containers	✔	✔			✔	✔	✔
11	Explore opportunities for increasing value-added production within the state	✔				✔	✔	
12	Continue to advance efforts on the M-35 Marine Highway Corridor	✔	✔	✔	✔	✔	✔	✔
13	Provide real-time information on system conditions to support the movement of freight	✔	✔	✔		✔	✔	✔
14	Leverage information from users of the system to support advanced decision-making and incident avoidance	✔	✔	✔		✔	✔	✔
15	Provide measured, clear, non-technical performance results for the freight system	✔	✔	✔	✔	✔	✔	✔
16	Streamline and align freight-related regulations and minimize unintended consequences	✔				✔	✔	
17	Act as a point of contact and educator on freight transportation options	✔	✔			✔	✔	

Appendix E: Draft Freight Plan Strategy Voting Results

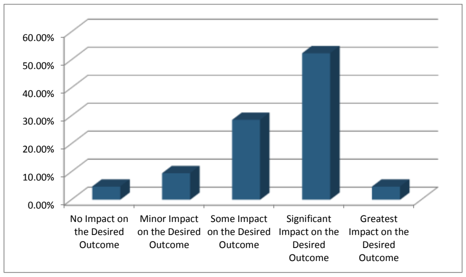
Session Name
New Session 11-18-2015 12-04 PM_freight

Date Created	Active Participants	Total Participants
11/18/2015 10:39:52 AM	21	21

Average Score	Questions
0.00%	36

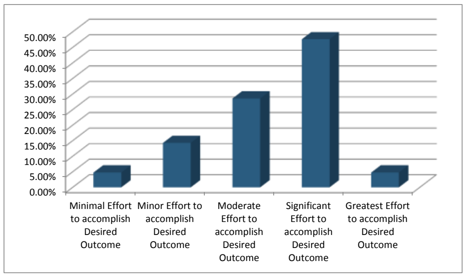
2. Maximize the advantages inherent to Iowa's geographic proximity (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	4.76%	1
Minor Impact on the Desired Outcome	9.52%	2
Some Impact on the Desired Outcome	28.57%	6
Significant Impact on the Desired Outcome	52.38%	11
Greatest Impact on the Desired Outcome	4.76%	1
Totals	**100%**	**21**



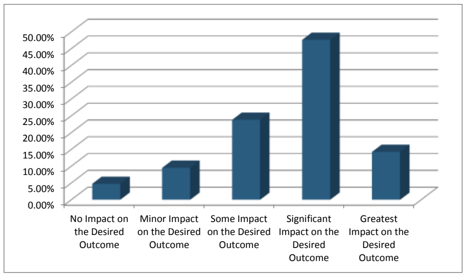
3. Maximize the advantages inherent to Iowa's geographic proximity (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	4.76%	1
Minor Effort to accomplish Desired Outcome	14.29%	3
Moderate Effort to accomplish Desired Outcome	28.57%	6
Significant Effort to accomplish Desired Outcome	47.62%	10
Greatest Effort to accomplish Desired Outcome	4.76%	1
Totals	**100%**	**21**



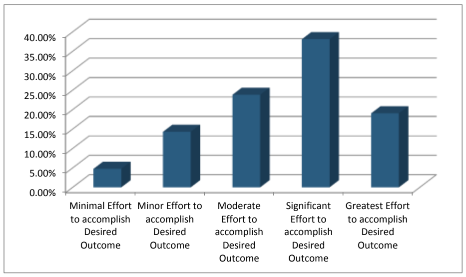
4. Explore/create other funding sources to increase investment in the freight transportation system (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	4.76%	1
Minor Impact on the Desired Outcome	9.52%	2
Some Impact on the Desired Outcome	23.81%	5
Significant Impact on the Desired Outcome	47.62%	10
Greatest Impact on the Desired Outcome	14.29%	3
Totals	**100%**	**21**



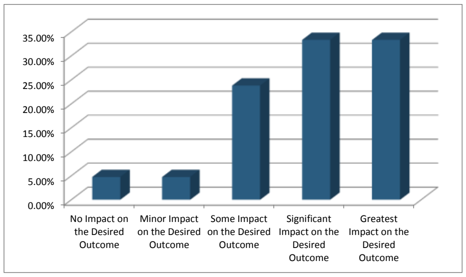
5. Explore/create other funding sources to increase investment in the freight transportation system (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	4.76%	1
Minor Effort to accomplish Desired Outcome	14.29%	3
Moderate Effort to accomplish Desired Outcome	23.81%	5
Significant Effort to accomplish Desired Outcome	38.10%	8
Greatest Effort to accomplish Desired Outcome	19.05%	4
Totals	**100%**	**21**



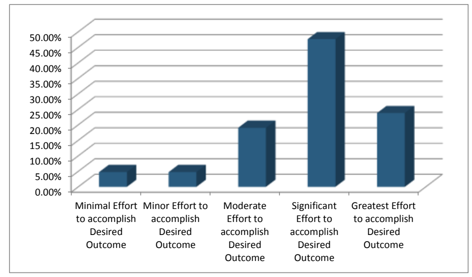
6. Target investments to address mobility issues that impact freight facilities (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	4.76%	1
Minor Impact on the Desired Outcome	4.76%	1
Some Impact on the Desired Outcome	23.81%	5
Significant Impact on the Desired Outcome	33.33%	7
Greatest Impact on the Desired Outcome	33.33%	7
Totals	**100%**	**21**



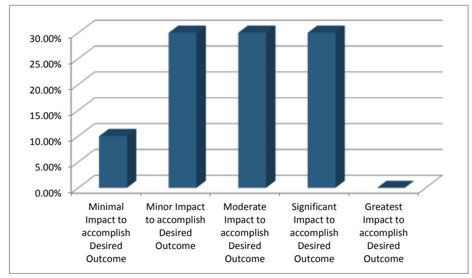
7. Target investments to address mobility issues that impact freight facilities (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	4.76%	1
Minor Effort to accomplish Desired Outcome	4.76%	1
Moderate Effort to accomplish Desired Outcome	19.05%	4
Significant Effort to accomplish Desired Outcome	47.62%	10
Greatest Effort to accomplish Desired Outcome	23.81%	5
Totals	**100%**	**21**



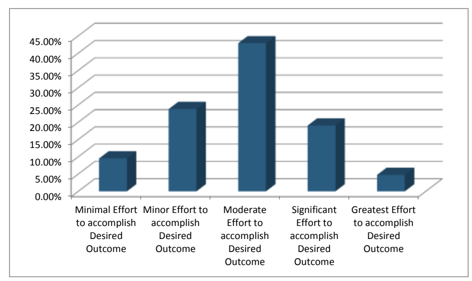
8. Utilize designs that are compatible with oversize/overweight freight movements (Multiple Choice)

	Responses	
	Percent	Count
Minimal Impact to accomplish Desired Outcome	10.00%	1
Minor Impact to accomplish Desired Outcome	30.00%	3
Moderate Impact to accomplish Desired Outcome	30.00%	3
Significant Impact to accomplish Desired Outcome	30.00%	3
Greatest Impact to accomplish Desired Outcome	0.00%	0
Totals	**100%**	**10**



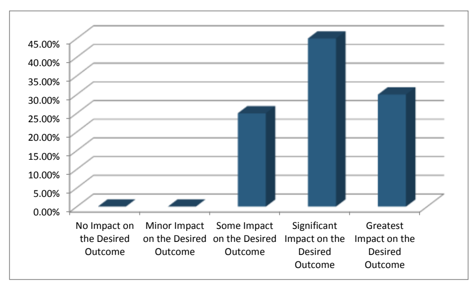
9. Utilize designs that are compatible with oversize/overweight freight movements (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	9.52%	2
Minor Effort to accomplish Desired Outcome	23.81%	5
Moderate Effort to accomplish Desired Outcome	42.86%	9
Significant Effort to accomplish Desired Outcome	19.05%	4
Greatest Effort to accomplish Desired Outcome	4.76%	1
Totals	**100%**	**21**



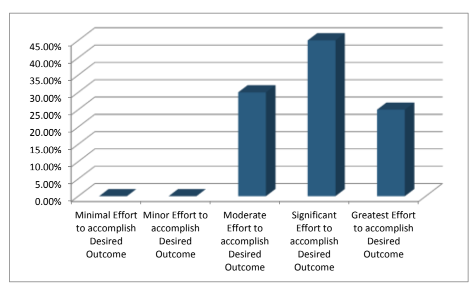
10. Target investments on the interstate system at a level that reflects the importance of this system for moving freight (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	0.00%	0
Some Impact on the Desired Outcome	25.00%	5
Significant Impact on the Desired Outcome	45.00%	9
Greatest Impact on the Desired Outcome	30.00%	6
Totals	**100%**	**20**



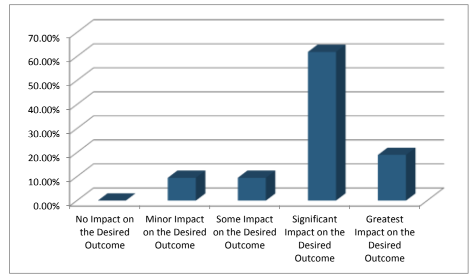
11. Target investments on the interstate system at a level that reflects the importance of this system for moving freight (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	0.00%	0
Minor Effort to accomplish Desired Outcome	0.00%	0
Moderate Effort to accomplish Desired Outcome	30.00%	6
Significant Effort to accomplish Desired Outcome	45.00%	9
Greatest Effort to accomplish Desired Outcome	25.00%	5
Totals	**100%**	**20**



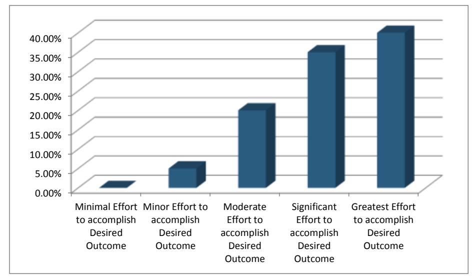
12. Right-size the highway system and apply cost-effective solutions to locations with existing and anticipated issues (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	9.52%	2
Some Impact on the Desired Outcome	9.52%	2
Significant Impact on the Desired Outcome	61.90%	13
Greatest Impact on the Desired Outcome	19.05%	4
Totals	**100%**	**21**



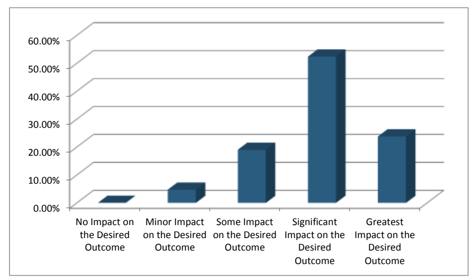
13. Right-size the highway system and apply cost-effective solutions to locations with existing and anticipated issues (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	0.00%	0
Minor Effort to accomplish Desired Outcome	5.00%	1
Moderate Effort to accomplish Desired Outcome	20.00%	4
Significant Effort to accomplish Desired Outcome	35.00%	7
Greatest Effort to accomplish Desired Outcome	40.00%	8
Totals	**100%**	**20**



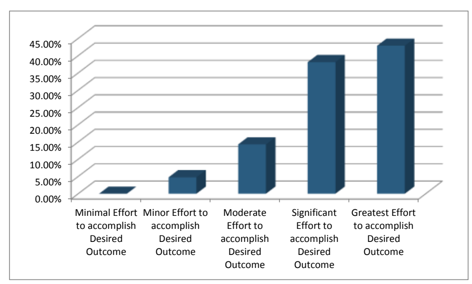
14. Advance a 21st century farm-to-market system that moves products seamlessly across road, rail, and water to global marketplaces (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	4.76%	1
Some Impact on the Desired Outcome	19.05%	4
Significant Impact on the Desired Outcome	52.38%	11
Greatest Impact on the Desired Outcome	23.81%	5
Totals	**100%**	**21**



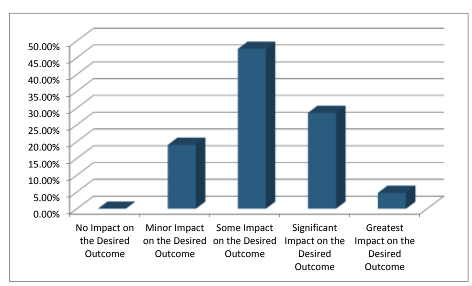
15. Advance a 21st century farm-to-market system that moves products seamlessly across road, rail, and water to global marketplaces (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	0.00%	0
Minor Effort to accomplish Desired Outcome	4.76%	1
Moderate Effort to accomplish Desired Outcome	14.29%	3
Significant Effort to accomplish Desired Outcome	38.10%	8
Greatest Effort to accomplish Desired Outcome	42.86%	9
Totals	**100%**	**21**



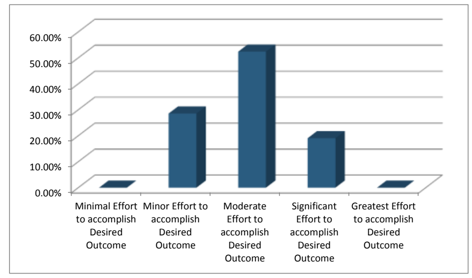
16. Implement asset management tools and practices and promote their use at the local level (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	19.05%	4
Some Impact on the Desired Outcome	47.62%	10
Significant Impact on the Desired Outcome	28.57%	6
Greatest Impact on the Desired Outcome	4.76%	1
Totals	**100%**	**21**



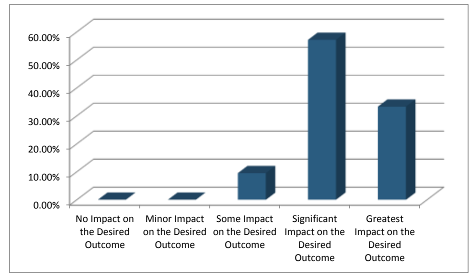
17. Implement asset management tools and practices and promote their use at the local level (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	0.00%	0
Minor Effort to accomplish Desired Outcome	28.57%	6
Moderate Effort to accomplish Desired Outcome	52.38%	11
Significant Effort to accomplish Desired Outcome	19.05%	4
Greatest Effort to accomplish Desired Outcome	0.00%	0
Totals	**100%**	**21**



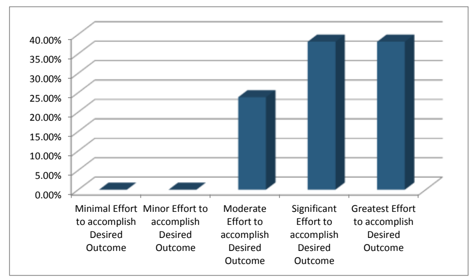
18. Optimize the freight transportation network to minimize cost and travel time and improve supply chain efficiency (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	0.00%	0
Some Impact on the Desired Outcome	9.52%	2
Significant Impact on the Desired Outcome	57.14%	12
Greatest Impact on the Desired Outcome	33.33%	7
Totals	**100%**	**21**



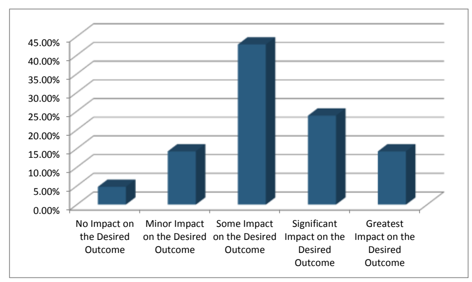
19. Optimize the freight transportation network to minimize cost and travel time and improve supply chain efficiency (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	0.00%	0
Minor Effort to accomplish Desired Outcome	0.00%	0
Moderate Effort to accomplish Desired Outcome	23.81%	5
Significant Effort to accomplish Desired Outcome	38.10%	8
Greatest Effort to accomplish Desired Outcome	38.10%	8
Totals	**100%**	**21**



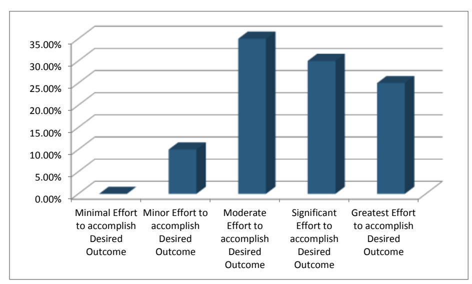
20. Optimize the availability and use of freight shipping containers (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	4.76%	1
Minor Impact on the Desired Outcome	14.29%	3
Some Impact on the Desired Outcome	42.86%	9
Significant Impact on the Desired Outcome	23.81%	5
Greatest Impact on the Desired Outcome	14.29%	3
Totals	**100%**	**21**



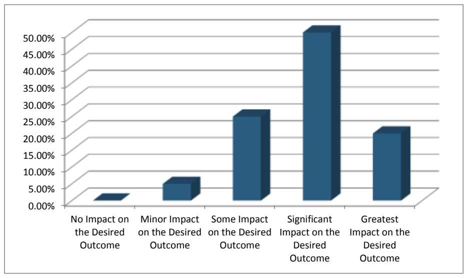
21. Optimize the availability and use of freight shipping containers (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	0.00%	0
Minor Effort to accomplish Desired Outcome	10.00%	2
Moderate Effort to accomplish Desired Outcome	35.00%	7
Significant Effort to accomplish Desired Outcome	30.00%	6
Greatest Effort to accomplish Desired Outcome	25.00%	5
Totals	**100%**	**20**



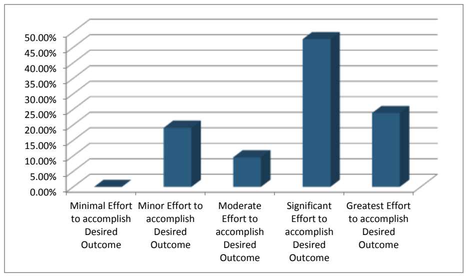
22. Explore opportunities for increasing value-added production within the state (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	5.00%	1
Some Impact on the Desired Outcome	25.00%	5
Significant Impact on the Desired Outcome	50.00%	10
Greatest Impact on the Desired Outcome	20.00%	4
Totals	**100%**	**20**



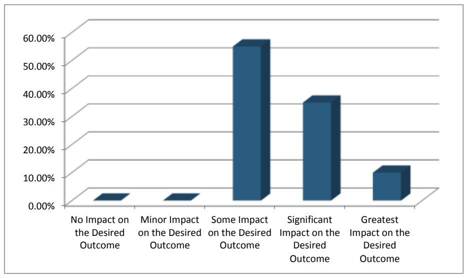
23. Explore opportunities for increasing value-added production within the state (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	0.00%	0
Minor Effort to accomplish Desired Outcome	19.05%	4
Moderate Effort to accomplish Desired Outcome	9.52%	2
Significant Effort to accomplish Desired Outcome	47.62%	10
Greatest Effort to accomplish Desired Outcome	23.81%	5
Totals	**100%**	**21**



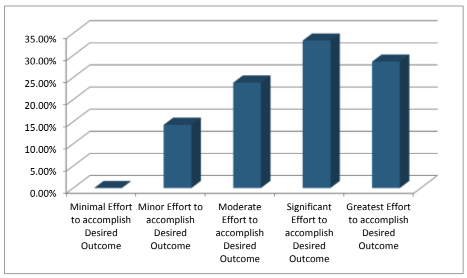
24. Continue to advance efforts on the M-35 Marine Highway Corridor (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	0.00%	0
Some Impact on the Desired Outcome	55.00%	11
Significant Impact on the Desired Outcome	35.00%	7
Greatest Impact on the Desired Outcome	10.00%	2
Totals	**100%**	**20**



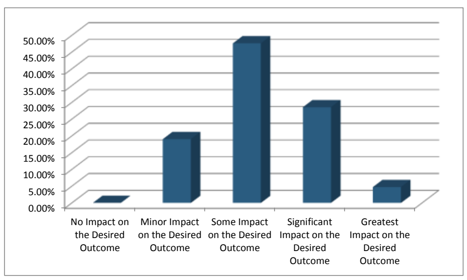
25. Continue to advance efforts on the M-35 Marine Highway Corridor (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	0.00%	0
Minor Effort to accomplish Desired Outcome	14.29%	3
Moderate Effort to accomplish Desired Outcome	23.81%	5
Significant Effort to accomplish Desired Outcome	33.33%	7
Greatest Effort to accomplish Desired Outcome	28.57%	6
Totals	**100%**	**21**



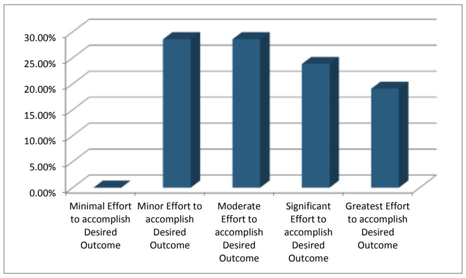
26. Provide real-time information on system conditions to support the movement of freight (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	19.05%	4
Some Impact on the Desired Outcome	47.62%	10
Significant Impact on the Desired Outcome	28.57%	6
Greatest Impact on the Desired Outcome	4.76%	1
Totals	**100%**	**21**



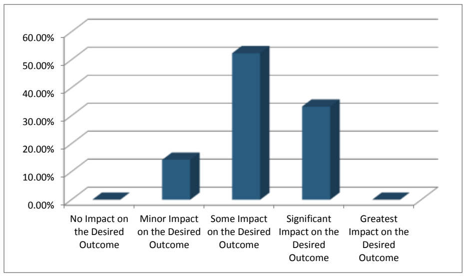
27. Provide real-time information on system conditions to support the movement of freight (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	0.00%	0
Minor Effort to accomplish Desired Outcome	28.57%	6
Moderate Effort to accomplish Desired Outcome	28.57%	6
Significant Effort to accomplish Desired Outcome	23.81%	5
Greatest Effort to accomplish Desired Outcome	19.05%	4
Totals	**100%**	**21**



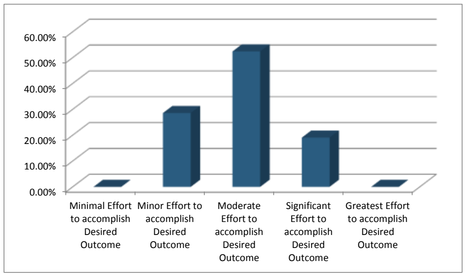
28. Leverage information from users of the system to support advanced decision-making and incident avoidance (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	14.29%	3
Some Impact on the Desired Outcome	52.38%	11
Significant Impact on the Desired Outcome	33.33%	7
Greatest Impact on the Desired Outcome	0.00%	0
Totals	**100%**	**21**



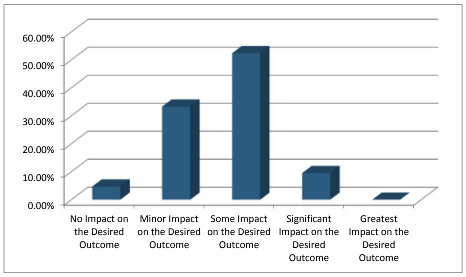
29. Leverage information from users of the system to support advanced decision-making and incident avoidance (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	0.00%	0
Minor Effort to accomplish Desired Outcome	28.57%	6
Moderate Effort to accomplish Desired Outcome	52.38%	11
Significant Effort to accomplish Desired Outcome	19.05%	4
Greatest Effort to accomplish Desired Outcome	0.00%	0
Totals	**100%**	**21**



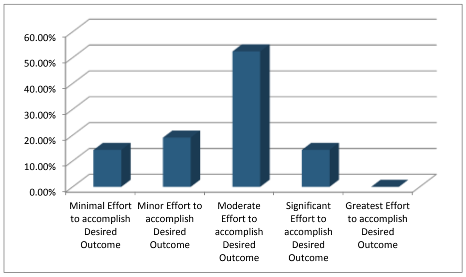
30. Provide measured, clear, non-technical performance results for the freight system (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	4.76%	1
Minor Impact on the Desired Outcome	33.33%	7
Some Impact on the Desired Outcome	52.38%	11
Significant Impact on the Desired Outcome	9.52%	2
Greatest Impact on the Desired Outcome	0.00%	0
Totals	**100%**	**21**



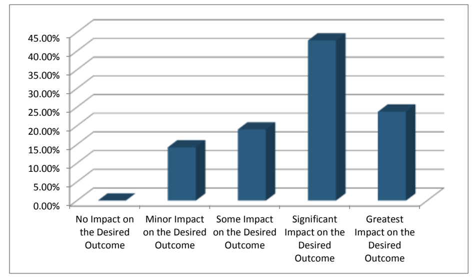
31. Provide measured, clear, non-technical performance results for the freight system (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	14.29%	3
Minor Effort to accomplish Desired Outcome	19.05%	4
Moderate Effort to accomplish Desired Outcome	52.38%	11
Significant Effort to accomplish Desired Outcome	14.29%	3
Greatest Effort to accomplish Desired Outcome	0.00%	0
Totals	**100%**	**21**



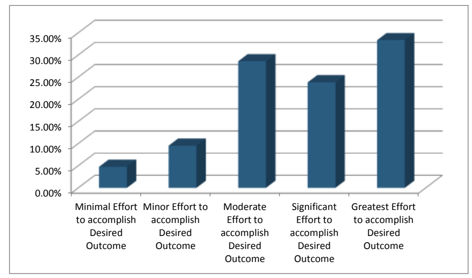
32. Streamline and align freight-related regulations and minimize unintended consequences (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	14.29%	3
Some Impact on the Desired Outcome	19.05%	4
Significant Impact on the Desired Outcome	42.86%	9
Greatest Impact on the Desired Outcome	23.81%	5
Totals	**100%**	**21**



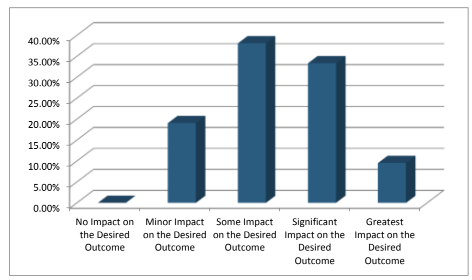
33. Streamline and align freight-related regulations and minimize unintended consequences (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	4.76%	1
Minor Effort to accomplish Desired Outcome	9.52%	2
Moderate Effort to accomplish Desired Outcome	28.57%	6
Significant Effort to accomplish Desired Outcome	23.81%	5
Greatest Effort to accomplish Desired Outcome	33.33%	7
Totals	**100%**	**21**



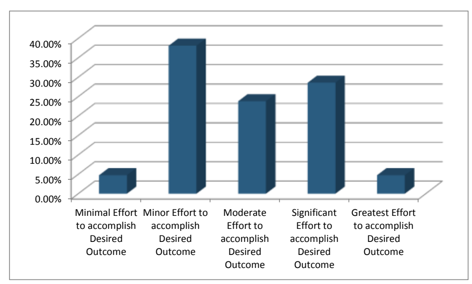
34. Act as a point of contact and educator on freight transportation options (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	19.05%	4
Some Impact on the Desired Outcome	38.10%	8
Significant Impact on the Desired Outcome	33.33%	7
Greatest Impact on the Desired Outcome	9.52%	2
Totals	**100%**	**21**

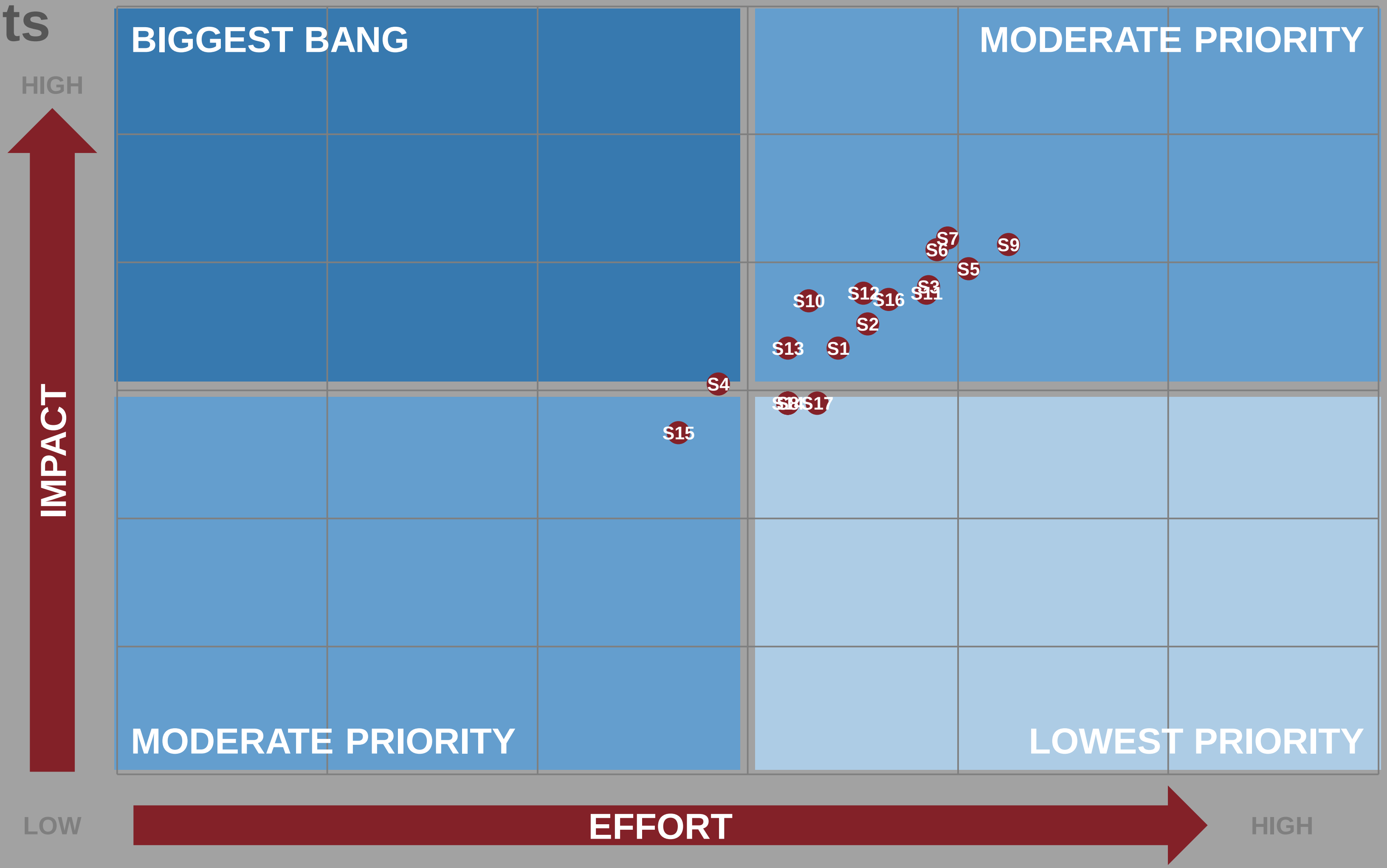


35. Act as a point of contact and educator on freight transportation options (Multiple Choice)

	Responses	
	Percent	Count
Minimal Effort to accomplish Desired Outcome	4.76%	1
Minor Effort to accomplish Desired Outcome	38.10%	8
Moderate Effort to accomplish Desired Outcome	23.81%	5
Significant Effort to accomplish Desired Outcome	28.57%	6
Greatest Effort to accomplish Desired Outcome	4.76%	1
Totals	**100%**	**21**



Results


BIGGEST BANG
MODERATE PRIORITY
MODERATE PRIORITY
LOWEST PRIORITY
HIGH
IMPACT
LOW
EFFORT
HIGH
S7
S6
S9
S5
S3
S11
S12
S16
S10
S2
S13
S1
S4
S17
S15

Appendix F: State Rail Plan Draft Vision, Goals and Objectives Breakout Session

State Rail Plan Goals, Objectives Activity

Participants provided feedback on the draft State Rail Plan goals and objectives.

Goal: Enhance the Safety & Security of the Rail System

- *Divert highway traffic to safer rail*
- *Natural hazards (climate change)*
- *Security from terrorism*
- *Hazardous materials. (not just crude/ethanol)*
- *Emergency management coordination*
- *Need more than "monitor" energy products*
- *Multi state/multi county coordination for incidents*
- *Coordination with local emergency management services on hazmat training*
- *Prevent/mitigate*

Goal: Maintain the rail infrastructure

- *Preservation of rail line services*
- *Incorporate technology*
- *Build for future*
- *Abandonments – trails or keep*
- *Use data to assess condition*

Goal: Provide Access and Connectivity

- ***Passenger Rail***
  - *Intergovernmental funding (local, state, federal)*
  - *Explore potential and future routes within the region/surrounding states*
  - *Improve on-time performance to increase competitiveness*
  - *Education on consumer choice*
  - *Market to targeted demographic groups*
  - *Assisting local communities to be ADA compliant*
- ***Freight Rail***
  - *Regional collaboration for train building and consolidation ("small" shippers)*
  - *Improve collaboration by improving relationships*
  - *Understand designs and destinations*

Goal: Improve Efficiency

- *Bypass congested areas*
- *Innovative solutions to avoiding congested areas*
- *Public-private partnerships to solve problems*
- *Improved/intermodal/transload Access optimize*
- *Dealing with container imbalance – increase communication/collaboration for locating them*

Goal: Ensure Economic Competitiveness and Development

- *Competiveness development need access to intermodal, transload facilities.*
- *Targeted investment that needs to be coordinated matching business, with facility*
- *Antitrust/competition/territories –*
  - *3rd party operator, class I would out price*
- *Economic competiveness would be supported through coordination with buyers and those who need services and agree on a common plan*
- *Fostering public, private, partnership would provide economic development*
- *Companies need to use rail, working to match those with needs*
- *Distribution system should be shared*
- *Match industry with shipping needs*
- *Communities, companies need strategy to help communicate their constraints and possibilities for changes*

- *Existing facilities need to be clearly identified for use*
- *Transit-oriented development is missing in goals*
- *Opportunities for passenger rail can be fostered through economic development*
- *Can promote passenger rail as an excursion to overcome passenger rail as inconvenient or costly.*
- *Need a workforce to support economic development and coordination at state level and agencies*
- *Opportunity for marketing of passenger rail for economic development.*
- *Could have RISE type funding, revolving grant loan mentioned in his strategy.*

The following goals, objectives could be grouped together:

- *Group 1*
  - *Encourage new and enhanced industrial spurs or industrial parks when suitable*
  - *Improve access to the national rail network via new or enhanced industrial leads and spurs*
  - *Continue to promote the research opportunities for intermodal and transload facilities*
- *Group 2*
  - *Continue to support efforts that attract and sustain businesses in Iowa*
  - *Encourage economic development in Iowa through investments in rail system*

Goal: Sustain the Environment

- *Groups discussed that sustaining should go beyond the environment and be a part of all goals.*
- *By investing in infrastructure, sustainability is impacted.*
- *Through creating the right system, expansion and reduction in some areas, would sustain the system.*
- *Renewable energy should be promoted.*
- *Rail should be promoted as an efficient mode of transportation with low emissions. Those who use rail would have a role in identifying those efficiencies.*
- *Through connecting customers to what transportation option they are using, incentives could be provided for shipping and eventually play a role in educating the community on systems.*
- *By promoting and educating consumers about the benefits and choices they have for transportation modes could potentially make those consumers captive to a specific transportation form.*

Appendix G: State Rail Plan Draft Vision, Goals and Objectives

Goals:	Objectives:	Actions:
Enhance the Safety & Security of the Rail System	• *Minimize accidents, injuries and fatalities at highway at-grade crossing in Iowa* • *Continue Grade Crossing Safety Improvement Actions* • *Provide Public Education Programs* • *Continue to build upon coordination with and between the railroads* • *Reduce track-caused accidents* • *Monitor crude oil and ethanol routes for safety*	• *Improve highway-rail crossing safety* o *Repair and Upgrade existing crossing passive warning devices and active traffic-control systems* o *Rehabilitate existing crossing surfaces* o *Encourage crossing closures* o *Build new grade separations and rehabilitate existing separations* • *Monitor rail track, equipment and security operations* o *Continue the track inspection program* o *Analyze and monitor the movement of hazardous materials* • *Promote rail safety* o *Support and promote Operation Lifesaver activities and programs* o *Provide education and marketing information for rail safety issues* o *Continue to work closely with law enforcement to promote active enforcement of traffic laws relating to crossings and private property rights related to trespassing*
Maintain the rail infrastructure	• *Upgrade rail line segments and bridges to accommodate heavier railcars and address aging infrastructure to meet current/future needs of modern rail transport* • *Continue to promote the research opportunities for intermodal and transload facilities* • *Support the improvement of passenger rail service throughout the state* • *Leverage public-private partnerships for funding rail improvements*	• *Improve the physical infrastructure of the rail system in partnership with Iowa's shippers and railroads* o *Rehabilitate branch lines* o *Build or improve spur tracks* o *Build or improve rail transfer facilities* o *Build or improve rail yards, terminals, sidings, connections, and passing tracks.* o *Serve as an information/advocacy role for federal programs that benefit rail transportation (passenger and freight)* o *Rail station improvements activities* o *Rehabilitate bridges* • *Preserve Rail Service* o *Promote economic development that is served by rail transportation* o *Acquire rail rights of way for future rail use* o *Advise communities/shippers of options when rail service is at risk*
Provide Access and Connectivity	• *Passenger Rail* o *Improve existing station facilities* o *Encourage multimodal integration with transit, air and highway travel.* o *Continue to study the implementation of enhanced passenger rail services on existing corridors and new service on intercity corridors* o *Support a federal funding*	• *Promote the importance of passenger rail transportation* o *Continue outreach with stakeholders* o *Provide information on our website and social media outlets* • *Promote the importance of freight rail transportation* o *Coordinate activities with the rail users and providers* o *Take a leadership role in regional and national coalitions* o *Develop and present education and marketing information* ▪ *Provide tools that assist shippers*

	program for passenger rail initiatives • Freight Rail o Continue to promote the research opportunities for intermodal and transload facilities o Continue to promote railroads and a shipping option for new and existing customers o Fund feasibility studies	in using railroads (e.g. Rail Toolkit) ▪ Conduct rail economic impact studies on the impact of lost rail lines on highways and economic benefit of rail to the state economy
Improve Efficiency	• Upgrade rail line segments and bridges to accommodate heavier railcars and meet current/future needs of modern rail transport • Leverage public-private partnerships for funding rail improvements • Capacity improvements, especially on short lines • Promote yard or interchange improvements	• Maintain safe, secure rail infrastructure • Promote opportunities for railroads to attract new business • Provide tools that allow the railroad to be more efficient
Ensure Economic Competitiveness and Development	• Encourage new and enhanced industrial spurs or industrial parks when suitable • Continue to support efforts that attract and sustain businesses in Iowa • Encourage economic development in Iowa through investments in rail system • Improve access to the national rail network via new or enhanced industrial leads and spurs • Continue to promote the research opportunities for intermodal and transload facilities • Upgrade rail line segments and bridges to accommodate heavier railcars • Leverage public-private partnerships for funding rail improvements	• Promote rail as a possible transportation option • Communicate information about using the rail system
Sustain the Environment	• Reduce transportation-related congestion and air pollution o Provide assistance for rail infrastructure improvements o Promote the environmental benefits of rail transportation (passenger and freight) o Promote use of emission reduction technologies	

Appendix H: Draft Rail Plan Strategy Voting Results

Session Name
New Session 11-18-2015 2-10 PM_rail

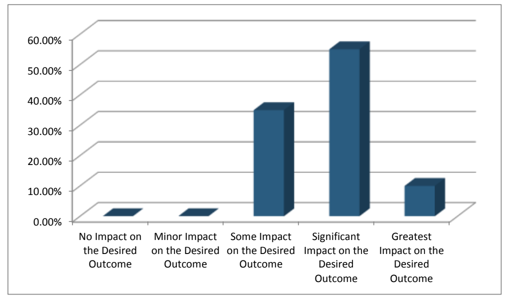
Date Created	**Active Participants**	**Total Participants**
11/18/2015 12:18:11 PM	20	20

Average Score	**Questions**
0.00%	6

Results by Question

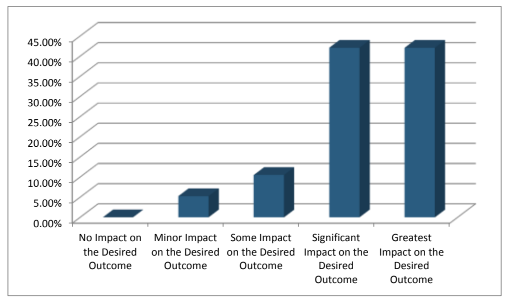
1. Enhance the safety and security of the rail systemThis could lead to grade crossing safety improvements, public education program, enhanced coordination between railroads (Multiple Choice)

	Responses	
	Percent	Count
Impact on the Desired Outcome	0.00%	0
Impact on the Desired Outcome	0.00%	0
Impact on the Desired Outcome	35.00%	7
Impact on the Desired Outcome	55.00%	11
Impact on the Desired Outcome	10.00%	2
Totals	**100%**	**20**



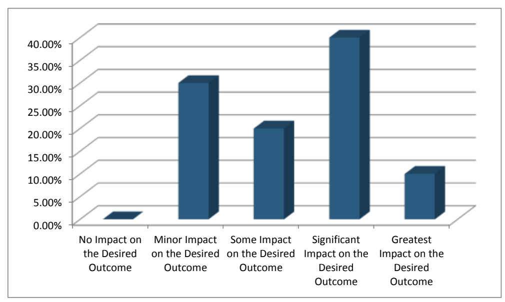
2. Maintain the infrastructureImprovements such as 286,000 (track and bridge upgrades); new and enhanced industrial spurs or industrial parks; development of an intermodal facility (Multiple Choice)

	Responses	
	Percent	Count
Impact on the Desired Outcome	0.00%	0
Impact on the Desired Outcome	5.26%	1
Impact on the Desired Outcome	10.53%	2
Impact on the Desired Outcome	42.11%	8
Impact on the Desired Outcome	42.11%	8
Totals	**100%**	**19**



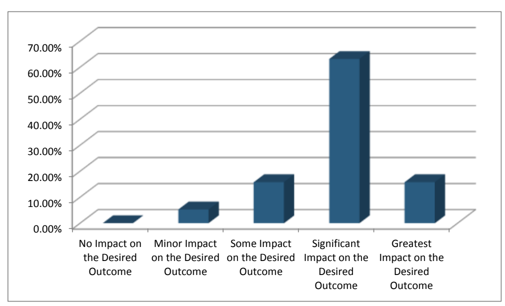
3. Provide access and connectivityAdvances to improve existing station facilities used by Amtrak, improve connectivity with existing and potential future transit systems and airports in Iowa (Multiple Choice)

	Responses	
	Percent	Count
Impact on the Desired Outcome	0.00%	0
Impact on the Desired Outcome	30.00%	6
Impact on the Desired Outcome	20.00%	4
Impact on the Desired Outcome	40.00%	8
Impact on the Desired Outcome	10.00%	2
Totals	**100%**	**20**



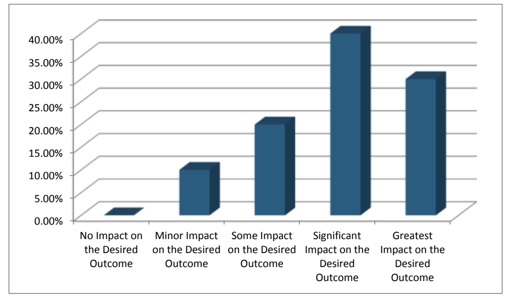
4. Improve efficiencyImprove the capacity, efficiency, and safety of railroad operations in Iowa (Multiple Choice)

	Responses	
	Percent	Count
Impact on the Desired Outcome	0.00%	0
Impact on the Desired Outcome	5.26%	1
Impact on the Desired Outcome	15.79%	3
Impact on the Desired Outcome	63.16%	12
Impact on the Desired Outcome	15.79%	3
Totals	**100%**	**19**



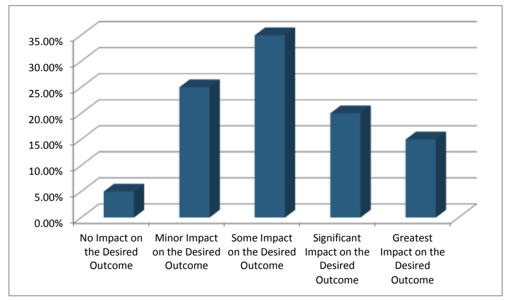
5. Ensure economic competitiveness and development that would support business in Iowa (Multiple Choice)

	Responses	
	Percent	Count
Impact on the Desired Outcome	0.00%	0
Impact on the Desired Outcome	10.00%	2
Impact on the Desired Outcome	20.00%	4
Impact on the Desired Outcome	40.00%	8
Impact on the Desired Outcome	30.00%	6
Totals	**100%**	**20**



6. Sustain the environmentReduction of greenhouse gas (GHG) emissions and fuel savings (Multiple Choice)

	Responses	
	Percent	Count
Impact on the Desired Outcome	5.00%	1
Impact on the Desired Outcome	25.00%	5
Impact on the Desired Outcome	35.00%	7
Impact on the Desired Outcome	20.00%	4
Impact on the Desired Outcome	15.00%	3
Totals	**100%**	**20**



Iowa Department of Transportation
State Freight Plan and State Rail Plan

High Leverage Stakeholder Committee Meeting #2 Summary

Prepared for the Iowa Department of Transportation
by HDR
March 2016

Contents

Meeting Summary

Meeting Overview

The Iowa Department of Transportation (Iowa DOT) hosted the second of three High Leverage Stakeholder Committee (HLSC) meetings to engage stakeholders in the rail and freight industry in the development of the State Freight and Rail Plans. The meeting was held on Thursday, February 25, 2016, in Ankeny, Iowa, and consisted of four interactive exercises that sought to gather input on the current strategies for improvements and the location-specific projects relative to each plan.

Outreach

Invitations were distributed to 41 recipients via email. Table 1 summarizes the outreach efforts for this meeting. See Appendix A: Meeting Invitation for the invitation content. The consultant team followed up with invitees through phone calls.

Table 1. Meeting Outreach

Outreach	Date	Number of Emails Distributed/Phone Calls
HLSC #2 Invitation Email	1/8/2016	41
HLSC #2 Reminder Invitation Email	2/12/2016	41
HLSC #2 Agenda Email	2/19/2016	41
HLSC #2 Follow-up Phone Calls	2/22/2016	6

Attendees

Twenty-six stakeholders attended the meeting including representatives from the Iowa DOT, industries related to freight and rail transportation and special interest groups. See Appendix B: Invitation Mailing and Attendee List.

Meeting Roles and Responsibilities

Table 2 summarizes the roles and responsibilities of each team member in attendance.

Table 2. Staff Roles and Responsibilities

Name	Organization	Responsibility
Jara Sturdivant-Wilson	HDR	Floater/Facilitator/Registration Freight Activity 1: District 6 Scribe
Laura Heilman	HDR	Facilitator Freight Activity 1: District 5 Scribe
Kevin Keller	HDR	Facilitator Freight Activity 1: District 1 Scribe Rail Activity 1: Category 4 Scribe
Justin Fox	CDM Smith	Facilitator

Name	Organization	Responsibility
		Freight Activity 1: District 3 Scribe Rail Activity 1: Category 2 Scribe
Chris Goepel	HDR	Facilitator Freight Activity 1: District 2 Scribe Rail Activity 1: Category 1 Scribe
Barb Wells	CDM Smith	Facilitator Freight Activity 1: District 4 Scribe Rail Activity 1: Category 3 Scribe
Amanda Martin	Iowa DOT	IADOT representative
Sam Hiscocks	Iowa DOT	IADOT representative
Garrett Pedersen	Iowa DOT	IADOT representative
Tammy Nicholson	Iowa DOT	IADOT representative
Craig Markley	Iowa DOT	IADOT representative
Kyle Barichello	Iowa DOT	IADOT representative
Diane McCauley	Iowa DOT	IADOT representative
Phil Meraz	Iowa DOT	IADOT representative/Timekeeper
Jeff Von Brown	Iowa DOT	IADOT representative
Laura Hutzell	Iowa DOT	IADOT representative
Sam Shea	Iowa DOT	IADOT representative
Ed Engle	Iowa DOT	IADOT representative

Meeting Agenda and Outcomes

The meeting was held Thursday, February 25, 2016, at the Courtyard Des Moines Ankeny located at 2405 SE Creekview Dr, Ankeny, Iowa. Registration began at 9:30 a.m.

9:30 a.m. – 10:00 a.m.:	Attendee Registration
10:00 a.m. – 10:15 a.m.:	Welcome, Safety Briefing, Meeting Purpose
10:15 a.m. – 10:20 a.m.:	Icebreaker #1
10:20 a.m. – 10:30 a.m.:	State Freight Plan, State Rail Plan Update
10:30 a.m. – 10:40 a.m.:	State Freight Plan Input Exercise #1
10:40 a.m. – 10:45 a.m.:	Icebreaker #2
10:45 a.m. – 12:00 p.m.:	VCAP Introduction and State Freight Plan Input Exercise #2
12:00 p.m. – 12:30 p.m.:	Lunch
12:30 p.m. – 12:35 p.m.:	Icebreaker #3
12:35 p.m. – 2:00 p.m.:	FRA guidance introduction and State Rail Plan Input Exercises 1 and 2

Welcome, Meeting Purpose

Participants received a registration packet at check-in that included the following:

- *Meeting handout*
- *Freight activity materials:*
    - *Modal list improvement handouts (air and waterways)*
    - *Value, Condition and Performance (VCAP) handout*
    - *VCAP maps (statewide, metro and by district)*
- *Rail activity material:*
    - *Railroad service map*

See Appendix C for the attendee registration packet.

The meeting began with a brief introduction from HDR Consultant Kevin Keller. The introduction included the meeting purpose – to provide updates on the status of both plans and to gather input on the current strategies for improvements and location-specific projects relative to each plan. After the welcome, HDR Consultants Jara Sturdivant-Wilson and Laura Heilman facilitated the first of three icebreaker activities of the meeting.

State Freight Plan, State Rail Plan Update

Keller walked participants through the current plan development schedule previewing the next High Leverage Stakeholder Committee Meeting #3 and the upcoming Public Meeting. Iowa DOT Systems Planning team member Sam Hiscocks provided an update on the Freight Plan schedule.

Keller provided participants an update on the voting exercise they participated in at the first High Leverage Stakeholder Committee meeting. This voting exercise asked respondents to indicate the level of effort and impact it would take to implement the freight strategies. Participants were able to see how their voting results compared to the results from the Freight Advisory Council (FAC) meeting and Iowa DOT facilitated-survey. All voting results showed a strong 1:1 correlation between effort and impact, meaning that the measure of impact a certain strategy would have matched the effort it would take to accomplish it. This result made it difficult to identify strategies that could be prioritized (those with high impact and low effort) or discarded (high effort and low impact). These results showed that all groups had a similar assessment of the strategies, and that the strategies identified were appropriate (no strategies were voted as having very low impact).

Iowa DOT Rail Planning team member Amanda Martin updated participants on the Rail Plan status. Keller concluded this portion of the meeting by highlighting the results of the rail plan goal voting exercise from the first HLSC meeting and FAC meeting. Again, these results showed that the two groups had very similar views of the impact of the goals; both groups individually prioritized the goals in the same order.

This portion of the meeting concluded with a brief discussion on the updated Rail Plan vision. No participants suggested any further changes to the vision.

State Freight Plan Input Exercises

Modal Improvement List Review

Hiscocks introduced the current air and waterway improvements. After the introduction, he asked participants to identify any fatal flaws in the identification process or changes to the list of improvements.

Regarding the air improvements, participants questioned why other airports were not highlighted during the exercise (Hiscocks said that this was because the other airports in the state combined had less than 1 percent of the traffic volume in the state), and noted that, although it is out of state, the Omaha Eppley airport does affect freight movement in Iowa and should be considered in the overall assessment and improvement recommendations.

Regarding the waterway improvements, participants noted the following:

- *There are opportunities in the Kansas area.*
- *We should view the Missouri River as a valued resource.*

- *There should be an understanding of the future of the viability of waterways (when do they become inoperable?).*
- *We should do asset planning for our infrastructure, with an understanding of the potential risk for failure.*
- *There should be a contingency plan for infrastructure failure.*
- *Ports to the East and West can serve as contingencies.*
- *Rather than acting in a reactionary way, the industry should focus on forecasting trends and potentialities.*
- *Is there a current study of Iowa locks [it was noted by staff that the Freight Plan does include this].*
- *With the expansion of the Panama Canal, there will be more north-south traffic on inland waterways in the future.*
- *There should be a list of the information the Iowa DOT should and can obtain about facilities on the Iowa side of the Mississippi River.*
- *Ports only function when connected to other modes; there should be a focus on connectivity, access, and linkage points.*
- *There is a need for legislation to connect river and rail.*
- *There is a high regional interest in an intermodal container port; do any currently exist to the east of west of Iowa?*
- *Can we leverage or use data from the LIFTS grant applications or reports?*

Value, Condition, and Performance (VCAP) Highway Improvements Exercise

Hiscocks introduced the Value, Condition and Performance (VCAP) process to participants. After the introduction, participants spent time reviewing the entire highway VCAP list and the corresponding maps by district.

Once finished with the review, participants were able to walk around the room and review the VCAP maps by districts. Technical experts were stationed at each district map and were available to provide background information and answer questions. Scribes were also placed at each of the district maps to capture any notes from participants.

Participants questioned how seasonality is accounted for in rankings, as it affects truck volume, particularly in rural areas. Fall is typically busier than summer and winter, for example. Participants also questioned if rankings were based on bottlenecks at intersections only, or if they were ranked based on bottlenecks of corridors. There was also a comment that the Iowa DOT should compare projects on a district basis in order to prioritize projects.

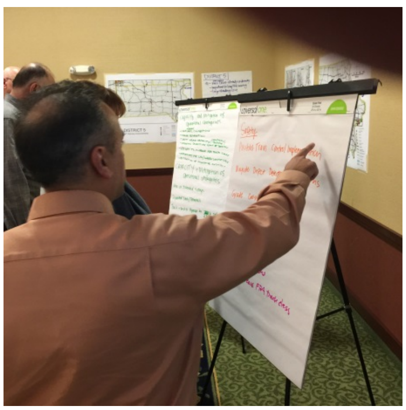
Table 3 provides a summary of notes for each district; see Appendix D for the full list of results by district.

Table 3. District Input Summary

District	District Result Summary
1	• *There was recent construction at Highway 27.*
2	• *There needs to be improved traffic flow and congestion mitigation at point 13.* • *Bigger signs are needed on 380/218 through Waterloo for the Avenue of the Saints route.*
3	• *No district-specific notes.*
4	• *A new bridge crossing the river from I-29 in the Council Bluffs Area to Eppley Airfield in Omaha has been proposed in this District.* • *Iowa DOT should look at the corridors in this district.*

District	District Result Summary
5	• *All comments were in regard to the area around point 41, in Muscatine.* • *Lots of work is currently underway in and around Muscatine, especially on existing Hwy 61 and Old Hwy 61.* • *There is non-recurring congestion in Muscatine due to detours/diversion from I-80. The ongoing safety study (diversion) should be coordinated with current and future efforts in order to mitigate these issues:* • *Increased economic development projects are happening in Muscatine.*
6	• *The US 67 bridge in the Quad Cities should be addressed* • *US 30/IA 136 Clinton Bridges should be addressed* • *The 174 corridor should continue to be a priority project.* • *Iowa should coordinate with Illinois on the replacement of the I-80 bridge*

At the end of review period, facilitators asked participants to identify any fatal flaws with the process and/or changes to the list of improvements.



Participants reviewing District 5 comments.

State Rail Plan Input Exercises

Railroad Capital Investments and Projects in Iowa Exercise

After lunch, consultant team member Kevin Keller introduced the Federal Railroad Administration (FRA) guidance for the development of State Rail Plans. Keller then asked participants to outline their needs for rail within four main project categories:

1. *Capacity and mitigation of operational chokepoints*
2. *Safety*
3. *Economic development*
4. *Modal connectivity*

The consultant team prepared a number of examples under each category before the meeting, which were shown on the flip charts at the beginning of the exercise. Scribes captured additional responses from participants. After the lists were complete, participants had 20 minutes to vote on the lists using a set of colored stickers. Participants were given three red voting stickers to identify types of projects to be prioritized, three blue voting stickers to indicate short-term projects, and three green voting stickers to indicate long-term projects. At the end of the exercise, facilitators asked participants how the Iowa DOT could best facilitate the priorities of their organization.

Table 4 shows the capital investments and projects that received the highest overall number of votes. See Appendix E for the full list of capital investments and projects, priority voting results, and feedback on how the Iowa DOT could best help organizations accomplish their priorities.

Table 4

Category	Capital Investments and Projects	Number of Votes Received			
		RED Priority	GREEN Long Term	BLUE Short Term	TOTAL
Economic Development	Transload/intermodal facility	13	4	4	21
Modal Connectivity	Passenger	7	4	5	16
Safety	Crossing closures	7	2	7	16
Safety	Grade separations	5	8	2	15
Modal Connectivity	Connectivity and interchange	6	4	4	14

Rail Map Exercise

Keller then introduced the last rail exercise and invited participants to walk around the meeting room to view large maps of the existing rail service in the state of Iowa. Meeting participants received three of each color of sticker and unlimited voting tape.

Participants were asked to add stickers and tape to the rail maps with the following guidelines:

- *Yellow stickers identified changes to existing or additional (if applicable) passenger rail stations in Iowa.*
- *Pink stickers identified changes or additions/additional points (if applicable) to existing points of freight rail access in Iowa (i.e. industrial spur, transload).*
- *Green tape identified changes to existing passenger rail services in Iowa or recommended additions (if applicable) (including intercity and commuter rail).*
- *Blue tape identified changes to existing freight rail services in Iowa or recommended additions if applicable (including new routes or reactivated abandoned routes).*

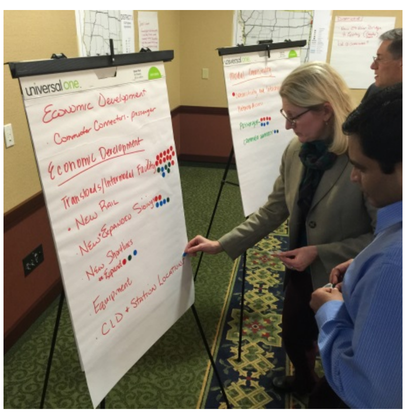
Passenger Rail

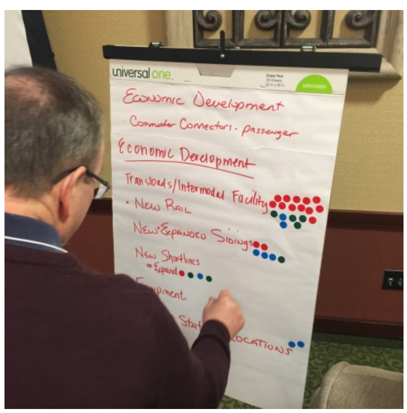
- Participants used green tape to mark routes changes or additions to existing passenger rail services. These routes were either north-south, through the center of the state closely paralleling I-35, or east-west closely paralleling I-80. Marked routes went through the entire state, intended to connect to major population centers in surrounding states.
- Yellow stickers marked changes or additions to existing passenger rail stations. These stickers focused on larger cities and metropolitan areas. Most were found on the east side of the state, along the I-80 corridor, or along a central north-south spine, along the I-35 corridor.

Freight Rail

- Pink stickers identified changes or additions to existing points of freight rail access. Pink stickers were clustered in larger cities and metropolitan areas.
- Participants used blue tape to mark routes for changes or additions to existing freight rail services. Areas along the western edge of the state, as well as straight of Des Moines and straight east of Cedar Rapids, were identified.

See Appendix F for images of the rail maps and the full list of identified additions or changes to rail services.
At the end of the meeting, participants were asked about what studies could inform the State Rail Plan. Study priorities include intermodal, industrial park, and market studies; infrastructure needs; multi-modal and regional network connections; and macroeconomic studies. The Iowa DOT also shared what they needed from the shipping community – public-private partnerships, anchor tenants, network upgrades and infrastructure.





Participants voting during the State Rail Plan exercises. .

Next Steps

Keller closed the meeting with a preview of the next HLSC meeting and upcoming public and online meetings.

Appendix A: Meeting Invitations

IOWA DOT
SMARTER | SIMPLER | CUSTOMER DRIVEN
www.iowadot.gov

January 8, 2015

Happy New Year! We hope this email finds you well. We look forward to seeing you again at our second High Leverage Stakeholder Committee meeting on Thursday, February 25th from 10:00 am to 2:00 pm at the Courtyard Des Moines Ankeny. Please note that the start time for this meeting is one hour earlier than the previous meeting.

From the Issues-Based Workshop, online survey and our first High Leverage Stakeholder Committee meeting, stakeholders like you have provided information that will continue to guide us as we move forward in developing both of the Plans. During this meeting, we will provide a summary of the input we have gathered for both the Iowa State Rail and State Freight Plans. **As we head into our second High Leverage Stakeholder meeting, we need your continued support and participation as we begin to refine and further develop the actual Plans.**

Join us Thursday, February 25th, from 10:00 am – 2:00 pm as we move into the next steps of the development of both plans. **Please RSVP to Wendy Thompson at** info@engagefreightrailplans.com **by February 17, 2016. Please include any dietary restrictions in your RSVP as well.**

Meeting Details:

Date: Thursday, February 25
Time: 10:00 am - 2:00 pm
Location: Courtyard Des Moines Ankeny
2405 SE Creekview Dr
Ankeny, IA 50021
Parking: Please park on the south or east side of the building.
Lunch will be provided!

We are excited to see you at our next meeting!

If you missed the first High Leverage Stakeholder Committee meeting, you can review the meeting summary and materials here.

Stuart Anderson, Director
Planning, Programming and Modal Division

IOWADOT
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www.iowadot.gov

February 12, 2016

Join us at the second High Leverage Stakeholder Committee meeting on Thursday, February 25th from 10:00 am to 2:00 pm at the Courtyard Des Moines Ankeny. We look forward to seeing you again as we move into the next steps of the development of both plans. **Please RSVP to Wendy Thompson at** info@engagefreighttrailplans.com **by February 17, 2016. Please include any dietary restrictions in your RSVP as well.**

Please note that the start time for this meeting is one hour earlier than the previous meeting.

Meeting Details:

Date: Thursday, February 25
Time: 10:00 am - 2:00 pm
Location: Courtyard Des Moines Ankeny
2405 SE Creekview Dr
Ankeny, IA 50021
Parking: Please park on the south or east side of the building.
Lunch will be provided!

We are excited to see you at February 25th!

If you missed the first High Leverage Stakeholder Committee meeting, you can review the meeting summary and materials here.

Stuart Anderson

Stuart Anderson, Director
Planning, Programming and Modal Division

800 Lincoln Way
Ames, IA 50010

http://engagefreightrailplans.iowadot.gov/

Opt Out

IOWA DOT

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February 19, 2016

Meeting Details:

Date: Thursday, February 25
Time: 10:00 am - 2:00 pm
Location: Courtyard Des Moines Ankeny
2405 SE Creekview Dr
Ankeny, IA 50021
Parking: Please park on the south or east side of the building.
Lunch will be provided!

We are excited to see you at the second High Leverage Stakeholder Committee meeting for the Iowa State Rail and Freight Plans. At this meeting we are seeking your input on the current strategies for improvements and location-specific projects relative to each plan. We will also answer any questions and receive your comments regarding both plans.

For your convenience, we have outlined below the meeting agenda and provided links to materials that we will review during the meeting. We encourage you to familiarize yourself with the meeting materials associated with each activity on the agenda.

Agenda

- 10:00 – 10:20 am: Welcome, Safety Briefing, Meeting Purpose
- 10:20 – 10:30 am: State Freight Plan, State Rail Plan Update
- 10:30 – 10:45 am: State Freight Plan Input Exercise #1
- 10:45 am – 12:00 pm: Value, Condition, Performance Introduction and State Freight Plan Input Exercise #2
- 12:00 – 12:30 pm: Lunch
- 12:30 – 2:00 pm: FRA Guidance Introduction and State Rail Plan Input Exercises
- 2:00 pm: Next Steps & Wrap-up

Meeting Materials

- Freight Activities (To navigate this document, click the bookmark icon in the right hand corner)
- Rail Activities

If you were not able to attend the first High Leverage Stakeholder Committee meeting or the Issues Based Workshop, you can review the meeting summaries and materials here.

We are excited to see you at the meeting next week!

Stuart Anderson

Appendix B: Invitation Mailing and Attendee List

First Name	Last Name	Organization	Attended
Greg	Lofstedt		
Derrick	James	Amtrak	
Todd	Stennis	Amtrak	
Ron	White	ARTCO Fleeting Service	
Denise	Bulat	Bi-State	
Gena	McCullough	Bi-State	✓
Sarod	Dhuru	BNSF	✓
Greg	Reeder	City of Council Bluffs	✓
Dave	Gobin	City of Muscatine	✓
Jeff	Woods	CRANDIC	✓
Chandra	Ravada	Dubuque MPO	✓
Steve	Falck	Environmental Law and Policy Center	✓
Rob	Toncar	FedEx	
Teresa	Valenta	FedEx	
Stacy	Timperley	Forbs	✓
Beth	Bilyeu	Forest City Economic Development	✓
David	Toyer	Greater Burlington Partnership	
Harold	Hommes	Iowa Department of Agriculture and Land Stewardship	
Kyle	Barichello	Iowa DOT	✓
Ed	Engle	Iowa DOT	✓
Sam	Hiscocks	Iowa DOT	✓
Laura	Hutzell	Iowa DOT	✓
Amanda	Martin	Iowa DOT	✓
Diane	McCauley	Iowa DOT	✓

First Name	Last Name	Organization	Attended
Phil	Meraz	Iowa DOT	✓
Phil	Mescher	Iowa DOT	
Tammy	Nicholson	Iowa DOT	✓
Garrett	Pedersen	Iowa DOT	✓
Sam	Shea	Iowa DOT	✓
Jeff	Von Brown	Iowa DOT	✓
Joseph	Rude	Iowa Economic Development Authority	
Joe	Parsons	Iowa Interstate Railroad	✓
John	Dill	Iowa Motor Truck Association	
Don	Egli	Iowa Motor Truck Association	✓
Brenda	Neville	Iowa Motor Truck Association	✓
Steve	Lallier	J. B. Hunt Transport	
Michael	Heckart	John Deere	
Osama	Shihadeh	Kent Corporation	✓
Michael	Helgerson	Metropolitan Area Planning Agency	
Ned	Lewis	Office of Motor Vehicle Enforcement	✓
Richard	Grenville	Port KC, Kansas City, MO	✓
Mike	Coghlan	Sabre Industries Towers and Poles	
Kelli	O'Brien	Union Pacific Railroad	✓
Mark	Peterson	UPS	
Bill	Neese	West Central Co-Op	

Appendix C: Attendee Registration Packet

HIGH LEVERAGE STAKEHOLDER COMMITTEE

2016 IOWA RAIL PLAN

IOWA IN MOTION planning ahead 2040

February 2016

WELCOME!

The purpose of today's meeting is to gather your input on the current strategies for improvements and location-specific projects, provide an update on both plans, and answer questions and receive comments.

Today we will:

- discuss the updated vision and goals for both plans;
- provide a summary of the online survey and first High Leverage Stakeholder Committee meeting; and
- gather input on strategies for improvements and location-specific improvement projects.

2015 Meeting Highlights

Participants in the Des Moines Issues-Based Workshop voted on the strengths, weaknesses, opportunities, and potential threats to the Iowa rail network.

Background

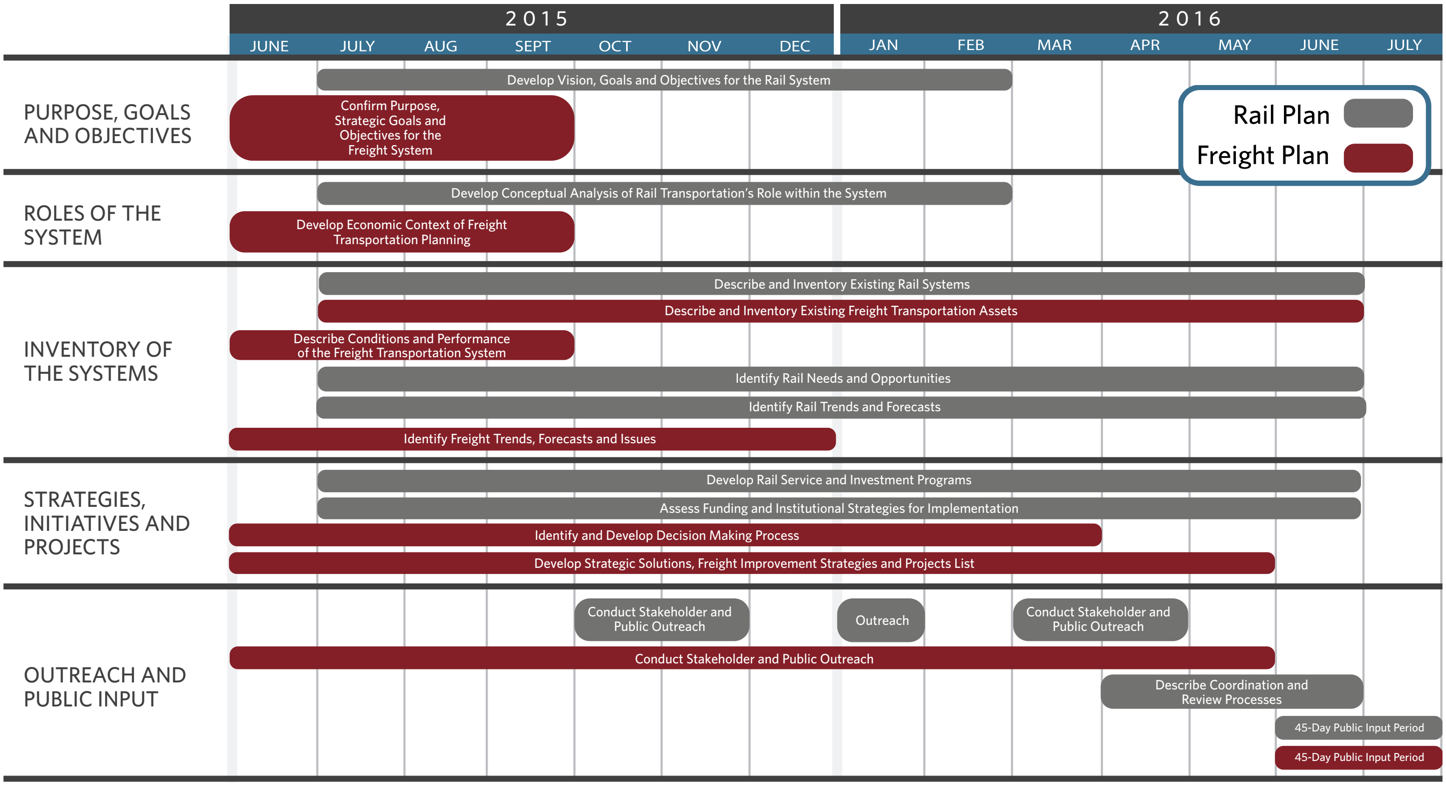
In September 2013, the Federal Railroad Administration (FRA) published its Final State Rail Plan Guidance, which provided direction for State Rail Plan stakeholder and public involvement. We are actively engaging private sector rail and freight infrastructure owners, freight, public planning agencies, transit operators, rail authorities, railroad and freight organizations, and passenger rail stakeholders. The State Rail Plan will identify proposed improvements in urban and rural areas for those who travel through it. The State Freight Plan outlines freight planning activities that will achieve the objective for the State to provide a safe, efficient and convenient freight transportation system to Iowans. The Freight Plan is a way to connect all planning initiatives and allow each to move forward towards a common goal of optimal freight transportation throughout the state. In addition, the Freight Plan will guide our investment decisions to maintain and improve the freight transportation system, and ultimately strengthen the Iowa's economy and raise the quality of life for our citizens.

The development of a comprehensive State Rail Plan in collaboration with the implementation of the Freight Plan offers an opportunity for us to accurately define what the rail and freight system in the state looks like today and what it needs to look like in the future.

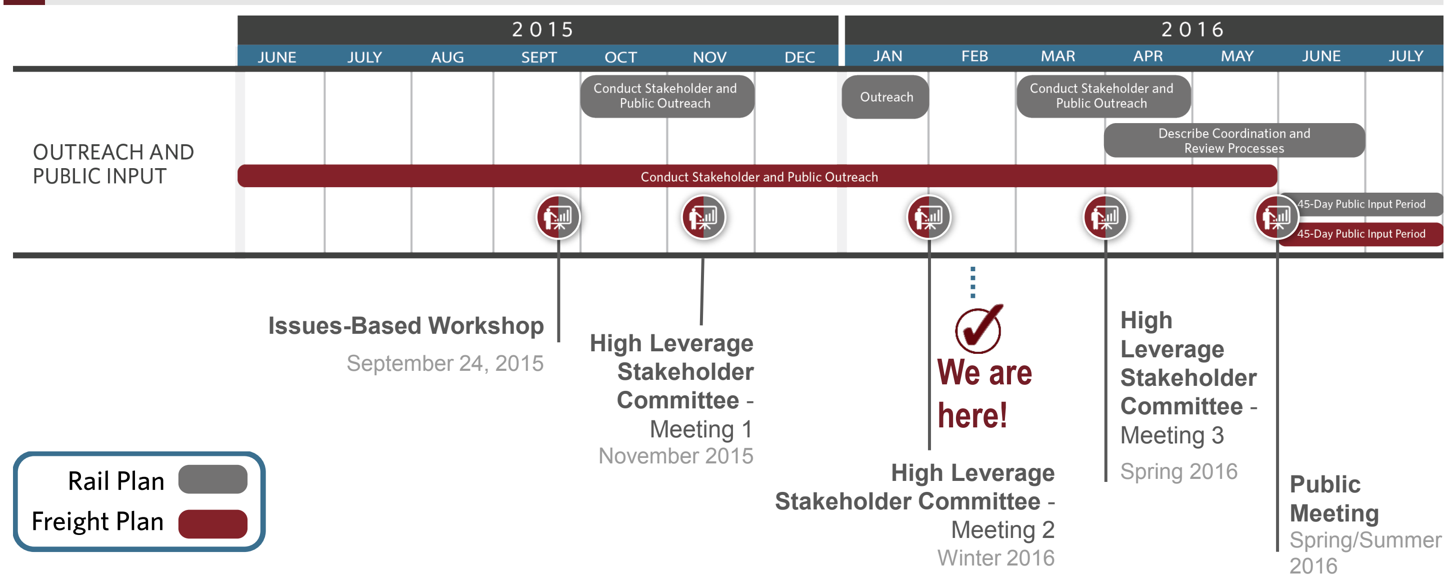
State Rail and Freight Plan Overlap

The State Rail and Freight Plans are closely related and have several overlapping activities. Combining public engagement efforts of both the Rail and Freight Plan allows us to integrate the feedback appropriately. Due to the subject matter, there is natural overlap of information, data and analysis for both rail and freight.

What is the Schedule for the Plans?



What's Next?



STAY INVOLVED

- Visit us at: http://engagefreightrailplans.iowadot.gov
- Email us at: info@EngageRailFreightPlans.com

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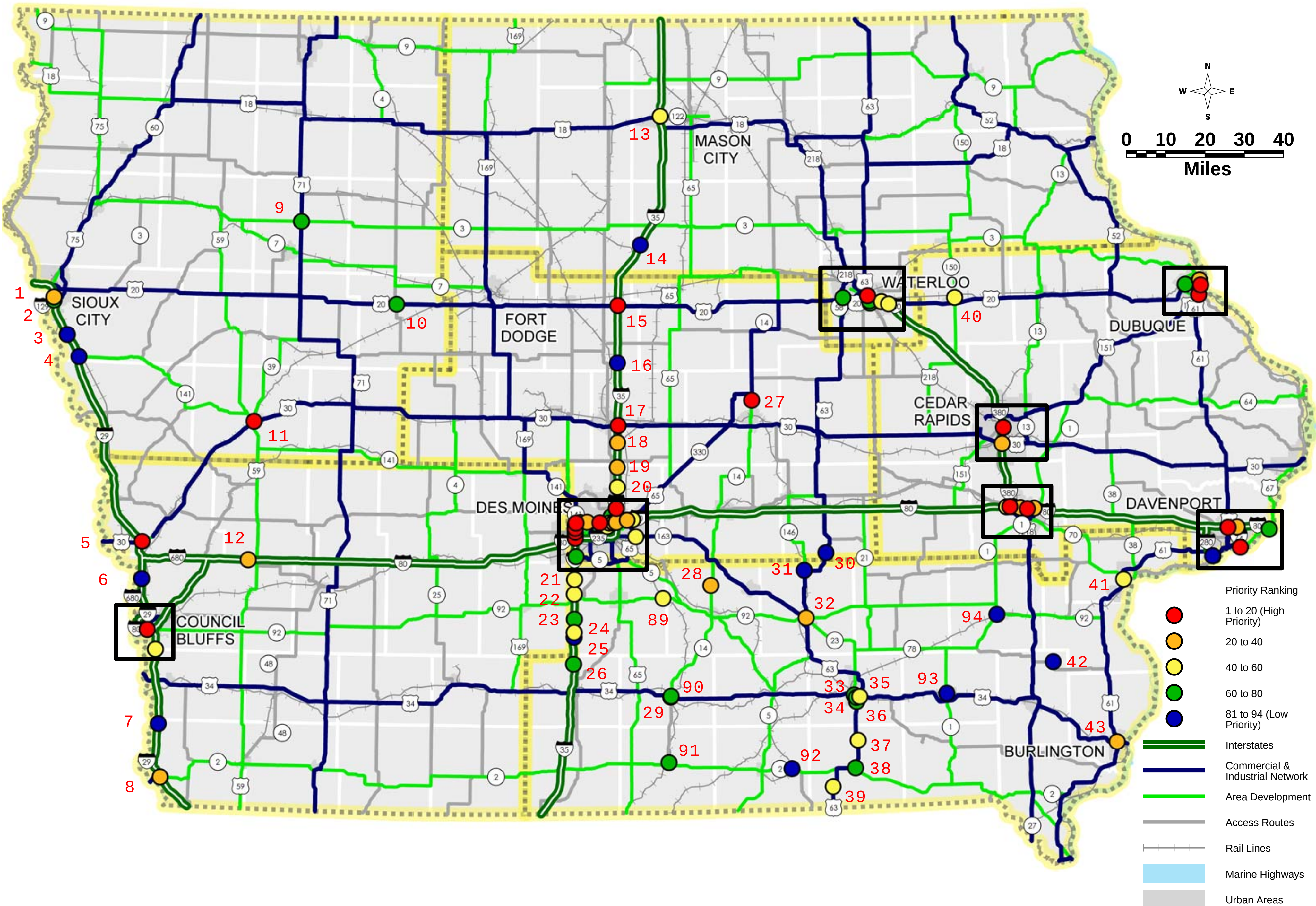
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89
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93
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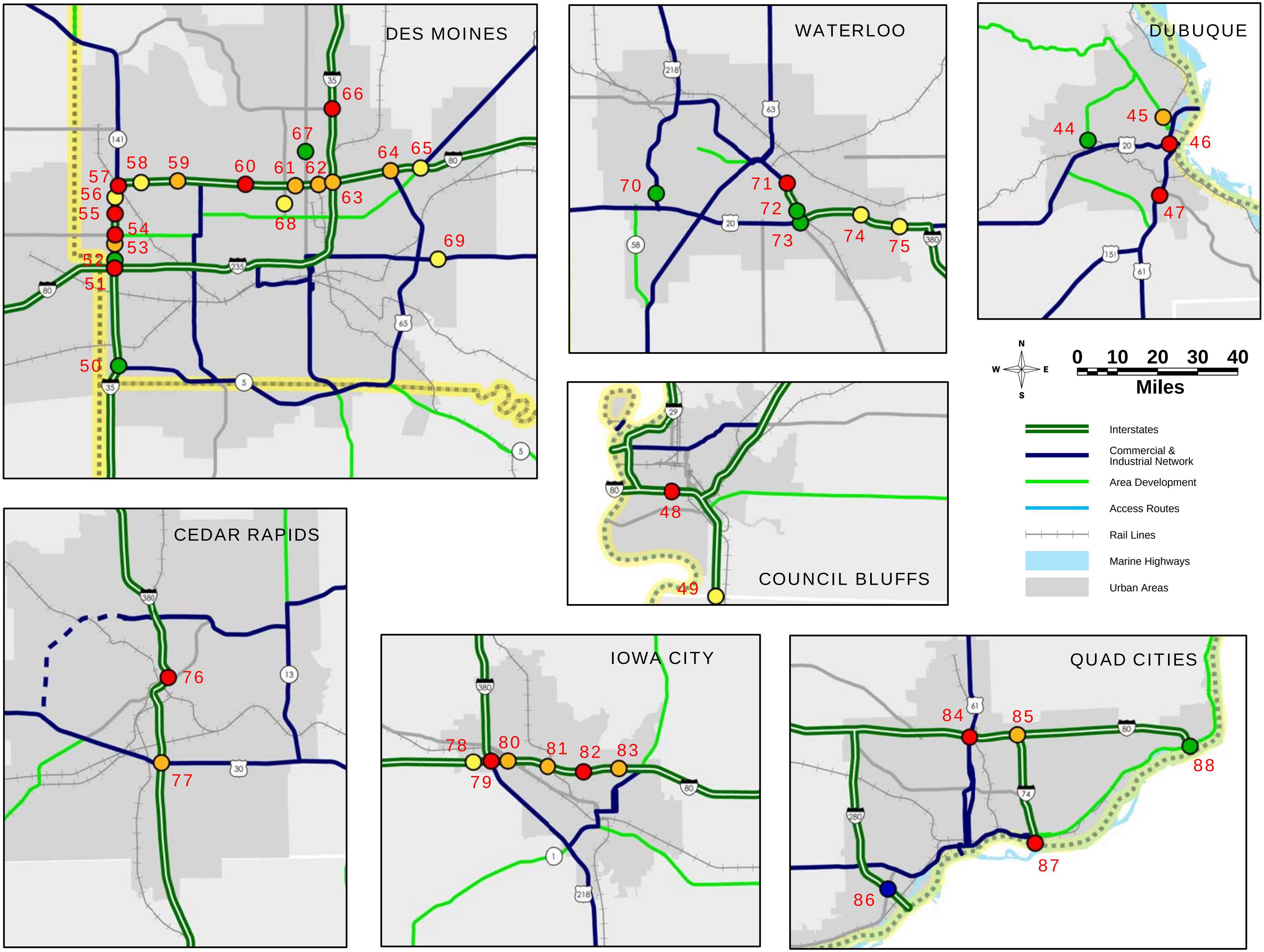
Priority Ranking
1 to 20 (High Priority)
20 to 40
40 to 60
60 to 80
81 to 94 (Low Priority)
Interstates
Commercial & Industrial Network
Area Development
Access Routes
Rail Lines
Marine Highways
Urban Areas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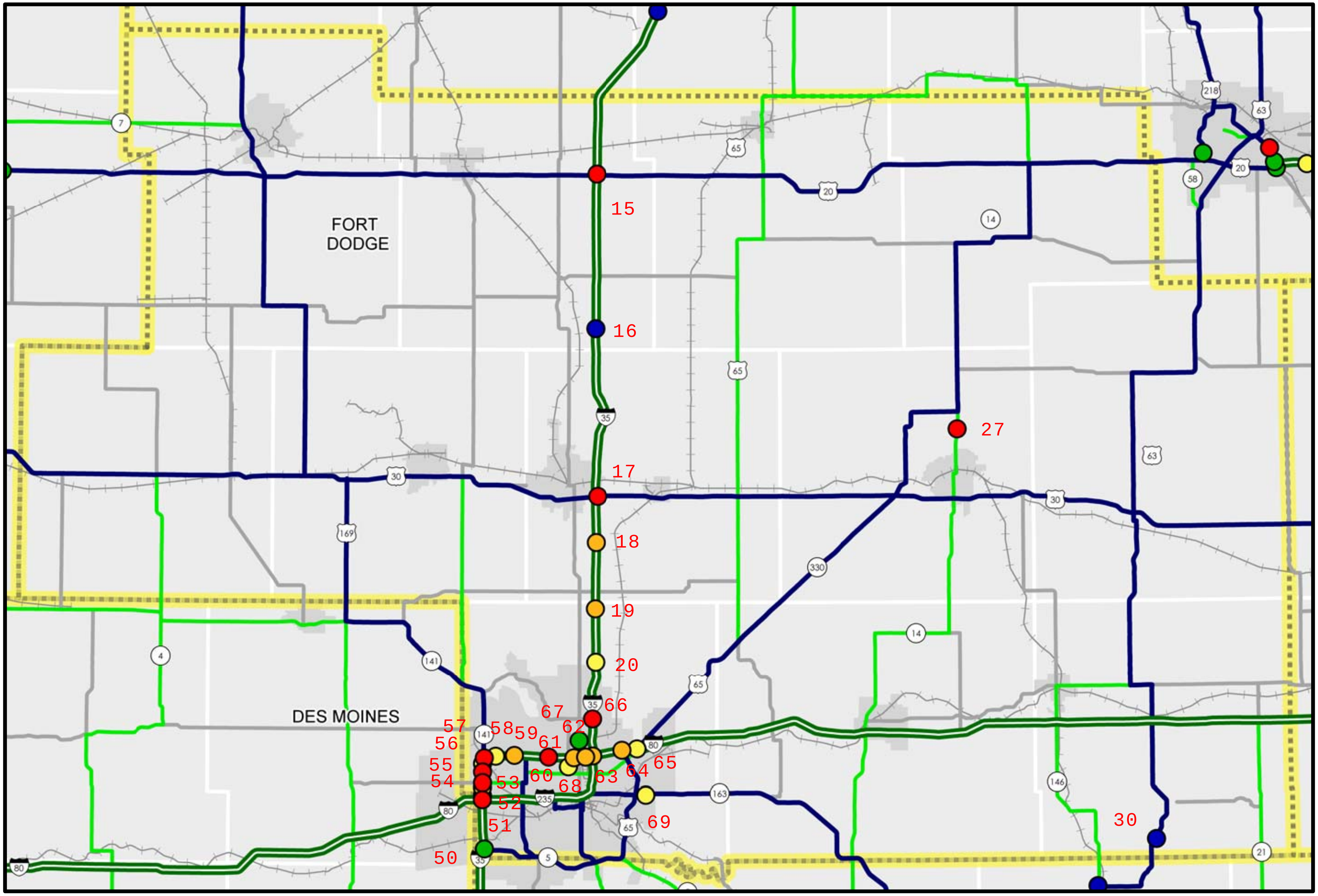
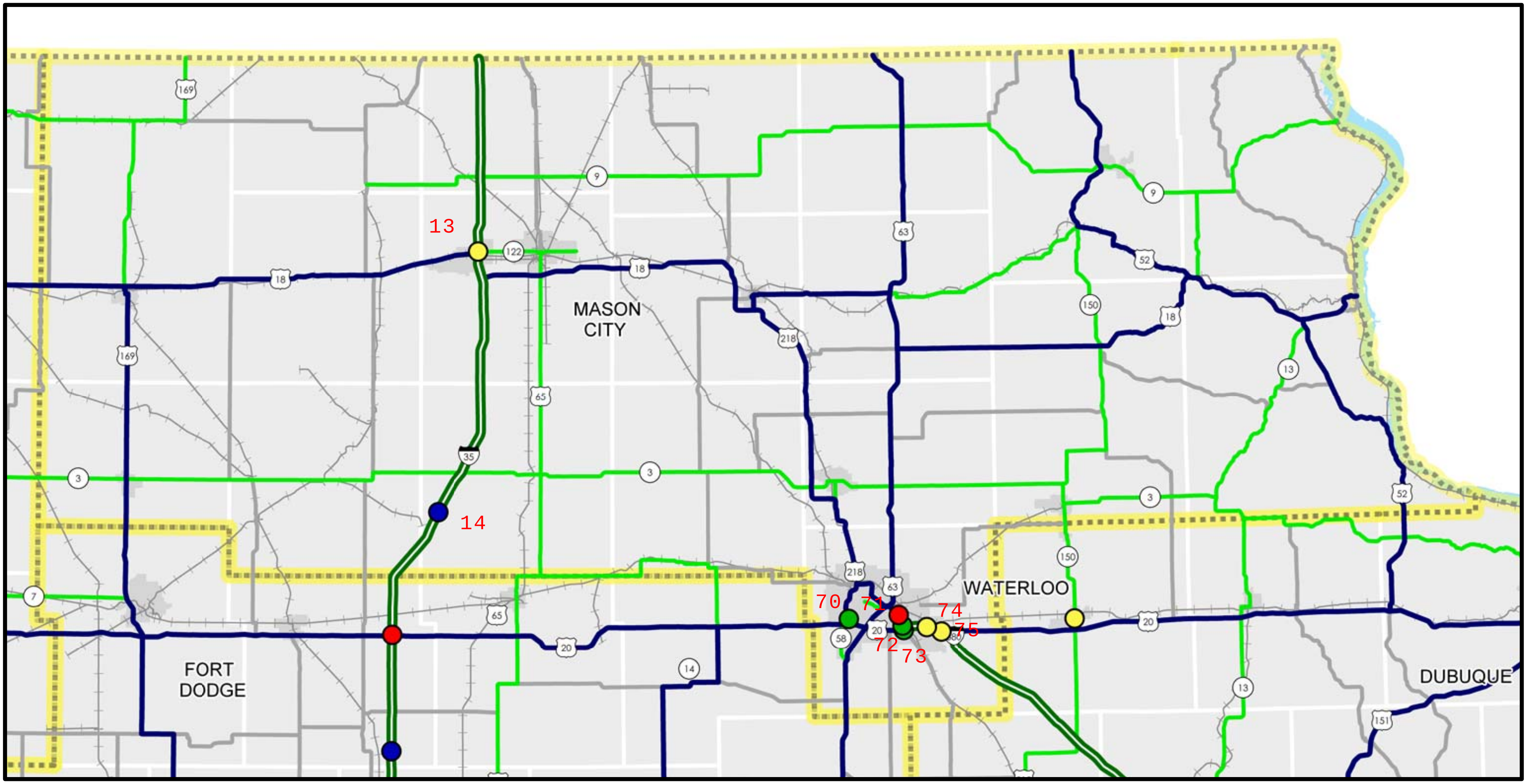


DISTRICT 1

VCAP Highway Improvements

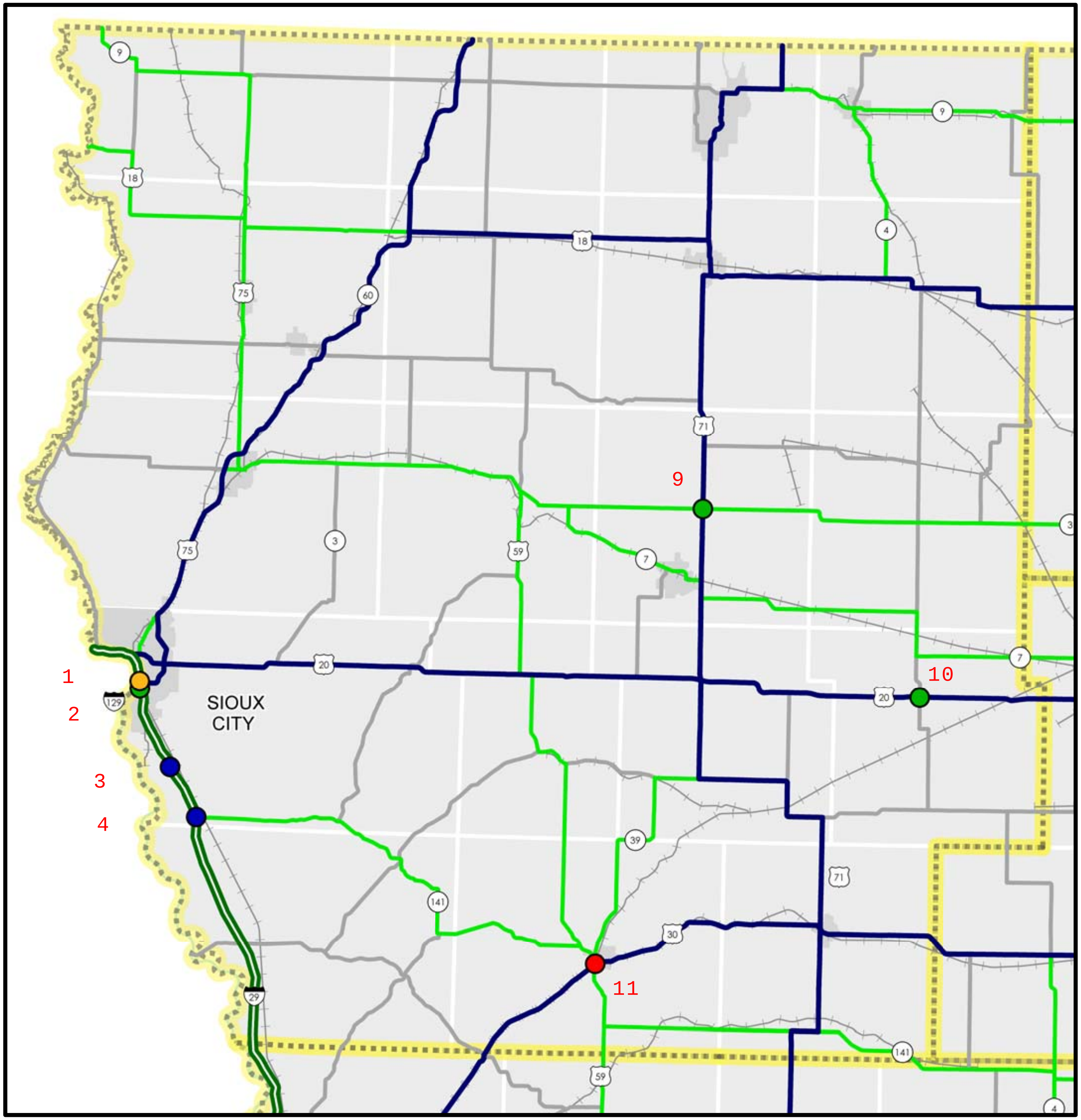
Priority Ranking	
1 to 20 (High Priority)	Interstates
20 to 40	Commercial & Industrial Network
40 to 60	Area Development
60 to 80	Access Routes
81 to 94 (Low Priority)	Rail Lines
	Marine Highways
	Urban Areas



DISTRICT 2

VCAP Highway Improvements

Priority Ranking	
1 to 20 (High Priority)	Interstates
20 to 40	Commercial & Industrial Network
40 to 60	Area Development
60 to 80	Access Routes
81 to 94 (Low Priority)	Rail Lines
	Marine Highways
	Urban Areas



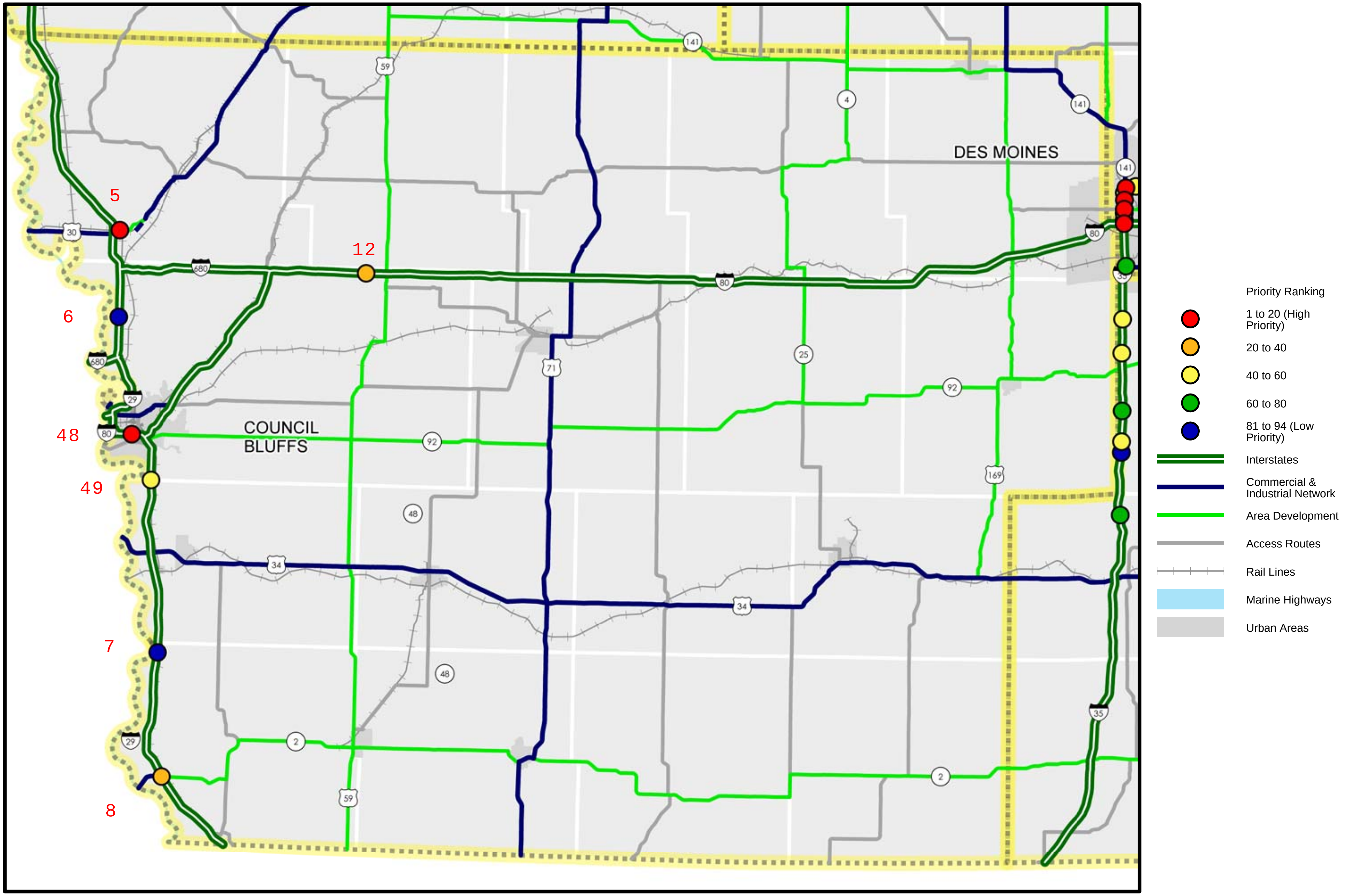
DISTRICT 3

VCAP Highway Improvements

Priority Ranking

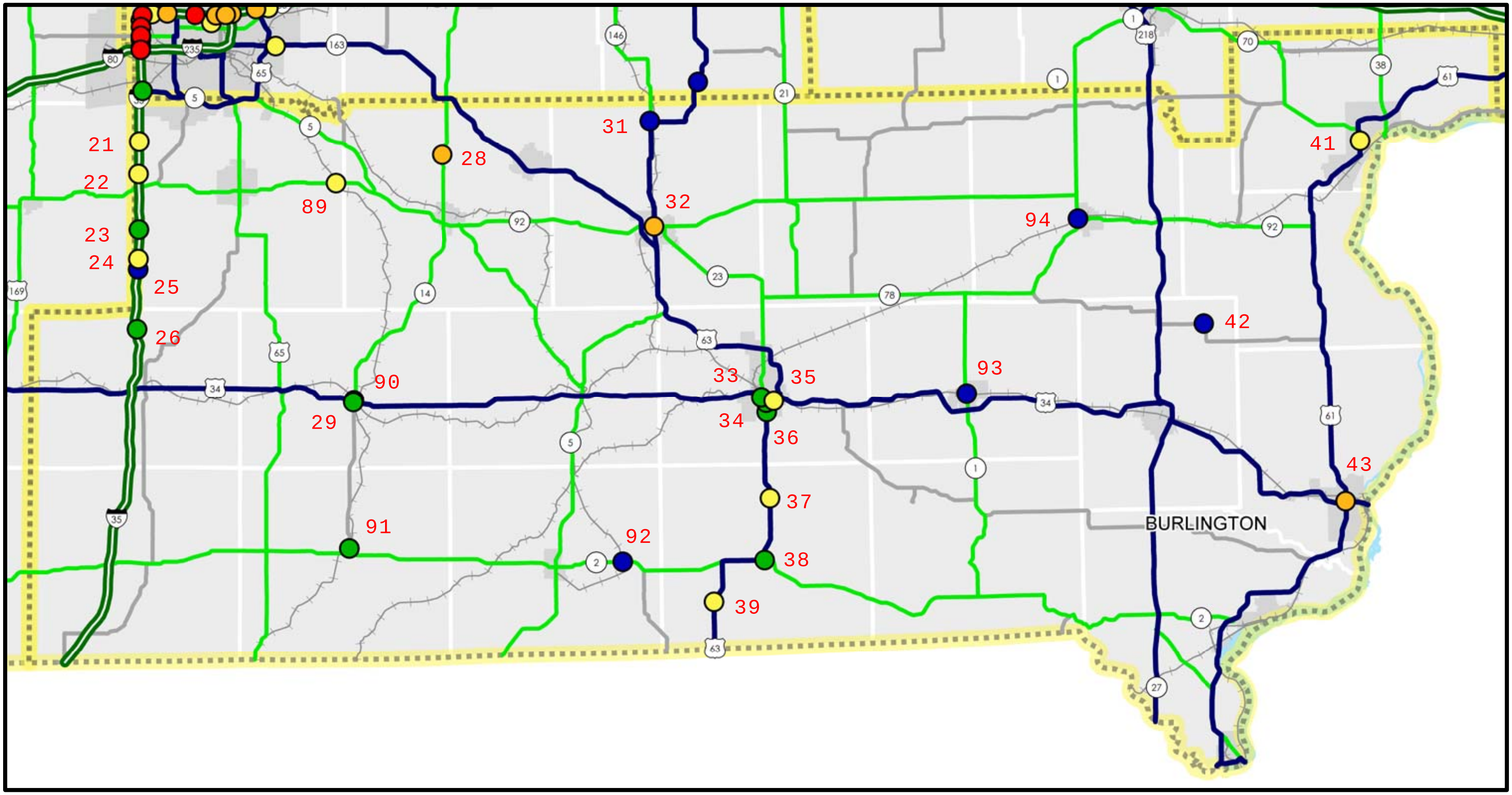
- 1 to 20 (High Priority)
- 20 to 40
- 40 to 60
- 60 to 80
- 81 to 94 (Low Priority)

- Interstates
- Commercial & Industrial Network
- Area Development
- Access Routes
- Rail Lines
- Marine Highways
- Urban Areas



DISTRICT 4

VCAP Highway Improvements

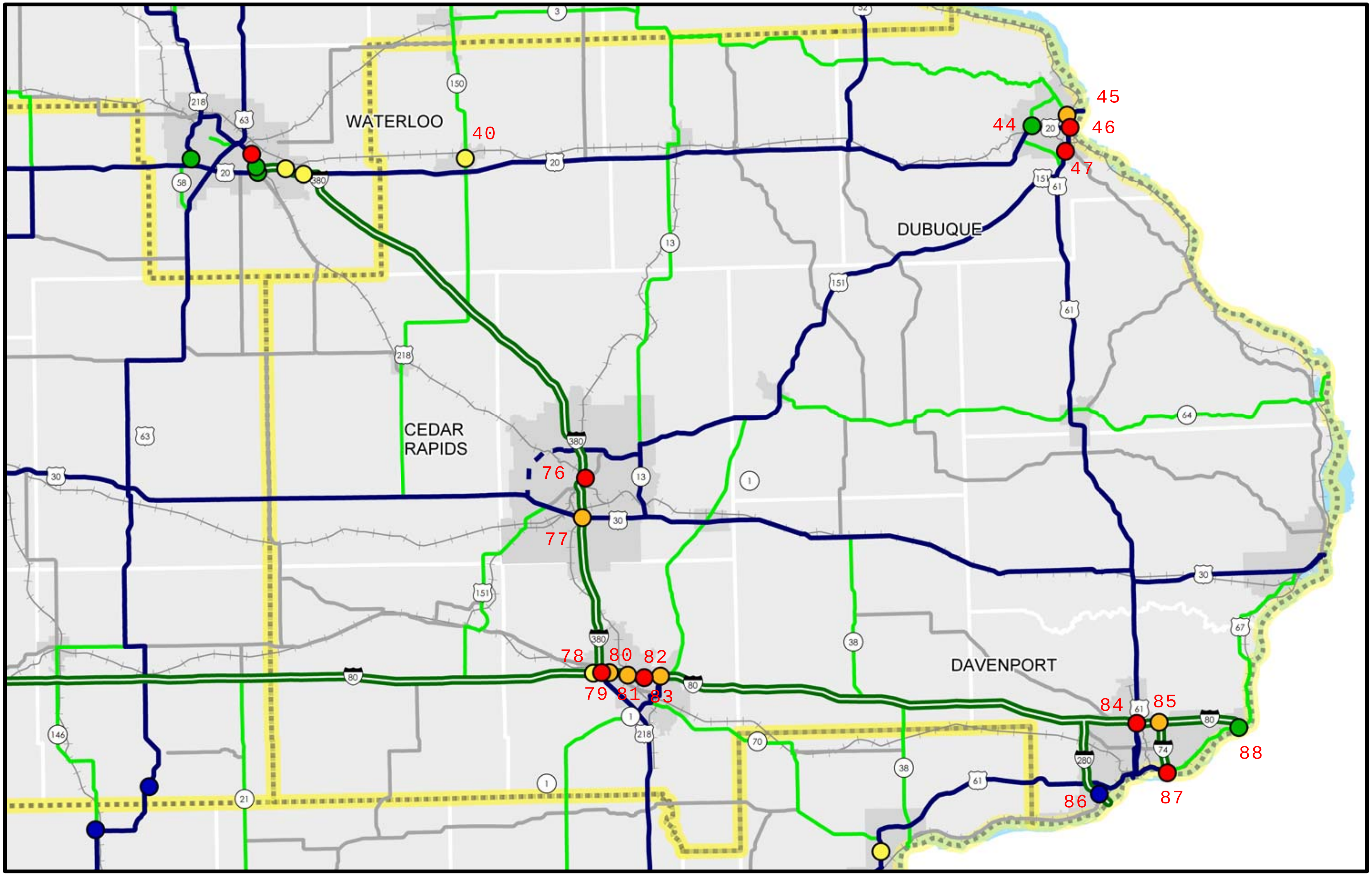


DISTRICT 5

VCAP Highway Improvements

Priority Ranking	
● (red)	1 to 20 (High Priority)
● (orange)	20 to 40
● (yellow)	40 to 60
● (green)	60 to 80
● (blue)	81 to 94 (Low Priority)

- Interstates
- Commercial & Industrial Network
- Area Development
- Access Routes
- Rail Lines
- Marine Highways
- Urban Areas



DISTRICT 6

VCAP Highway Improvements

Priority Ranking	
1 to 20 (High Priority)	Interstates
20 to 40	Commercial & Industrial Network
40 to 60	Area Development
60 to 80	Access Routes
81 to 94 (Low Priority)	Rail Lines
	Marine Highways
	Urban Areas


IOWA
RAILROAD SERVICE MAP
Prepared by
IOWA DOT
Phone (515) 239 - 1664
In Cooperation with
United States
Department of Transportation
July 1, 2015
0 10 20 30 40 50
Miles
0 10 20 30 40 50
Kilometers
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Operating Railroads
Amtrak AMTK
Appanoose County Community R.R. Co. APNC
Boone Scenic Valley R.R. BSV
Burlington Junction Ry. Co. BJRY
BNSF Railway Co. BNSF
Cedar Rapids and Iowa City Ry. Co. CIC
Cedar River Railroad Co. CEDR
Chicago, Central & Pacific Railroad CC
D & I Railroad Co. DAIR
Dakota, Minnesota and Eastern R.R. Co. DME
Iowa Interstate R.R. Ltd. IAIS
Iowa Northern Ry. Co. IANR
Iowa River Railroad Co. IARR
Iowa Traction R.R. Co. IATR
Keokuk Junction Ry. KJRY
Norfolk and Southern Railway Co. NS
Soo Line SOO
Union Pacific Railroad UP
Private Track – Cargill Alliance CGAQ
Non-Operating Railroad Owners
Canadian National Railway Co. CN
Canadian Pacific Railroad CP
CBEC Railway Co. CBRX
D & W Railroad Inc. DWRV
North Central Iowa Rail Corridor NCIRC
Pioneer Rail Corp. PNRC
Progressive Rail PGR
State of South Dakota SD
Trackage Rights Only ( )
Primary Operator (<>)
Trackage Rights
(BNSF) (IANR)
(CC) (KJRY)
(DAIR) (NS)
(DME) (SOO)
(IAIS) (UP)
Special Notes
1 CBRX -- Six Miles of track in the Council Bluffs area
2 IATR -- Thirteen miles of track in Mason City
3 BJRY -- Five miles of track in Burlington
4 CGAQ -- Privately owned track south of Eddyville

8 - 19 - 2015

Highway Improvements

In order to identify and prioritize candidates for highway freight improvements, Iowa DOT used the Value, Condition, and Performance (VCAP) matrix. This approach takes advantage of multiple tools available at Iowa DOT including the Freight Mobility Issues Survey, Iowa Travel Analysis Model (iTRAM), Infrastructure Condition Evaluation (ICE) tool, INRIX traffic speed data, and Iowa's annual traffic counts. Below is a description of the prioritization process and an example of the VCAP matrix.

Example VCAP matrix

		VALUE		CONDITION		PERFORMANCE			TIEBREAK	
MAP ID	LOCATION	ITRAM	"V" RANK	ICE	"C" RANK	INRIX	"P" RANK	AVERAGE RANKING	TRUCK VOLUME	PRIORITY RANK
1										1
2										2
3										3
4										4
5										5

Location list (Freight Mobility Issues Survey)

Iowa DOT initially developed a draft list of highway locations with freight mobility issues. This was completed by analyzing INRIX traffic speed data that can, among other things, identify "bottleneck" locations in the state and the number of times each occurs throughout the year. This data was retrieved for 2014 and overlaid with Iowa DOT truck traffic count data. INRIX bottleneck locations that occurred in each quarter of the year and had either 30 percent truck traffic or more than 5,000 total trucks per day were flagged as locations with potential freight mobility issues.

This draft list was presented to the Iowa Freight Advisory Council (FAC) for input and was sent to the Iowa DOT Transportation District offices, Metropolitan Planning Organizations (MPOs), and Regional Planning Affiliations (RPAs). Each of these groups was asked to review the list, make necessary additions, and assign priority votes to each location. This was used to populate the initial candidate list.

Value (Iowa Travel Analysis Model - iTRAM)

iTRAM is a statewide travel demand model used in the evaluation of Iowa's transportation system. The first generation was completed in 2009 and the focus of this model version was to accurately predict the number of automobiles and trucks on the current primary road network, and then project traffic in the future. The second generation of iTRAM builds upon the original statewide model architecture and incorporates two additional model components: passenger and freight movement on the rail system.

This tool is used to evaluate the value of each project location to the overall freight transportation network. A run of the model was completed first to show a base case scenario. Then, a second series of runs was completed that excluded each one of the candidate locations individually. After each run, the truck vehicle hours traveled (VHT) was compared to the base case and the difference was assigned as the value of the location. Higher priority was assigned to locations with larger VHT increases when excluded from the network. In other words, higher priority was assigned to locations that make the truck network more efficient from a VHT perspective.

Condition (Infrastructure Condition Evaluation – ICE)

The ICE tool was developed originally as a tool for evaluating the interstate highway system based on seven criteria: Pavement Condition Index (PCI), International Roughness Index (IRI), structure sufficiency rating, passenger traffic, single unit truck traffic, combination truck traffic, and congestion. A normalization and weighting process is applied to each criterion and used to analyze

(continued on back)

highway segments before ultimately ranking them against each other based upon a final composite rating. The original tool was then expanded to the entire primary highway system in Iowa.

ICE was used to evaluate the current condition of each candidate location. The segments that make up each location were analyzed using the seven criteria and the normalization and weighting processes that had already been established. This resulted in a composite ICE rating for each location. The process was completed for each individual candidate location.

Performance (INRIX Bottleneck Ranking tool)

As mentioned in the "Freight Mobility Issue Survey" section, INRIX has a tool that identifies and ranks bottleneck locations. This tool, with additional analysis using traffic data, was used to develop a draft list of highway locations with freight mobility issues. To determine the performance ranking of each project location, the number of annual bottleneck occurrences for each location was used.

VCAP matrix (final ranking and prioritization)

After each candidate location was assigned a Value, Condition, and Performance rating, each was ranked using those values for each of the three categories. The average of these three rankings was calculated and the candidate locations were assigned an overall priority rank. If two locations had the same average ranking, total truck traffic at the location was used as a tiebreak. See the figures and tables below for VCAP results and Iowa's highway freight priority locations.

Summary of the prioritization process:

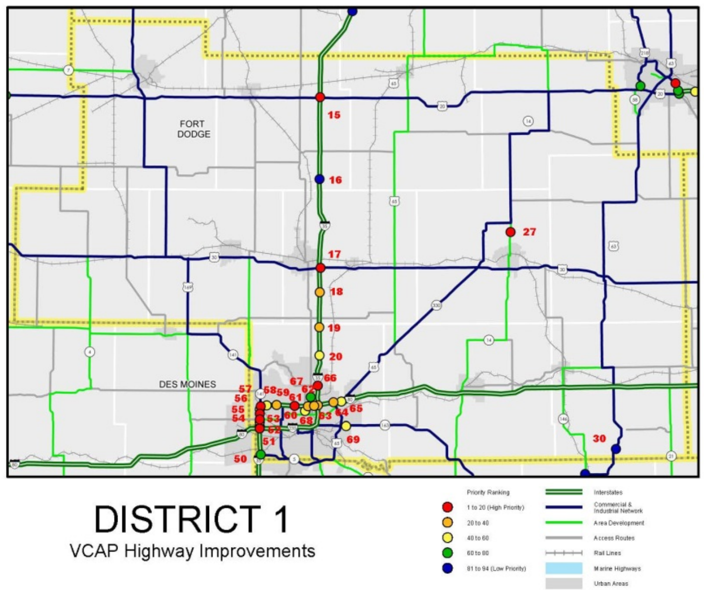
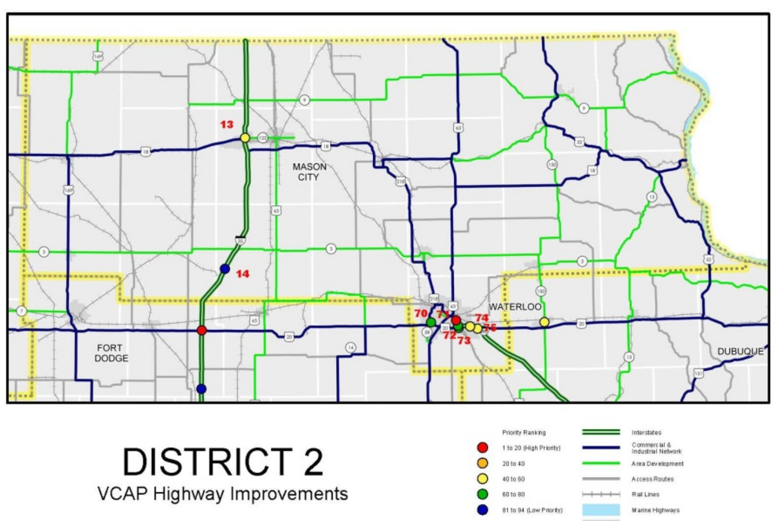
1. *Freight Mobility Issues Survey*
   - *Populate initial improvement list*
2. *Iowa Travel Analysis Model (iTRAM)*
   - *Complete analysis and then rank each location*
3. *Infrastructure Condition Evaluation (ICE) tool*
   - *Complete analysis and then rank each location*
4. *INRIX Bottleneck Ranking tool*
   - *Complete analysis and then rank each location*
5. *Average the three rankings*
6. *Truck traffic counts*
   - *Tiebreaker if necessary*

	1	2		3		4		5	6	
		VALUE		CONDITION		PERFORMANCE			TIEBREAK	
MAP ID	LOCATION	ITRAM	"V" RANK	ICE	"C" RANK	INRIX	"P" RANK	AVERAGE RANKING	TRUCK VOLUME	PRIORITY RANK
1										1
2										2
3										3
4										4
5										5

MAP ID	LOCATION	VALUE		CONDITION		PERFORMANCE		AVERAGE RANKING	TIEBREAK TRUCK VOLUME	PRIORITY RANK
		ITRAM	"V" RANK	ICE	"C" RANK	INRIX	"P" RANK			
1	I-29 N/S @ I-129/US-20/US-75/EXIT 144	36.03	53	78.39	63	756	8	41.33	4653	**38**
2	I-29 N/S @ OLD IA-75/INDUSTRIAL RD/EXIT 143	4.78	72	82.13	78	815	7	52.33	4030	**63**
3	I-29 N/S @ EXIT 134	3.17	78	86.04	91	35	57	75.33	3945	**92**
4	I-29 N/S @ IA-141/EXIT 127	7.80	67	81.89	74	10	72	71.00	3729	**85**
5	US-30 E/W THROUGH MISSOURI VALLEY	21.80	58	54.31	3	1563	4	21.67	993	**6**
6	I-29/680 N/S @ ROSEWOOD RD	15.91	60	86.35	92	49	53	68.33	4057	**81**
7	I-29 N @ CR-L31/EXIT 24	1.60	85	92.00	94	14	71	83.33	3425	**94**
8	IA-2 W @ CR-L31/195TH AVE & I-29 N/S @ IA-2/EXIT 10	122.64	15	85.98	90	1256	5	36.67	2750	**29**
9	IA-3 W @ US-71/130TH ST	70.28	28	75.71	57	0	73	52.67	550	**65**
10	IA-4 S @ US-20/270TH ST	4.30	74	84.42	86	169	28	62.67	682	**75**
11	US 30 E/W @ US-59/IA-141	60.33	33	70.81	41	387	15	29.67	1377	**11**
12	I-80 W @ 385TH ST	169.38	5	73.34	46	14	69	40.00	8158	**36**
13	I-35 N @ US-18/EXIT 194	84.40	25	80.80	70	89	43	46.00	5452	**51**
14	I-35 N @ CR-C47/EXIT 159	1.61	84	81.41	72	31	62	72.67	4125	**90**
15	I-35 N/S @ US-20/EXIT 142 & US-20 E/W @ I-35/EXIT 153	114.43	17	73.91	51	420	14	27.33	5559	**8**
16	I-35 S @ CR-D65/EXIT 128	2.33	81	79.44	67	17	68	72.00	6308	**87**
17	I-35 N/S @ US-30/EXIT 111 & US-30 E/W @ I-35/EXIT 151	131.58	13	77.55	61	336	19	31.00	7633	**17**
18	I-35 N/S FROM IA-210 TO US-30	149.62	9	63.76	21	0	73	34.33	7964	**23**
19	I-35 N/S FROM NE 126TH AVE TO IA-210	142.71	11	64.93	22	0	73	35.33	8277	**25**
20	I-35 N/S FROM 36TH ST TO NE 126TH AVE	136.96	12	72.42	45	0	73	43.33	7957	**44**
21	I-35 N/S @ FILLMORE ST (MP 61.5)	99.75	20	75.37	55	0	73	49.33	5517	**60**
22	I-35 N/S @ HOOVER ST (MP 58.5)	99.86	19	75.37	54	0	73	48.67	5517	**57**
23	I-35 N/S @ G-50/EXIT 52	6.20	68	84.86	87	68	50	68.33	5079	**80**
24	I-35 N @ QUAKER ST (MP 49.1)	166.54	6	80.45	68	0	73	49.00	5144	**58**
25	I-35 N/S @ G-64/EXIT 47	3.10	79	85.49	88	90	42	69.67	5032	**83**
26	I-35 N/S @ ROBIN ST (MP 40.8)	172.88	4	88.10	93	0	73	56.67	5076	**72**
27	IA-14 N/S FROM MARSHALLTOWN NCL TO IA-330	11.10	63	62.08	17	576	12	30.67	542	**16**
28	IA 14 N/S @ DES MOINES RIVER	30.49	55	66.00	26	88	44	41.67	416	**39**
29	US 34 E/W @ IA-14	0.30	91	83.66	83	167	29	67.67	526	**79**
30	US 63 N/S FROM IA-146 TO IA-85	5.83	70	81.57	73	0	73	72.00	393	**88**
31	US 63 N/S @ IA-146	3.38	76	80.55	69	0	73	72.67	499	**91**
32	US 63 N/S THROUGH OSKALOOSA	3.94	75	56.19	5	143	32	37.33	633	**31**
33	US-34 E/W FROM QUINCY AVE TO ROUNDABOUT	5.28	71	66.50	28	14	69	56.00	699	**71**
34	US 34 E/W @ US-63 (ROUNDABOUT)	-0.51	93	76.06	59	580	10	54.00	826	**66**
35	US-34 E/W FROM ROUNDABOUT TO US-34/US-63	4.61	73	76.82	60	580	10	47.67	1122	**55**
36	US 63 N/S @ 0.9 MILES S OF US-34	39.28	50	70.60	40	0	73	54.33	595	**69**
37	US 63 N/S FROM OTTUMWA SCL TO IA-2	43.28	45	73.57	48	103	39	44.00	530	**46**
38	US-63 N/S @ IA-2	6.00	69	82.00	75	548	13	52.33	447	**64**
39	US 63 N/S FROM IA-2 TO MISSOURI STATE LINE	40.75	48	79.00	65	331	20	44.33	432	**47**
40	IA-150 N/S THROUGH INDEPENDENCE	31.86	54	49.54	1	0	73	42.67	696	**41**
41	US-61 S @ IA-92/GRANDVIEW AVE	23.63	57	70.84	42	114	36	45.00	1862	**49**
42	IA 78 E/W @ 2.0 MILES W OF W-66	0.60	89	83.00	81	0	73	81.00	122	**93**
43	US-61 N/S THROUGH BURLINGTON	18.63	59	61.30	15	172	27	33.67	1107	**21**
44	IA-32 N/S @ CHAVENELLE RD	1.63	83	61.20	14	0	73	56.67	1066	**73**
45	US-52 N/S @ IA-3	2.27	82	65.53	24	303	22	42.67	731	**40**
46	US-20 E/2 @ IA-946	55.22	35	58.80	8	79	48	30.33	2212	**15**
47	US-151 N/S @ MAQUOKETA DR	53.29	38	57.36	6	1040	6	16.67	2115	**2**
48	I-80/29 N/S THROUGH COUNCIL BLUFFS	60.79	32	52.82	2	374	16	16.67	13579	**1**
49	I-29 N @ MILLS/POTTAWATTAMIE COUNTY LINE & I-29 N/S @ IA-370	175.72	3	83.93	84	40	56	47.67	4253	**54**
50	I-35 S @ IA-5/ARMY POST RD/EXIT 68	63.04	31	82.35	79	49	53	54.33	5638	**67**
51	I-80/I-35/I-235 N/S, E/W @ SW MIX MASTER	92.24	22	73.83	50	365	18	30.00	6870	**13**
52	I-35/80 N/S, E/W FROM SW MIX MASTER TO UNIVERSITY AVE	29.11	56	71.89	44	18	67	55.67	13548	**70**
53	I-35/80 N/S, E/W FROM UNIVERSITY AVE TO US-6/HICKMAN RD	10.37	64	61.50	16	97	40	40.00	14092	**35**
54	I-35/80 N/S @ US 6/HICKMAN	53.37	37	58.96	9	61	51	32.33	12804	**19**
55	I-35/80 N/S @ DOUGLAS AVE	52.83	41	59.84	11	116	34	28.67	12884	**9**
56	I-35/80 N/S, E/W FROM DOUGLAS AVE TO IA-141	41.47	47	59.15	10	0	73	43.33	13339	**42**
57	I-35/80 N/S, E/W @ IA-141	49.26	43	61.17	13	2036	2	19.33	12761	**4**
58	I-35/80 N/S, E/W FROM IA-141 TO NW 86TH ST	36.33	52	62.59	18	0	73	47.67	13858	**53**
59	I-35/80 N/S, E/W FROM NW 86TH ST TO MERLE HAY RD	67.38	30	63.59	20	45	55	35.00	14089	**24**
60	I-35/80 N/S, E/W FROM MERLE HAY RD TO IA-415	75.78	27	57.96	7	30	63	32.33	14124	**18**
61	I-35/80 N/S, E/W FROM IA-415 TO US-69	53.25	40	63.50	19	33	59	39.33	13917	**33**
62	I-35/80 N/S, E/W FROM US-69 TO NE MIX MASTER	56.34	34	60.45	12	0	73	39.67	13478	**34**
63	I-35 N/I-235 W @ I-80/I-235/EXIT 87 & I-80 E/W @ I-235/I-35/EXIT 137	119.00	16	78.31	62	226	25	34.33	11709	**22**
64	I-80 E/W @ US-65/EXIT 141	38.21	51	66.59	29	147	30	36.67	10379	**28**
65	US-6 E @ I-80 (EAST) & US-65 N/S @ I-80/US-6/NE HUBBELL AVE/EXIT 142	44.08	44	84.38	85	9375	1	43.33	9601	**43**
66	IA 160 E/W @ I-35 & I-35 N/S @ IA-160/ EXIT 90	108.67	18	69.29	36	114	35	29.67	8331	**10**
67	US 69 N/S FROM I-35/80 TO ANKENY SCL	-3.79	94	65.73	25	88	44	54.33	1406	**68**
68	IA 415 N/S @ 0.6 MILES S OF I-35/80 (RR BRIDGE)	1.59	86	66.73	30	329	21	45.67	1583	**50**
69	IA 163 E/W THROUGH PLEASANT HILL	41.62	46	73.61	49	72	49	48.00	2109	**56**
70	IA-58 FROM US-20 TO GREENHILL RD	2.95	80	70.60	39	0	73	64.00	1097	**76**
71	I-380/US-218 N/S FROM SAN MARNAN DR TO W 9TH ST	12.87	61	66.45	27	1764	3	30.33	2799	**14**
72	I-380/US-218 N/S FROM US-20 TO SAN MARNAN DR	9.93	66	85.73	89	88	44	66.33	2814	**78**
73	I-380 S @ US-20/IA-27 & US-20 E @ I-380/US-218/EXIT 71	53.26	39	80.87	71	108	38	49.33	3906	**61**
74	I-380 N/S @ EVANSDALE DR/EXIT 68	69.32	29	82.10	77	95	41	49.00	4688	**59**
75	I-380 N/S @ IA-297/EXIT 66	166.51	7	82.53	80	51	52	46.33	5250	**52**
76	I-380 N/S THROUGH CEDAR RAPIDS	76.37	26	55.34	4	123	33	21.00	7226	**5**
77	I-380 N/S @ US-30/EXIT 16	39.60	49	70.43	38	110	37	41.33	7015	**37**
78	I-80 E/W FROM IRELAND AVE NW TO I-380	98.71	21	74.50	53	32	60	44.67	9918	**48**
79	I-380 N/S @ I-80/EXIT 0 & I-80 E/W @ I-380/EXIT 239	146.63	10	73.35	47	250	24	27.00	11161	**7**
80	I-80 E/W FROM I-380 TO IA-965	165.25	8	68.91	35	0	73	38.67	12726	**32**
81	I-80 E/W FROM IA-965 TO 1ST AVE	127.10	14	66.81	31	26	65	36.67	12390	**27**
82	I-80 E/W FROM 1ST AVE TO DUBUQUE ST	199.88	1	67.18	32	27	64	32.33	12240	**20**
83	I-80 E/W FROM DUBUQUE ST TO IA-1	196.39	2	68.80	34	0	73	36.33	12389	**26**
84	US-61 N/S @ I-80/EXIT 123 & I-80 E @ US-61/BRADY ST/EXIT 295	53.65	36	69.57	37	368	17	30.00	11230	**12**
85	I-80 E/W @ I-74/EXIT 298	84.42	24	75.59	56	144	31	37.00	10162	**30**
86	I-280 N @ IA-22/ROCKINGHAM RD/EXIT 8	3.35	77	78.85	64	26	65	68.67	5289	**82**
87	I-74 @ MISSSISSIPPI RIVER	90.95	23	65.53	23	706	9	18.33	2908	**3**
88	I-80 E/W @ US-67/EXIT 306	49.73	42	74.25	52	34	58	50.67	9519	**62**
89	RR Bridge E of Sandyville	12.06	62	71.50	43	192	26	43.67	354	**45**
90	RR Bridge @ Chariton	0.54	90	68.00	33	0	73	65.33	167	**77**
91	RR Bridge @ Corydon	0.76	88	79.00	66	287	23	59.00	121	**74**
92	RR Bridge E of Centerville	10.26	65	82.00	76	0	73	71.33	302	**86**
93	RR Bridge @ Fairfield	-0.31	92	76.00	58	32	60	70.00	150	**84**
94	RR Bridge @ Washington	1.33	87	83.00	82	84	47	72.00	292	**89**

Appendix D: Value, Condition, and Performance (VCAP) Highway Improvements Exercise Results by District

Participants walked around the room and review the VCAP maps by districts. Participants identified needs, fatal flaws, or improvements in each district. Scribes and technical experts were at each district map to facilitate the exercise. Major issues in the districts were safety concerns, road expansions, and project prioritization.

District Results	Map
District 1 Results: • ***Participants indicated that there was recent construction at Highway 27.***	
District 2 Results: • ***Participants indicated that there needs to be improved traffic flow and congestion mitigation at point 13. The possibility of pulling traffic off of 122 to parallel B-35 should be considered.*** • ***US 69 should be indicated on the map.*** • ***Participants felt that bigger signs are needed on 380/218 through Waterloo for the Avenue of the Saints route. This is necessary because motorists may miss their desired exit and find themselves in New Hartford.***	

<table>
<tr><th>District Results</th><th>Map</th></tr>
<tr><td>
District 3 Results:

Participants questioned how seasonality is accounted for in rankings, as it affects truck volume, particularly in rural areas. Fall is typically busier than summer and winter, for example. This question is applicable to all districts.
Participants also asked whether ranking were based on bottlenecks at intersections only, instead of considering bottlenecks of corridors.

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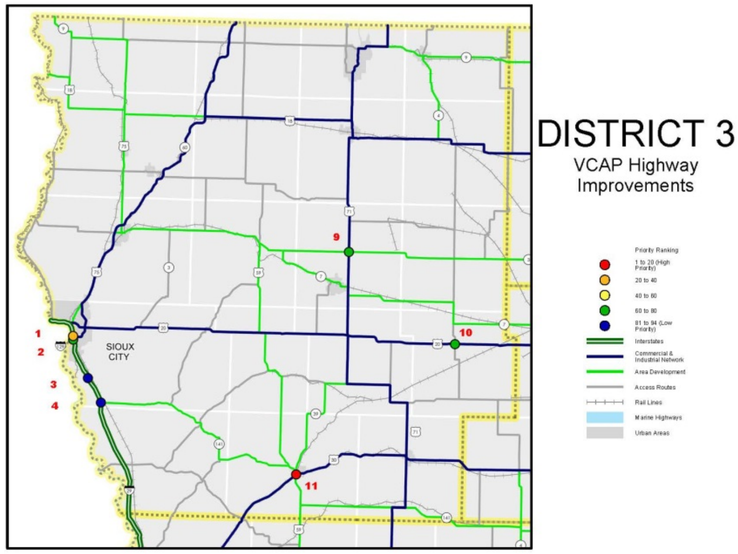
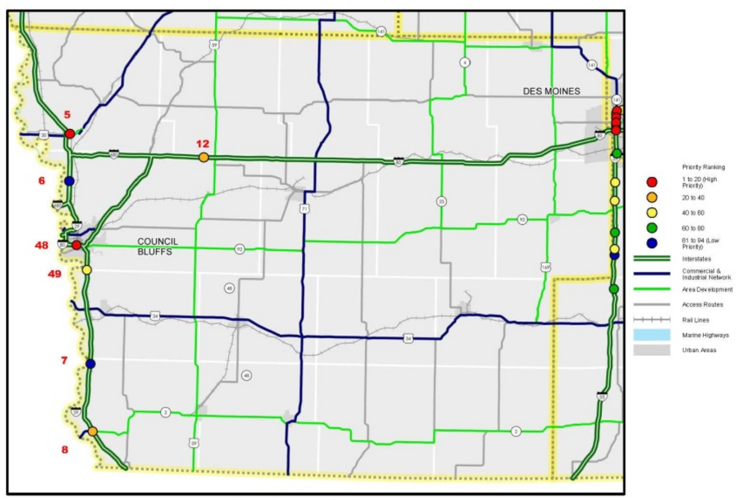


</td></tr>
<tr><td>
District 4 Results:

A new bridge crossing the river from
I-29 in the Council Bluffs area to Eppley Airfield in Omaha has been proposed in this District.
Iowa DOT should look at the corridors in this district.

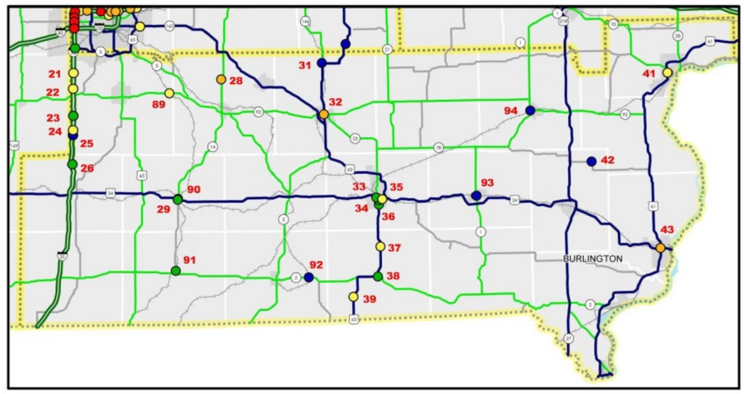
</td><td>


DISTRICT 4
VCAP Highway Improvements
</td></tr>
</table>

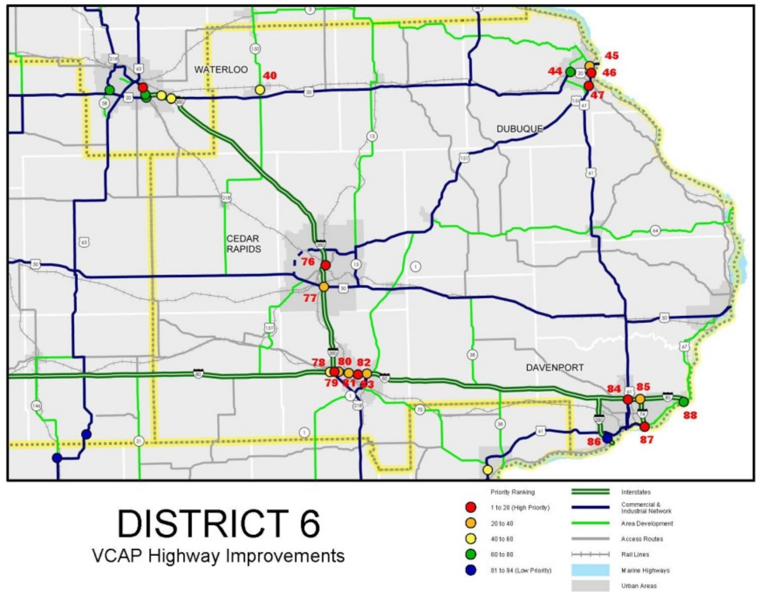
District Results	Map

District 5 Results:

- **All comments were in regard to the area around point 41, in Muscatine.**
- **Lots of work is currently underway:**
  - ***Mississippi Drive (Old Hwy 61) has had long-standing issues, while work is currently underway, ongoing progress to address this is important.***
  - ***In the next three years, the City of Muscatine is working to build out Hwy 61 through town***
  - ***Hwy 61 is being expanded to 4 lanes from the City of Burlington north to the Muscatine County Line***
- **Next, the City of Muscatine will work to update Old Hwy 61; CP Railroad has been a key partner (and a great partner) in this effort which includes raising tracks and the roadway in areas**
- **There is non-recurring congestion due to detours/diversion from I-80. The ongoing safety study (diversion) should be coordinated with current and future efforts in order to mitigate these issues:**
  - ***Impacts on West Liberty***
  - ***Safety issues from heavy truck traffic moving through the smaller cities***
- **Participants noted that economic development is happening in Muscatine.**
  - ***Muscatine has a trade connection to China***
  - ***Muscatine is pursuing an intermodal container port for barges***



DISTRICT 5
VCAP Highway Improvements

District Results	Map
District 6 Results: • ***The US 67 bridge in the Quad Cities should be addressed*** • ***US 30/IA 136 Clinton Bridges should be addressed*** • ***Participants would like to see the 174 corridor continue to be a priority project.*** • ***The DOT should look at overall needs in each district and prioritize those projects.*** • ***Participants indicated a need for Iowa to coordinate with Illinois on the replacement of the I-80 bridge***	

Appendix E: Full List of Capital Investments and Projects

Category	Capital Investments and Projects	Number of Votes Received				How can Iowa DOT facilitate these projects?
		RED Priority	GREEN Long Term	BLUE Short Term	TOTAL	
Capacity and mitigation of operational chokepoints	New or extended sidings	-	-	-	-	• *Funding for sidings* • *Partner with railroads and the state to keep lines viable*
	Expanded yards/terminals	-	3	-	3	
	Track and bridge upgrades for 286K railcars	1	1	3	5	
	Vertical clearance improvements	-	2	-	2	
	Wayside signal system improvements	-	-	-		
	New track/rail connectors	2	4	1	7	
	Grade separations	1	-	1	2	
	Unit train capacity (industrial trackage)	1	-	-	1	
	Operating capacity for trains at terminals	-	-	-	-	
	Efforts to increase FRA track class	-	-	1	1	
	Innovations for LNG/Green locomotives	-	-	3	3	
	Mitigation of locomotive emissions	-	1	-	1	
	286K upgrades for bridge/track	-	-	-	-	
Safety	Positive train control implementation	-	3	-	3	*None specific to safety*
	Wayside defect detector installations	1	2	1	4	
	Grade crossing improvements	2	3	4	9	
	Public education programs	2	-	3	5	

Category	Capital Investments and Projects	Number of Votes Received				How can Iowa DOT facilitate these projects?
		RED Priority	GREEN Long Term	BLUE Short Term	TOTAL	
	Crossing closures	7	2	7	16	
	Grade separations	5	8	2	15	
	Effort to increase FRA track class	-	-	-	-	
Economic Development	Commuter connectors – passenger	-	-	-	-	• *Funding for sidings* • *Help develop business case for projects*
	Transload/intermodal facility	13	4	4	21	
	New rail	1	2	1	4	
	New and expanded sidings	2	1	5	8	
	New and expanded short lines	1	4	4	9	
	Equipment	-	-	-	-	
	TOD and Station locations	2	-	2	4	
Modal Connectivity	Connectivity and interchange	6	4	4	14	• *Compile several requests to create a strong business case* • *Facilitate projects to next steps – take from feasibility* • *Regional perspective* • *Big picture coordination*
	Network access	-	2	-	-	
	Passenger	7	4	5	16	
	Commuter connector	-	3	3	6	

Appendix F: Full List of Additional Rail Project Categories

Note: Rail needs and projects below are identified generally, and not specifically by each of the four Iowa rail network maps used during the exercise to register votes by stakeholders. Many of these needs/projects showed on one or more of the maps.

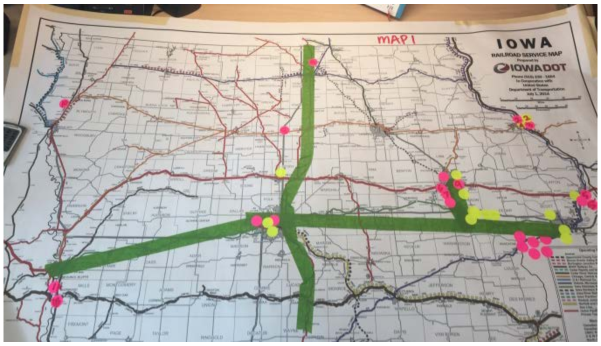
Passenger Rail

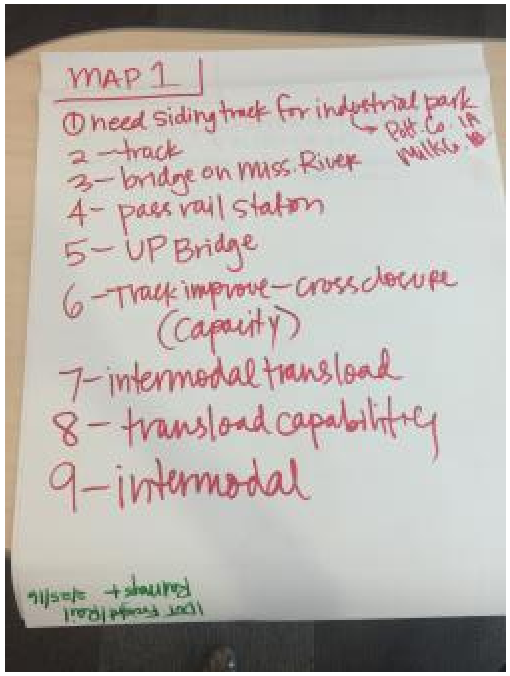
- Implementation of intercity passenger rail service Chicago-Quad Cities-Iowa City-Des Moines-Council Bluffs / Omaha (via the IAIS east-west corridor across Iowa). Specific station locations identified in Iowa: Davenport, Iowa City, Des Moines, and Council Bluffs.
- Implementation of intercity passenger rail service St. Paul-Mason City-Des Moines-Kansas City (via the UP north-south corridor across Iowa). Specific station locations identified in Iowa: Des Moines and Nevada.
- Implementation of intercity passenger rail service Chicago-Dubuque (via the CN in Iowa). Specific station locations identified in Iowa: Dubuque.
- Implementation of commuter rail service between Cedar Rapids and Iowa City (via the CIC corridor).
- Implementation of commuter rail service in the Des Moines Metropolitan Area. Specific lines, services, and station locations were not identified.
- Improvements/enhancements to the existing Amtrak California Zephyr station facilities at Burlington, Osceola, and Creston, Iowa.
- Potential passenger rail stations at Ames, Cedar Rapids, Clinton, and Muscatine, Iowa; however, specific passenger rail routes, corridors, and services to serve these stations were not identified.

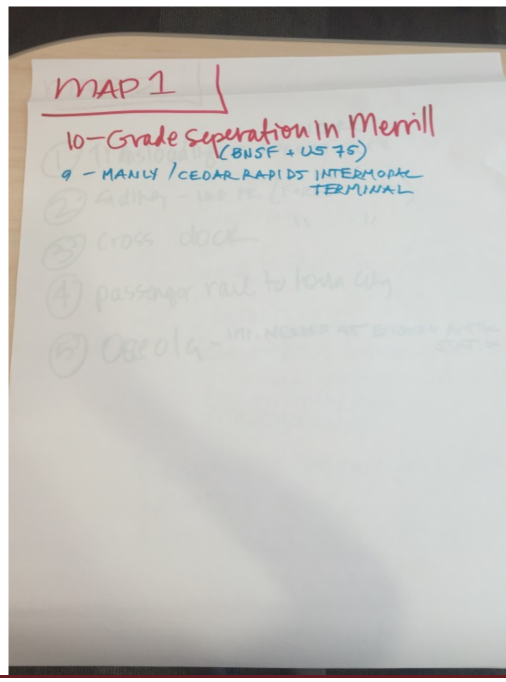
Freight Rail

- Grade separation of the at-grade crossing of the BNSF Marshall Subdivision and US Highway 75 at Merrill, Iowa.
- Transload facilities on IAIS at Council Bluffs, Des Moines, and Wilton, Iowa (the latter location could potentially serve nearby Muscatine, Iowa, which is presently served directly by CP only).
- Transload / intermodal / port facility on the CP Ottumwa Subdivision and the Mississippi River at Muscatine, Iowa.
- Construct an intermodal facility on the IANR Manly Subdivision / UP Albert Lea Subdivision at Manly, Iowa.
- Construct an intermodal facility on the CIC at Cedar Rapids, Iowa.
- Construct an intermodal facility in the Dubuque, Iowa, area (specific location or handling carriers not identified; note that Dubuque is presently served by CN and CP).
- Expand transload services at the Alliant Energy coal transloading facility on the CN Waterloo Subdivision at Williams, Iowa.
- Expand transload services at the Alliant Energy coal transloading facility on the BNSF Aurora Subdivision and CN Dubuque Subdivision at East Dubuque, Illinois (opposite Dubuque, Iowa).
- Transload facility in Des Moines, Iowa; however specific locations and serving railroads were not identified (note that BNSF, IAIS, NS, and UP presently serve Des Moines).
- Construction of a transload facility, cross-dock facility, and a siding on the North Central Iowa Rail Corridor (operated by IANR) at an industrial park area in Forest City, Iowa.
- Establish a Quiet Zone on the CP Ottumwa Subdivision through Muscatine, Iowa.
- Construct a replacement bridge over the Mississippi River at Clinton, Iowa, on the UP Geneva Subdivision.
- Rehabilitate the existing Mississippi River Bridge or replace it with a new bridge on the CN Dubuque Subdivision at Dubuque, Iowa.
- Construct a third main track between Clinton and Cedar Rapids, Iowa, on the UP Clinton Subdivision.
- Construct additional sidings and improve access on the UP Trenton Subdivision between Des Moines, Iowa, and the Iowa/Missouri state line at Lineville, Iowa.
- Close three urban grade crossings on the UP Sioux City Subdivision at Sioux City, Iowa, to improve safety, capacity, and efficiency.
- Construct a siding track for transload facilities at Pottawattamie and Mills counties, in the Council Bluffs, Iowa, area.
- Address capacity constraints on the UP Mason City Subdivision in the Mason City, Iowa, area to include closure of grade crossings.
- Make capacity improvements on the single-track UP Sioux City Subdivision between California Junction and Sioux City, Iowa, and on the single-track UP Worthington Subdivision between Le Mars, Iowa, and the Iowa/Minnesota state line near Sibley, Iowa. Improvements could include the construction of additional siding capacity..
- Note: There is a pink dot at Boone, Iowa, on map 4, but the notes do not identify the need / project (UP and BSV presently serve Boone).

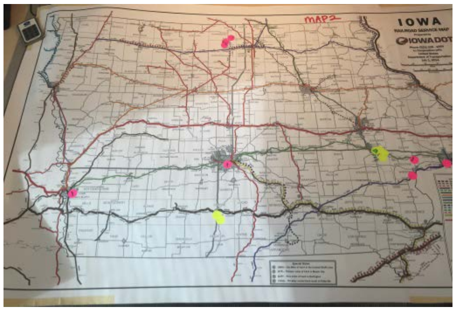
Map	Scribe Notes

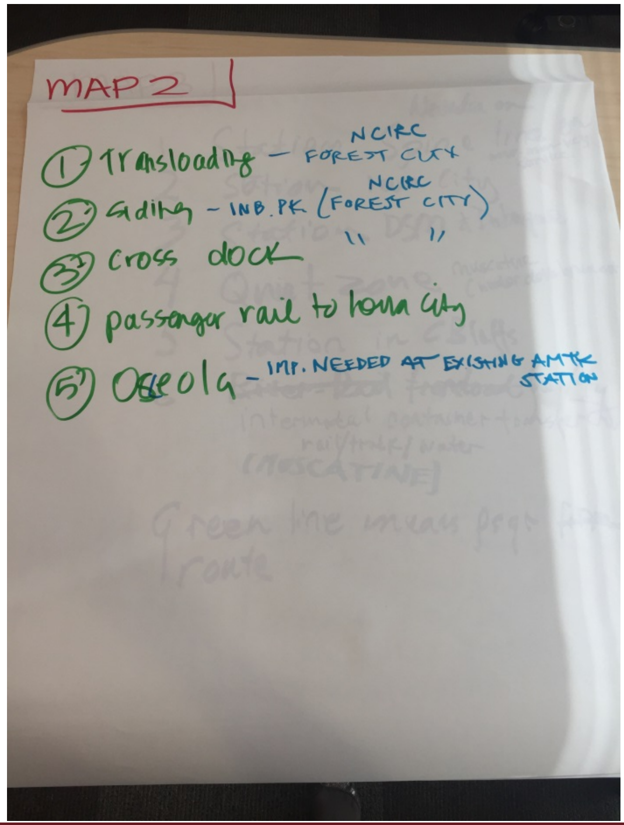


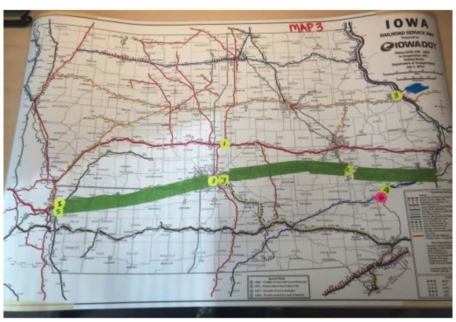


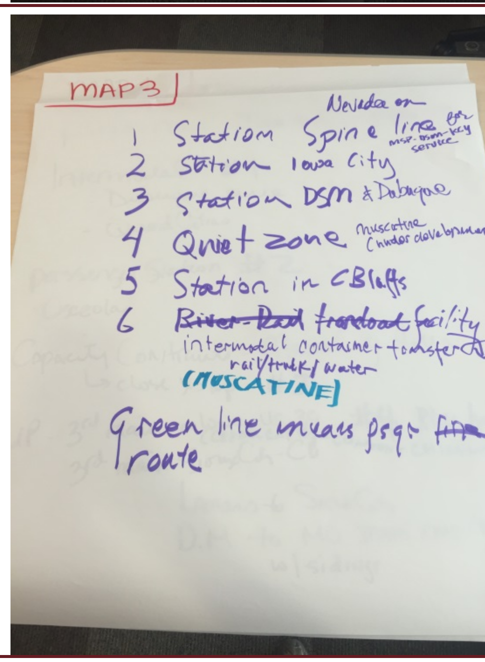


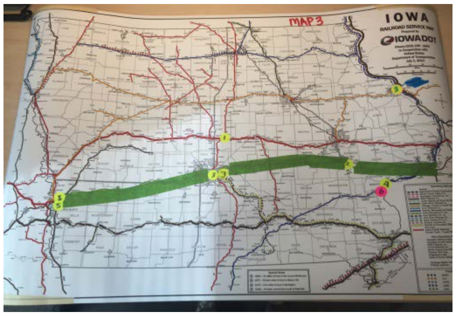
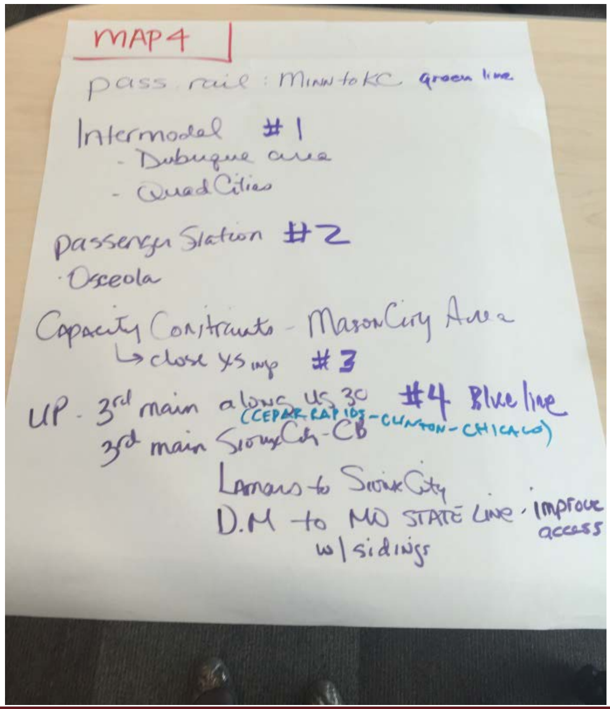
Map	Scribe Notes









Map	Scribe Notes
	

HLSC Meeting Invitees

FIRST NAME	LAST NAME	ORGANIZATION
Greg	Lofstedt	
Derrick	James	Amtrak
Todd	Stennis	Amtrak
Ron	White	ARTCO Fleeting Service
Denise	Bulat	Bi-State
Gena	McCullough	Bi-State
Sarod	Dhuru	BNSF
Greg	Reeder	City of Council Bluffs
Dave	Gobin	City of Muscatine
Jeff	Woods	CRANDIC
Chandra	Ravada	Dubuque MPO
Steve	Falck	Environmental Law and Policy Center
Rob	Toncar	FedEx
Teresa	Valenta	FedEx
Stacy	Timperley	Forbs
Beth	Bilyeu	Forest City Economic Development
David	Toyer	Greater Burlington Partnership
Harold	Hommes	Iowa Department of Agriculture and Land Stewardship
Kyle	Barichello	Iowa DOT
Ed	Engle	Iowa DOT
Sam	Hiscocks	Iowa DOT
Laura	Hutzell	Iowa DOT
Amanda	Martin	Iowa DOT
Diane	McCauley	Iowa DOT
Phil	Meraz	Iowa DOT
Phil	Mescher	Iowa DOT
Tammy	Nicholson	Iowa DOT
Garrett	Pedersen	Iowa DOT
Sam	Shea	Iowa DOT
Jeff	Von Brown	Iowa DOT
Joseph	Rude	Iowa Economic Development Authority
Joe	Parsons	Iowa Interstate Railroad
John	Dill	Iowa Motor Truck Association
Don	Egli	Iowa Motor Truck Association
Brenda	Neville	Iowa Motor Truck Association
Steve	Lallier	J. B. Hunt Transport
Michael	Heckart	John Deere
Osama	Shihadeh	Kent Corporation
Michael	Helgerson	Metropolitan Area Planning Agency
Ned	Lewis	Office of Motor Vehicle Enforcement
Richard	Grenville	Port KC, Kansas City, MO
Mike	Coghlan	Sabre Industries Towers and Poles

Kelli	O'Brien	Union Pacific Railroad
Mark	Peterson	UPS
Bill	Neese	West Central Co-Op

F.2 HLSC Meeting #3/Public Meeting Summary and Invitation List

Iowa Department of Transportation
State Freight Plan and State Rail Plan

Public Meeting Summary

Prepared for the Iowa Department of Transportation

by HDR

June 2016

Contents

Meeting Summary

Meeting Overview

The Iowa Department of Transportation (Iowa DOT) hosted a public meeting to present the State Freight Plan and draft State Rail Plan to engaged members of the public and stakeholders in the rail and freight industry. The meeting used an open house format and was held on Wednesday, June 8, 2016, in Des Moines, Iowa.

Outreach

Invitations were distributed to 1,968 recipients via email. Table 1 summarizes the outreach efforts for this meeting. See Appendix A: Meeting Invitation for the invitation content.

Table 1. Meeting Outreach

Outreach	Date	Number of Emails Distributed
Public meeting email invitation	5/19/2016	1,968
Public meeting email invitation for HLSC members	5/19/2016	42
Public meeting email reminder	6/6/2016	1,839 *
Public meeting email reminder for HLSC members	6/6/2016	42
Yammer outreach	5/2016 - 6/2016	n/a
Media advisory	5/2016 - 6/2016	n/a

* This number accounts for opt-outs, bounces, etc.

Attendees

Thirty-three stakeholders and the general public attended the meeting including representatives from the Iowa DOT, industries related to freight and rail transportation and special interest groups. See Appendix B: Public Meeting Sign-in Sheets.

Meeting Roles and Responsibilities

Table 2 summarizes the roles and responsibilities of each team member in attendance.

Table 2. Staff Roles and Responsibilities

Name	Organization	Responsibility
Jara Sturdivant-Wilson	HDR	Registration
Kevin Keller	HDR	Floater
Chris Goepel	HDR	Floater
Amanda Martin	Iowa DOT	IADOT representative
Sam Hiscocks	Iowa DOT	IADOT representative
Garrett Pedersen	Iowa DOT	IADOT representative
Craig Markley	Iowa DOT	IADOT representative

Name	Organization	Responsibility
Kyle Barichello	Iowa DOT	IADOT representative
Diane McCauley	Iowa DOT	IADOT representative
Ed Engle	Iowa DOT	IADOT representative
Phil Meraz	Iowa DOT	IADOT representative

Meeting Details and Agenda

The meeting was held Wednesday, June 8, 2016, at the Greater Des Moines Botanical Garden located at 909 Robert D Ray Dr, Des Moines, Iowa. The doors opened for HLSC members at 3:00 p.m. The general public had access beginning at 3:30 p.m.

3:00 p.m. – 3:30 p.m.:	HLSC access
3:30 p.m. – 7:00 p.m.:	General public access
7:00 p.m.:	Doors close, meeting ends

Meeting Purpose and Format

The purpose of the public meeting was to introduce the details of both plans, answer any questions and receive comments. Because the Iowa DOT made significant progress on both plans, the final HLSC meeting was combined with the public meeting and the Iowa Department of Transportation provided HLSC members early access to the public meeting.

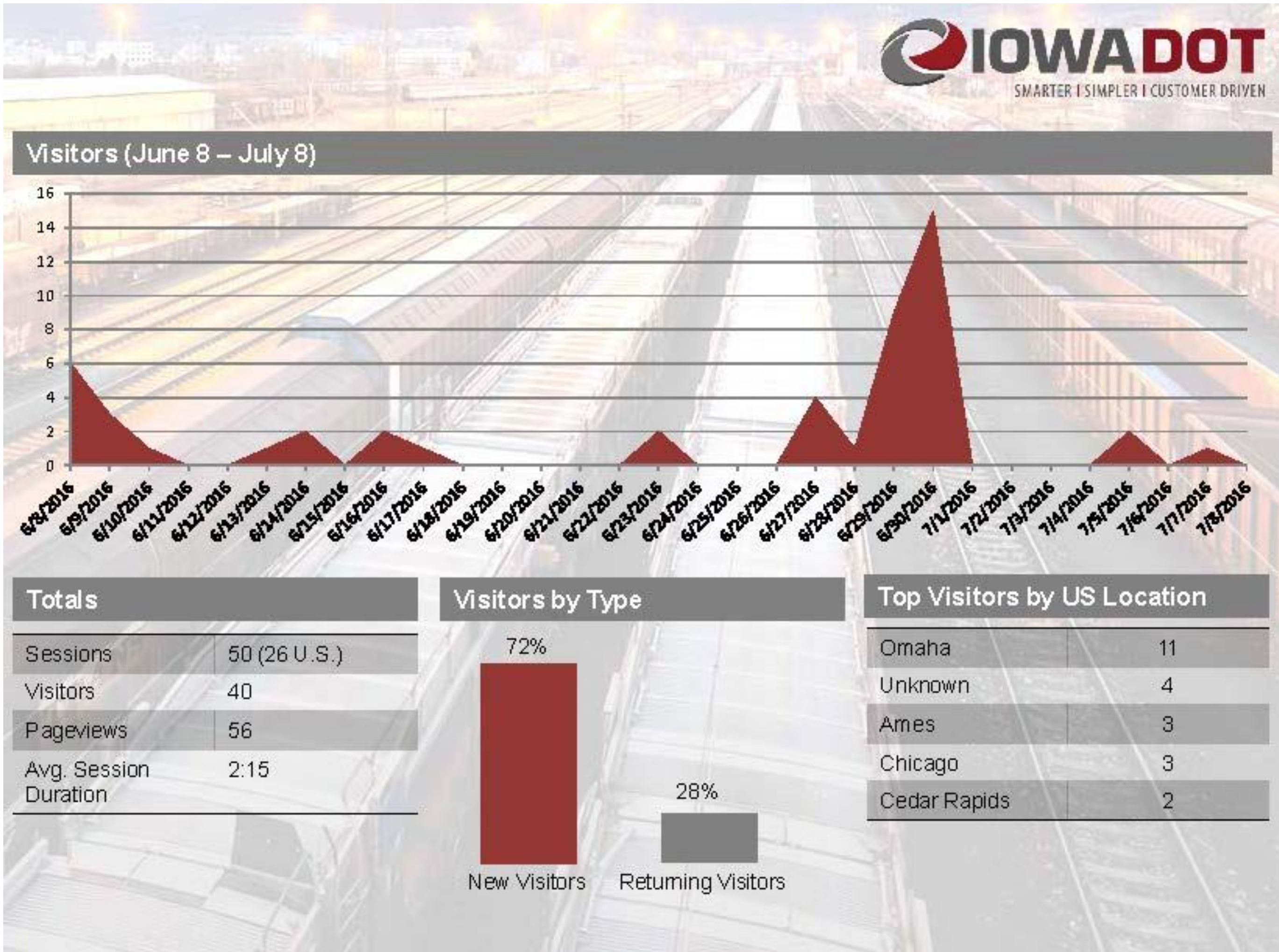
The meeting format was an open house style with no formal presentation. Participants received a handout at the sign-in table and were able to view the meeting boards around the room. Participants were also able to view the State Freight Plan and draft State Rail Plan, provide comments on comment cards and obtain different materials from the Iowa DOT.

For those unable to attend the meeting in-person, stakeholders and the public were able to attend an online meeting between June 8 and July 8, 2016, at http://www.engagefreightrailplans.iowadot.gov/. The online meeting included the same materials presented at the in-person meeting.

See Appendix C for the handout and meeting boards.

Online Meeting Statistics


IOWA DOT
SMARTER I SIMPLER I CUSTOMER DRIVEN
State Rail & Freight Plan Online Meeting
Web Statistics
June 8 – July 8, 2016


IOWA DOT
SMARTER I SIMPLER I CUSTOMER DRIVEN
Visitors (June 8 – July 8)
16
14
12
10
8
6
4
2
0
6/8/2016
6/9/2016
6/10/2016
6/11/2016
6/12/2016
6/13/2016
6/14/2016
6/15/2016
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7/2/2016
7/3/2016
7/4/2016
7/5/2016
7/6/2016
7/7/2016
7/8/2016
Totals
Sessions 50 (26 U.S.)
Visitors 40
Pageviews 56
Avg. Session Duration 2:15
Visitors by Type
72%
28%
New Visitors
Returning Visitors
Top Visitors by US Location
Omaha 11
Unknown 4
Ames 3
Chicago 3
Cedar Rapids 2

IOWA DOT
SMARTER I SIMPLER I CUSTOMER DRIVEN

Video Stats (June 8 – July 8)

Video	# of Visitors	% Play Rate (# Unique Plays)	Hours Watched (total)	Average Engagement
Welcome	43	44.2% (19)	0.2	65.7%
Introduction to Rail Transportation and Freight Systems	45	24.4% (11)	.1	69.7%
Introduction to Stakeholders	44	27.3% (12)	0.1	75.6%
State Rail Plan and State Freight Plan Schedules	31	19.4% (9)	0.1	36.2%
Introduction to the State Rail Plan	44	20.5% (9)	0.1	81.7%
State Rail Plan: Federal Railroad Guidance	44	27.3% (12)	0.1	85.5%
Introduction to the State Freight Plan	45	17.8% (8)	0	98.6%
State Freight Plan: Goals, Purpose, and Federal Guidance	41	24.4% (10)	0.1	71.4%
Stay Involved	25	16.0% (4)	0	43.3%

Comment Summary

Comments received through the website and through the completion of the online meeting on July 8, 2016, were considered in the respective plans. All comments are included in Appendix D.

Next Steps

Upon the close of the comment period for both plans, the Iowa DOT will finalize both plans. The comment period for the State Freight Plan closed June 15, 2016. The comment period for the State Rail Plan closed July 8, 2016.

Appendix A: Meeting Invitations

SMARTER | SIMPLER | CUSTOMER DRIVEN www.iowadot.gov

May 19, 2016

We are excited to announce that the State Rail and Freight Plans are nearing completion! Through your participation and input, we have been able to progress quite a bit on both plans.

First, thank you for your participating as a member in the first two High Leverage Stakeholder Committee (HLSC) meetings.

And second, because of that participation and progress of both the Iowa State Freight and State Rail Plans, a third HLSC meeting will not be conducted. In lieu of holding a third HLSC meeting, the Iowa Department of Transportation invites you to early access to the public open house. The meeting will provide Iowa DOT an opportunity to solicit more general input about rail and freight issues and concerns and opportunities for freight and passenger rail. Representatives from the offices of Systems Planning and Rail Transportation will be available to answer questions and receive comments.

You are invited to attend a public open house meeting!

Meeting Details:

Date: Wednesday, June 8th
Time: 3:00- 3:30 p.m. (HLSC access)
3:30 - 7:00 p.m. (General public)
Location: Greater Des Moines Botanical Garden
909 Robert D. Ray Dr
Des Moines, IA 50309
Parking: Please park on the south side of the building.

Because we are combining these meetings, we hope that you are able to invite your constituents and/or others interested in rail and freight. This might be a great opportunity to show others exactly how you provided input on what the future of rail and freight will look like in Iowa. If you are unable to attend the meeting in-person, you can visit www.engagefreightrailplans.iowadot.gov between June 8 and July 8, 2016, to attend an online meeting.

Note that the comment period for the State Freight Plan has opened and closes June 15, 2016. The comment period for the State Rail Plan will begin June 8 and closes July 8.

We are excited to see you at the public open house meeting!

Stuart Anderson

Stuart Anderson, Director
Planning, Programming and Modal Division

IOWA DOT
SMARTER | SIMPLER | CUSTOMER DRIVEN www.iowadot.gov

May 19, 2016

Do you know what rail and freight will look like in the future for Iowa? Join the Iowa Department of Transportation as they present the current drafts of both the State Rail Plan and the State Freight Plan. These plans will shape and provide direction on what the future of rail and freight will look like in Iowa. The meeting will also provide the Iowa DOT an opportunity to solicit more general input about rail and freight issues and concerns and opportunities for freight and passenger rail. Representatives from the offices of Systems Planning and Rail Transportation will be available to answer questions and receive comments.

You are invited to attend a public open house meeting!

Meeting Details:

Date: Wednesday, June 8th
Time: 3:30 – 7:00 p.m.
Location: Greater Des Moines Botanical Garden
909 Robert D. Ray Dr
Des Moines, IA 50309
Parking: Please park on the south side of the building.

If you are unable to attend the meeting in-person, you can visit www.engagefreightrailplans.iowadot.gov between June 8 and July 8, 2016, to attend an online meeting.

Stuart Anderson

Stuart Anderson, Director
Planning, Programming and Modal Division

800 Lincoln Way
Ames, IA 50010

http://engagefreightrailplans.iowadot.gov/

Opt Out

June 6, 2016

Don't forget that the public open house meeting is this week! This is the opportunity for you to learn about the future of rail and freight in Iowa. You will be able to meet with representatives from the offices of Systems Planning and Rail Transportation who will be available to answer questions and receive comments.

Meeting Details:

Date: Wednesday, June 8th
Time: 3:30 – 7:00 p.m.
Location: Greater Des Moines Botanical Garden
909 Robert D. Ray Dr
Des Moines, IA 50309
Parking: Please park on the south side of the building.

If you are unable to make the meeting, you can visit www.engagefreightrailplans.iowadot.gov between June 8 and July 8, 2016, to attend an online meeting.

Stuart Anderson

Stuart Anderson, Director
Planning, Programming and Modal Division

800 Lincoln Way
Ames, IA 50010

http://engagefreightrailplans.iowadot.gov/

Opt Out

Appendix B: Public Meeting Sign-in Sheets

2016 IOWA RAIL PLAN
IOWA IN MOTION planning ahead 2040

Sign-in Sheet
Public Meeting
June 8, 2016

Contact Information		Notification & Demographic Information (Optional): How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name: Calean Kokjohn Organization (if applicable): Cryptech	Address: 6103 Ortho Way City/Zip: Fort Madison, IA 52627 Phone: 319-372-6012 Email: calean.kokjohn@cryptech.com	☒ Email	☒ Female	☒ 25-34	☒ White
Name: Nikita Rainey Organization (if applicable): Iowa DOT	Address: City/Zip: Phone: Email:				
Name: Greg Dickinson Organization (if applicable): Merchants Dist Serv	Address: 1420 11th Ave NE City/Zip: 50009 Phone: ~~515~~ 515-244-2123 Email: gregd@merchantsdsm.com	☒ Email			
Name: Ryan Davis Organization (if applicable): McClure Engineering	Address: 1360 NW 121st St City/Zip: Clive 50235 Phone: 515-964-1229 Email: rdavis@mccresults.com	☒ Email	☒ Male	☒ 25-34	☒ White

For Office Use Only: #________ of #________
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2016 IOWA RAIL PLAN
IOWA IN MOTION planning ahead 2040

Sign-in Sheet
Public Meeting
June 8, 2016

Contact Information		Notification & Demographic Information (Optional): How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name: Melinda Dunsmoor Organization (if applicable): Benchmark Worldwide Logistics Inc	Address: 1201 Grand Ave, Suite 204 City/Zip: West Des Moines, IA 50265 Phone: 515-~~28~~457-7778 Email: mdunsmoor@benchmarkshipping.com	☒ Other: other Person who Received email Notice	☒ Female	☒ 45-54	☒ White
Name: Craig O'Riley Organization (if applicable):	Address: 2414 Yorkshire Cir City/Zip: Ames 50010 Phone: Email:	☒ Other: DOT Staff			
Name: Brian Guillaume Organization (if applicable): House Democrats	Address: Iowa Capitol City/Zip: Phone: Email: brian.guillaume@legis.iowa.gov				
Name: Brian Selinger Organization (if applicable): IEDA	Address: 200 E. Grand City/Zip: Des Moines Phone: Email: Brian.Selinger@iowa.gov	☒ Email ☒ Newspaper Ad	☒ Male	☒ 35-44	☒ White

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Entered into DB on ________ by ________

2016 IOWA RAIL PLAN

IOWA IN MOTION planning ahead 2040

Sign-in Sheet
Public Meeting
June 8, 2016

Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Clifford A Leonard Organization *(if applicable)*	Address 1921 W. Washington Ave City/Zip Polk City, IA 50226-9126 Phone 515 984-6449 Email —	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Steve Falk Organization *(if applicable)* ELPC	Address 686 Foster Dr City/Zip DSM 50312 Phone 515 2407542 Email sfalk@elpc.org	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Sean Litteral Organization *(if applicable)* FHWA	Address 3266 Stockbury St City/Zip Ames 50010 Phone Email	☒ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☒ Male ☐ Female	☐ 15-24 ☐ 25-34 ☒ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Jim Tiernan Organization *(if applicable)* ALLIANCE SHIPPER	Address City/Zip Granger IA Phone 515 720 9192 Email jtiernan@alliance.com	☒ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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Entered into DB on ______________ by ______________

2016 IOWA RAIL PLAN

IOWA IN MOTION planning ahead 2040

Sign-in Sheet
Public Meeting
June 8, 2016

Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Jeff Schug Organization *(if applicable)*	Address 8410 Long Meadow Ln City/Zip Johnston IA 50131 Phone 515-577-1782 Email JSchug@MECResults.com	☒ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☒ Male ☐ Female	☐ 15-24 ☐ 25-34 ☒ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Kim Beisser Organization *(if applicable)* Beisser Lumber	Address City/Zip Phone Email	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Jeff Johnson Organization *(if applicable)* BEISSER LBR	Address City/Zip Phone Email	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Paul Kirpes Organization *(if applicable)* TPG	Address 621 S. 26th City/Zip WDM Phone Email pkirpes@whatmattersmost.com	☐ Email ☐ Newspaper Ad ☒ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☒ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☒ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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2016 IOWA RAIL PLAN IOWA IN MOTION planning ahead 2040

Sign-in Sheet
Public Meeting
June 8, 2016

Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Laura Lutz-Zimmerman Organization *(if applicable)* IEDA	Address 200 E. grand Ave City/Zip Des Moines 50036 Phone 515-725-3004 Email	☒ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☒ Female	☐ 15-24 ☐ 25-34 ☒ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Randy Kaster Organization *(if applicable)* Alfred Benesch & Co.	Address 14748 W. Center Rd. Suite 200 City/Zip Omaha, NE 68144 Phone 402-333-5792 Email rKaster@benesch.com	☒ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☒ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☒ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Andrew Collings Organization *(if applicable)* Des Moines Area MPO	Address City/Zip Phone Email	☒ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☒ Male ☐ Female	☐ 15-24 ☒ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Rich Voelker Organization *(if applicable)* Snyder & Associates Inc.	Address 2727 SW Snyder Blvd City/Zip Ankeny Iowa 50023 Phone 515 964 2020 Email rmvoelker@snyder-associates.com	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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2016 IOWA RAIL PLAN IOWA IN MOTION planning ahead 2040

Sign-in Sheet
Public Meeting
June 8, 2016

Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name MICHAEL KEEFER Organization *(if applicable)* UNITED STATES HOUSE OF REPRESENTATIVES	Address 310 3rd ST. SE City/Zip CEDAR RAPIDS, IA 52401 Phone 319-823-0484 Email michael.keefer@mail.house.gov	☒ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☒ Male ☐ Female	☐ 15-24 ☒ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Organization *(if applicable)*	Address City/Zip Phone Email	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Organization *(if applicable)*	Address City/Zip Phone Email	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Organization *(if applicable)*	Address City/Zip Phone Email	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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2016 IOWA RAIL PLAN
IOWA IN MOTION planning 2040

Sign-in Sheet
Public Meeting
June 8, 2016

Contact Information		Notification & Demographic Information (Optional): How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Kyle Nedergaard Organization (if applicable) Union Pacific	Address 1400 Douglas St City/Zip Omaha, NE Phone 402-544-2029 Email kdnedergaa@up.com	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Mike Kulik Organization (if applicable) Davis Brown Law Firm	Address City/Zip Phone Email	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Todd Ashby Organization (if applicable) DMAMPO	Address 420 Watson Powell Pkwy City/Zip DSM 50309 Phone 515-334-0034 Email tashby@dmampo.org	☒ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Michael Dolch Organization (if applicable) Senator Ernst	Address 210 SW 9th Street City/Zip DSM 50309 Phone 712-770-8188 Email michael_dolch@ernst.senate.gov	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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2016 IOWA RAIL PLAN
IOWA IN MOTION planning 2040

Sign-in Sheet
Public Meeting
June 8, 2016

Contact Information		Notification & Demographic Information (Optional): How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Adam Schweers Organization (if applicable) Hwy 30 Coalition	Address 1642 Oakwood Dr. City/Zip Carroll 51401 Phone 712-790-6283 Email adam@computerconceptsia.com	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☒ Website ☐ Other	☒ Male ☐ Female	☐ 15-24 ☐ 25-34 ☒ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Ted Brackett Organization (if applicable) Neumann Brothers, Inc.	Address 1435 Ohio Street City/Zip Des Moines 50314 Phone 515-243-0156 Email brackettw@neumannbros.com	☐ Email ☒ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Tim Ng Organization (if applicable) CKI	Address 1201 Grand Ave City/Zip WDM IA 50265 Phone Email CKINTLMARKETING@GMAIL.com	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☒ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Don McDowell Organization (if applicable) Farm Bureau	Address 5400 University Ave City/Zip WDM 50266 Phone 515 225-5547 Email dmcdowell@ifbf.org	☒ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☒ Other Freight Advisory Council	☒ Male ☐ Female	☐ 15-24 ☒ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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2016 IOWA RAIL PLAN
IOWA IN MOTION planning ahead 2040

Sign-in Sheet
Public Meeting
June 8, 2016

Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Darla Hugeboom Organization *(if applicable)* FHWA	Address City/Zip Phone Email	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☑ Other	☐ Male ☑ Female	☐ 15-24 ☐ 25-34 ☑ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☑ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Thomas Tai Organization *(if applicable)* FHWA	Address City/Zip Phone Email	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Stacy Timperley Organization *(if applicable)* Forbs Exports	Address City/Zip Phone Email	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name David Purdy Organization *(if applicable)* ProRail Nebraska	Address City/Zip Phone Email dardepurdy@cox.net	☐ Email ☐ Newspaper Ad ☐ Social Media ☐ Radio ☐ TV ☐ Poster/Flier ☐ Website ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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Entered into DB on _______________ by _______________

Appendix C: Handout and Meeting Boards

2016 IOWA RAIL PLAN

IOWA IN MOTION planning ahead 2040

PUBLIC MEETING

June 2016

WELCOME!

The purpose of today's meeting is to introduce you to the draft Iowa State Rail and Freight Plans, answer questions and receive comments.

Today we will:

- Provide a summary of what is presented in both plans;
- Gather comments on both plans; and
- Provide ways to stay connected with the Iowa Department of Transportation.

Background

In September 2013, the Federal Railroad Administration (FRA) published its Final State Rail Plan Guidance, which provided direction for State Rail Plan stakeholder and public involvement. We are actively engaging private sector rail and freight infrastructure owners, freight, public planning agencies, transit operators, rail authorities, railroad and freight organizations, and passenger rail stakeholders. The State Rail Plan will identify proposed improvements in urban and rural areas for those who travel through it. The State Freight Plan outlines freight planning activities that will achieve the objective for the state to provide a safe, efficient and convenient freight transportation system to Iowans. The State Freight Plan is a way to connect all planning initiatives and allow each to move forward towards a common goal of optimal freight transportation throughout the state. In addition, the freight plan will guide our investment decisions to maintain and improve the freight transportation system, and ultimately strengthen Iowa's economy and raise the quality of life for our citizens.

The development of a comprehensive State Rail Plan in collaboration with the implementation of the State Freight Plan offers an opportunity for us to accurately define what the rail and freight system in the state looks like today and what it needs to look like in the future.

State Rail and Freight Plan Overlap

The State Rail and Freight Plans are closely related and have several overlapping activities. The Iowa DOT combined public engagement efforts of for both plans allowing for the integration of feedback appropriately. Due to the subject matter, there is natural overlap of information, data and analysis for both rail and freight.

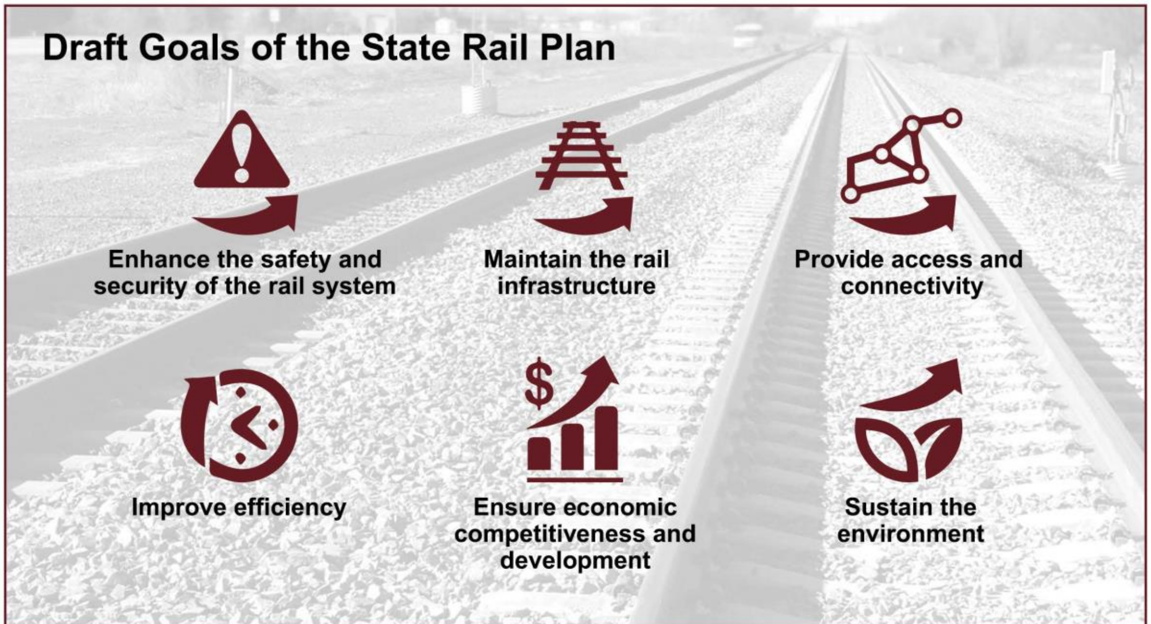
2015–2016 Meeting Highlights

Participants in the Issues-Based Workshop in Des Moines, Iowa, voted on the strengths, weaknesses, opportunities and threats of the rail and freight systems in Iowa.

Participants in the second High Leverage Stakeholder Committee meeting in Des Moines, Iowa. (Top) Participants voted on rail capital investments and projects in Iowa. (Bottom) Example of comments participants provided on the Value, Condition, and Performance (VCAP) process by district.

•

State Rail Plan



The primary purpose of the State Rail Plan is to serve as a statewide, long-range rail planning document, fully integrated with other state planning initiatives.

The State Rail Plan will integrate current and future freight and passenger rail projects into a multimodal framework, identify economic benefits, align initiatives with Iowa priorities, and unify common rail interests.

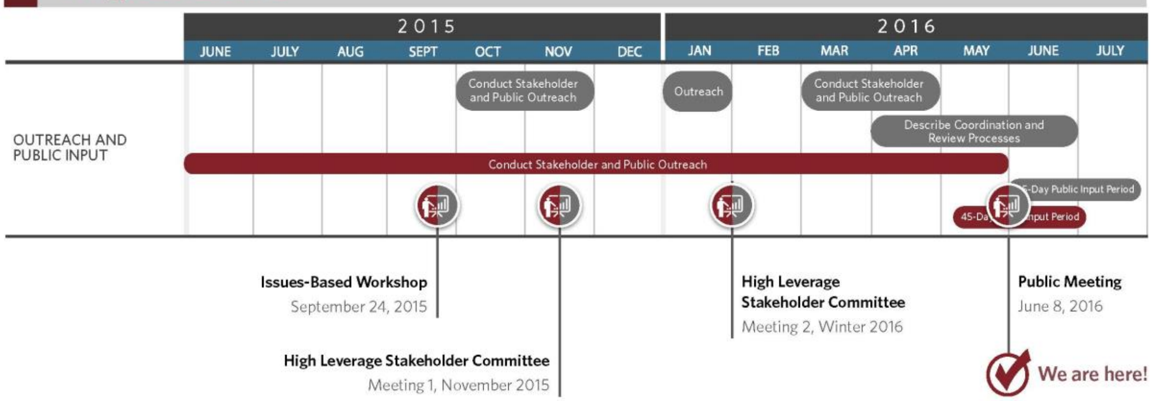
What We Have Heard:

Stakeholder coordination and public outreach recognized the needs and opportunities for:

- Enhanced access to the state's rail network for freight shippers / receivers.
- Improvements to infrastructure and the capacity, safety, and efficiency of the state's rail network.
- Economic development.
- Environmental sustainability.
- Enhancement of existing passenger rail services and development of new passenger rail services in the state.

2016 IOWA RAIL PLAN

Progress to Date



State Freight Plan

The primary purpose of the State Freight Plan is to serve as a statewide long-range freight planning document, fully integrated with other state planning initiatives.

What We Have Heard:

Stakeholder coordination and public outreach recognized the needs and opportunities for:

- Funding for all modes of freight transportation is a constant obstacle.
- Freight industries want reliable transportation above all else.
- There is a need for more intermodal connections.
- Heavy truck traffic on I-80 in eastern Iowa is a concern.
- The nation's locks and dams on the inland waterway system are in need of funding for maintenance and improvements.
- All freight transportation modes are important and impact each other.
- The State of Iowa should be thinking regionally, nationally, and internationally when considering freight movement.
- Some State and Federal regulations hinder freight movement.
- Greater harmonization and standardization of rules in regulation between states is desired by shippers.

Federal Guidelines

The federal government requires each state to develop plans for freight and rail transportation. Iowa's State Rail Plan was first published in 2009. The 2016 State Rail Plan will meet federal guidelines and will be available in late summer, along with the State Freight Plan.

The State Freight Plan will support the National Freight Goals, as defined by the associated federal guidelines.

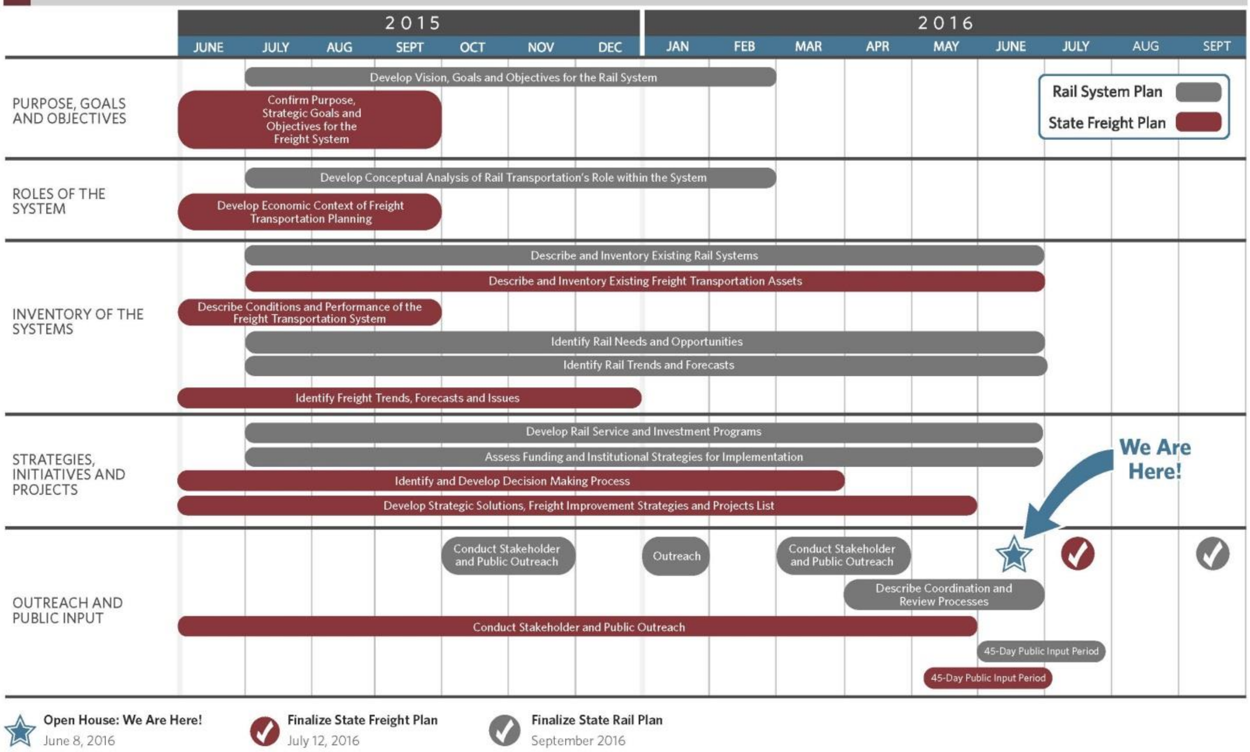
Each state is encouraged to establish a freight advisory committee composed of a representative cross-section of public and private-sector freight stakeholders. Each state is also encouraged to develop a comprehensive plan for its immediate and long-range freight-related planning and investments.

The Iowa DOT has met these two federal requirements.

2016 IOWA RAIL PLAN

IOWA IN MOTION planning ahead 2040

What is the Schedule for the Plans?



PROVIDE COMMENTS	Visit http://EngageFreightRailPlans.IowaDOT.gov to review the draft State Rail Plan and provide comments until **July 23rd.** Visit http://www.IowaDOT.gov/IowaInMotion/Freight.html to review the draft State Freight Plan and provide comments until **June 15th.**
STAY INVOLVED	Visit us at: http://EngageFreightRailPlans.IowaDOT.gov Email us at: info@EngageFreightRailPlans.com

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Welcome

THE PURPOSE OF THIS MEETING IS TO:

- Introduce you to the details of the Iowa State Rail and State Freight Plans.
- Answer your questions and receive comments.


Rail Transportation and Freight Systems
RAIL TRANSPORTATION INCLUDES:
• Freight Rail
• Passenger Rail
FREIGHT SYSTEMS INCLUDES:
• Air
• Highway
• Pipeline
• Railroad
• Waterway
2016 IOWA RAIL PLAN
IOWA IN MOTION
IOWADOT
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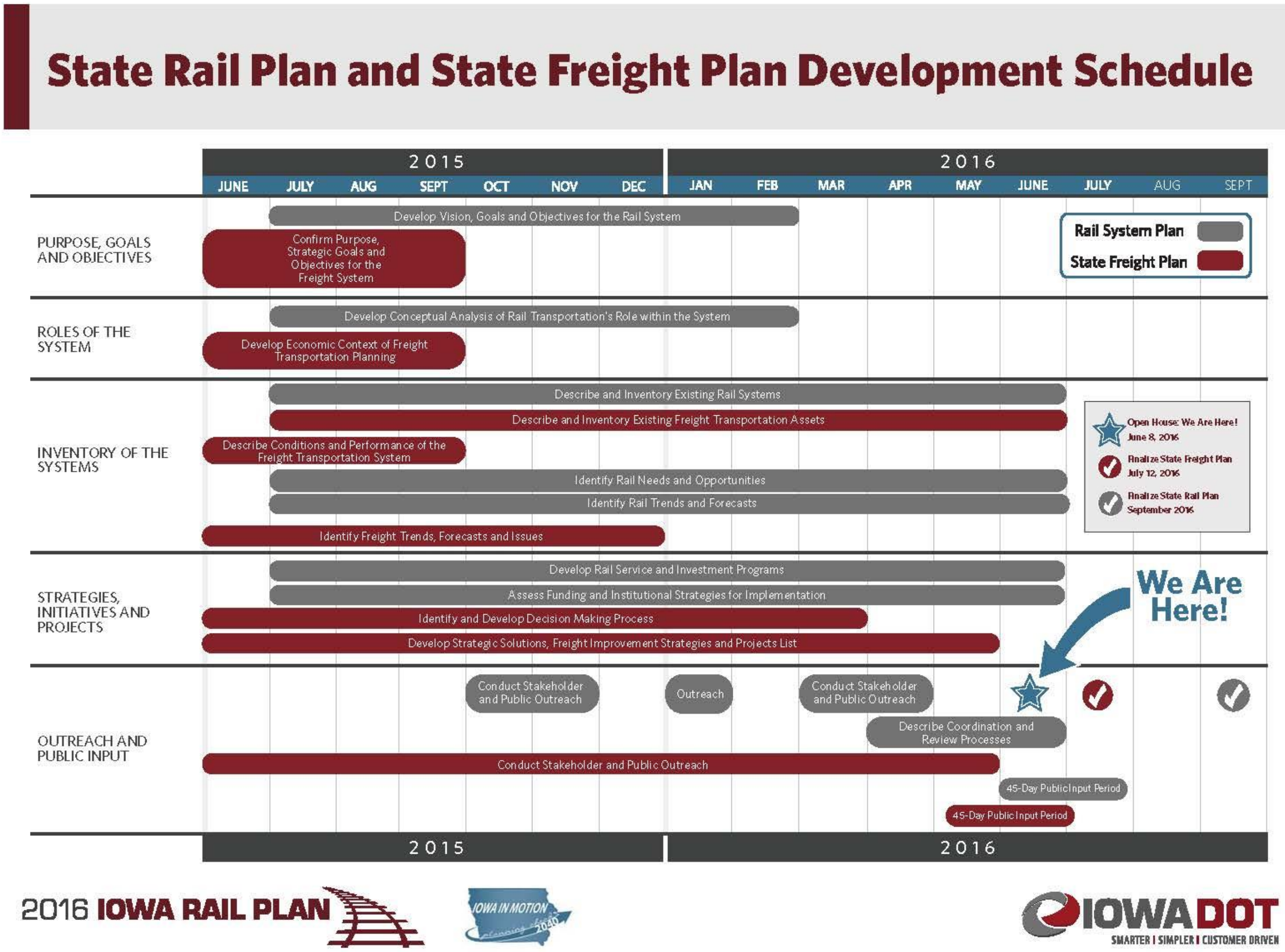
State Rail Plan and State Freight Plan Development Schedule
2015
2016
JUNE JULY AUG SEPT OCT NOV DEC JAN FEB MAR APR MAY JUNE JULY AUG SEPT
PURPOSE, GOALS AND OBJECTIVES
Develop Vision, Goals and Objectives for the Rail System
Confirm Purpose, Strategic Goals and Objectives for the Freight System
Rail System Plan
State Freight Plan
ROLES OF THE SYSTEM
Develop Conceptual Analysis of Rail Transportation's Role within the System
Develop Economic Context of Freight Transportation Planning
INVENTORY OF THE SYSTEMS
Describe and Inventory Existing Rail Systems
Describe and Inventory Existing Freight Transportation Assets
Describe Conditions and Performance of the Freight Transportation System
Identify Rail Needs and Opportunities
Identify Rail Trends and Forecasts
Identify Freight Trends, Forecasts and Issues
Open House: We Are Here! June 8, 2016
Finalize State Freight Plan July 12, 2016
Finalize State Rail Plan September 2016
STRATEGIES, INITIATIVES AND PROJECTS
Develop Rail Service and Investment Programs
Assess Funding and Institutional Strategies for Implementation
Identify and Develop Decision Making Process
Develop Strategic Solutions, Freight Improvement Strategies and Projects List
We Are Here!
OUTREACH AND PUBLIC INPUT
Conduct Stakeholder and Public Outreach
Outreach
Conduct Stakeholder and Public Outreach
Describe Coordination and Review Processes
Conduct Stakeholder and Public Outreach
45-Day Public Input Period
45-Day Public Input Period
2015
2016
2016 IOWA RAIL PLAN
IOWA IN MOTION planning ahead 2040
IOWA DOT
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Introduction to Stakeholders

WHO ARE THE STAKEHOLDERS?

- Freight railroads
- Passenger railroads (Amtrak)
- Public agencies
- Advocacy organizations
- Neighboring states
- Local, state, and regional officials
- General public
- Freight industry representatives

Stakeholders represent audiences that are integral to achieving the project objectives and goals.

2016 IOWA RAIL PLAN

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State Rail Plan: Draft Goals
Enhance the safety and security of the rail system
Maintain the rail infrastructure
Provide access and connectivity
Improve efficiency
Ensure economic competitiveness and development
Sustain the environment
2016 IOWA RAIL PLAN
IOWA IN MOTION
IOWA DOT
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Introduction to the Iowa State Rail Plan

THE STATE RAIL PLAN:

- Will actively engage railroads and freight and passenger rail stakeholders.
- Will identify the needs and opportunities of the state's passenger and freight rail network.
- Will identify and prioritize potential capital investments in projects and studies to address these needs and concerns.

STATE RAIL PLAN PURPOSE:

To serve as a statewide, long-range planning document, fully integrated with other state planning initiatives.

STATE RAIL PLAN VISION STATEMENT:

A safe, secure, and efficient Iowa rail system that ensures Iowa's economic competitiveness and development by maintaining the rail infrastructure and providing rail access and connectivity for people and goods in an environmentally sustainable manner.

2016 IOWA RAIL PLAN

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State Rail Plan: What We Have Heard

Stakeholder coordination and public outreach recognized the needs and opportunities for:

- Enhanced access to the state's rail network for freight shippers/receivers.
- Improvements to infrastructure and the capacity, safety, and efficiency of the state's rail network.
- Economic development.
- Environmental sustainability.
- Enhancement of existing passenger rail services and development of new passenger rail services in the state.


State Rail Plan:
Federal Railroad Administration (FRA) Guidance
Stakeholder engagement
Identify proposed rail improvements
Safe, efficient, convenient freight and passenger rail transportation
Economic development
SECTION 303 OF PRIIA
SUPPORTS NATIONAL FREIGHT GOALS
2016 IOWA RAIL PLAN
IOWA IN MOTION
IOWADOT
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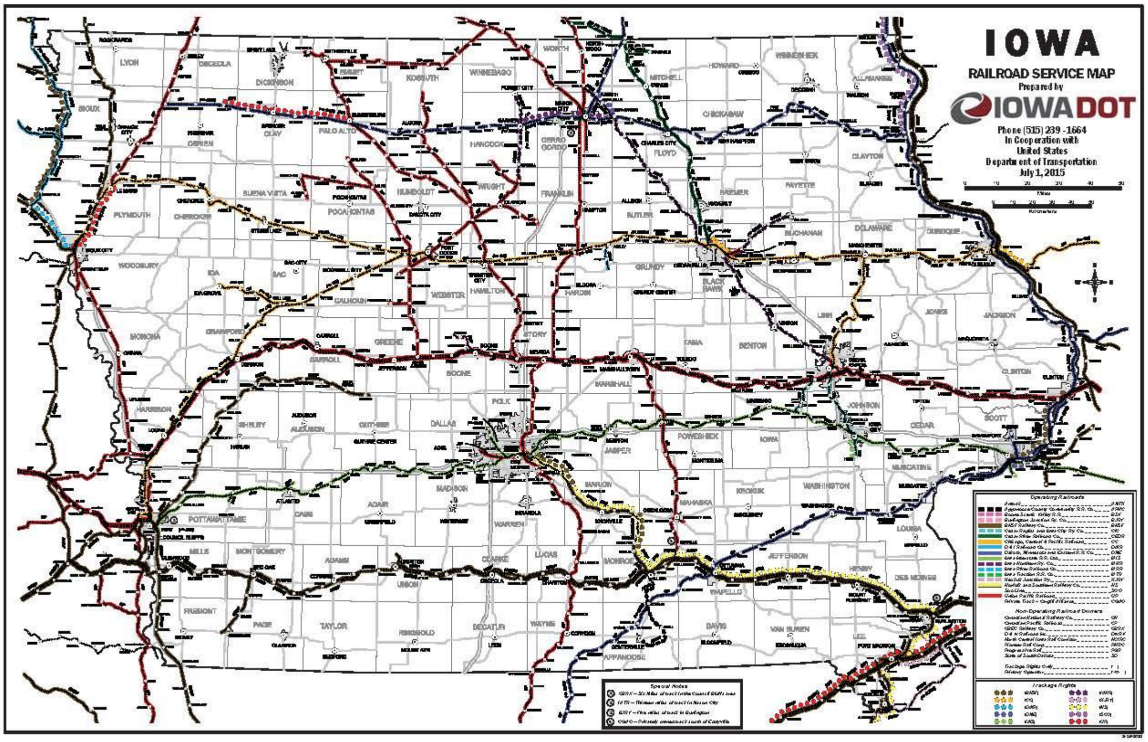
Railroad Service Map



State Rail Plan: Capital Investments and Projects

Potential future capital projects and studies have been identified and prioritized for ***short-range*** (1-4 years) or ***long-range*** (5-21 years) implementation in the Rail Service and Investment Plan developed for the State Rail Plan.

The proposed projects generally focus on:

- Increased rail capacity, efficiency, and safety through infrastructure investments.
- Enhanced and new rail access for Iowa's shippers/receivers.
- Reduction or elimination of major freight bottlenecks.
- Passenger rail improvements that increase passenger safety, preserve and enhance existing services and facilities, and potentially expand service to new intercity corridors.

2016 IOWA RAIL PLAN

State Rail Plan: Proposed Short-Range Projects and Studies

PASSENGER RAIL PROJECTS AND STUDIES

Iowa DOT's proposed short-range passenger rail projects and studies (Year 1 through Year 4) are aimed at:

- Improving existing intercity passenger rail services.
- Identifying the potential for implementation of additional passenger rail and connecting bus services on new intercity corridors.
- Further study of the potential for commuter rail implementation.

FREIGHT RAIL PROJECTS AND STUDIES

During the four-year short-range program period, the proposed freight rail projects mostly entail making improvements to the capacity and rail access on the state rail network. These include enhancement of:

- Existing rail access or development of new rail access for shippers/receivers (transload, intermodal facilities, industrial spurs).
- Enhancements to the capacity and safety of the state's rail network.
- Improvements to track infrastructure.

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State Rail Plan: Proposed Long-Range Projects and Studies

PASSENGER RAIL PROJECTS AND STUDIES

For the long-range program (Year 5 through Year 21), projects previously identified in the short-range program will be further advanced toward implementation pending confirmation of construction and economic feasibility. Proposed projects include:

- Improvements to stations and facilities at existing Amtrak stations in Iowa.
- Implementation of intercity passenger rail services on new corridors.
- Implementation of commuter rail service.

Proposed studies include additional studies for passenger and commuter rail services in the state.

FREIGHT RAIL PROJECTS AND STUDIES

Projects proposed for public funding beyond the four-year short-range program period will be subject to funding availability as well as further analysis as to their viability and relative benefits to costs. The objective of most of the long-range projects will be to:

- Improve the capacity, efficiency, and safety of the state 's railroads (particularly in yards and congested terminal areas).
- Enhance rail access by expanding or constructing transload and intermodal facilities.
- Upgrade or replace major river bridges.
- Improve flood mitigation measures.

2016 IOWA RAIL PLAN

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State Freight Plan: Goals
Improve contribution of freight system
Reduce congestion
Improve safety, security and resiliency
Improve state of good repair
Use advanced technology, innovation and competition
Use performance management and accountability
Reduce adverse environmental and community impacts
2016 IOWA RAIL PLAN
IOWA IN MOTION
IOWA DOT
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Introduction to the Iowa State Freight Plan

THE STATE FREIGHT PLAN:

- Will outline freight planning activities that will achieve the objective for Iowa to provide a safe, efficient, and convenient freight transportation system to Iowans and those traveling through Iowa.
- Will guide Iowa DOT's investment decisions to maintain and improve the freight transportation system, and ultimately strengthen the state's economy and raise the quality of life for its citizens.

IOWA FREIGHT PLAN PURPOSE

The primary purpose of the State Freight Plan is to serve as a statewide long-range freight planning document, fully integrated with other state planning initiatives.

2016 IOWA RAIL PLAN

State Freight Plan: Federal Guidance

The State Freight Plan will support the National Freight Goals as defined by federal guidelines.

EACH STATE IS ENCOURAGED TO:

- Establish a freight advisory committee composed of a representative cross-section of public- and private-sector freight stakeholders.
- Develop a comprehensive plan for its immediate and long-range freight-related planning and investments.

The Iowa DOT has met these two federal requirements.

State Freight Plan: Iowa's Freight Improvement Strategies

	Iowa's Freight Improvement Strategies	National Freight Goals						
		Improve economic efficiency, productivity, and competitiveness	Reduce congestion	Improve safety, security, and resiliency	Improve state of good repair	Use advanced technology, innovation, and competition	Use performance management and accountability	Reduce adverse environmental and community impacts
1	Maximize the advantages inherent to Iowa's geographic proximity	✔	✔			✔	✔	✔
2	Explore/create other funding sources to increase investment in the freight transportation system	✔	✔	✔	✔	✔	✔	✔
3	Target investment to address mobility issues that impact freight facilities	✔	✔	✔	✔	✔	✔	
4	Utilize designs that are compatible with oversize/overweight freight movements	✔	✔	✔		✔		✔
5	Target investment on the interstate system at a level that reflects the importance of this system for moving freight	✔	✔	✔	✔	✔	✔	✔
6	Right-size the highway system and apply cost-effective solutions to locations with existing and anticipated issues	✔	✔	✔	✔	✔	✔	✔
7	Advance a 21st century Farm to Market system that moves products seamlessly across road, rail, and water to global marketplaces	✔	✔		✔	✔	✔	
8	Implement asset management tools and practices and promote their use at the local level	✔	✔	✔	✔	✔	✔	✔
9	Optimize the freight transportation network to minimize cost and travel time and improve supply chain efficiency	✔	✔	✔	✔	✔	✔	✔
10	Optimize the availability and use of freight shipping containers	✔	✔			✔	✔	✔
11	Explore opportunities for increasing value-added production within the state	✔				✔	✔	
12	Continue to advance efforts on the M-35 Marine Highway Corridor	✔	✔	✔	✔	✔	✔	✔
13	Promote freight movement on the M-29 Marine Highway Connector	✔	✔	✔	✔	✔	✔	✔
14	Provide real-time information on system conditions to support the movement of freight	✔	✔	✔		✔	✔	✔
15	Leverage real-time information from users of the system to support advanced decision-making and incident avoidance	✔	✔	✔		✔	✔	✔
16	Provide measured, clear, non-technical performance results for the freight system	✔	✔	✔	✔	✔	✔	✔
17	Streamline and align freight-related regulations and minimize unintended consequences	✔				✔	✔	
18	Act as a point of contact and educator on freight transportation options	✔	✔			✔	✔	
19	Explore new truck cross-docking operations to enable greater opportunities to consolidate truck freight for Iowa shippers	✔	✔			✔		
20	Explore a new rail intermodal facility to enable access to lower cost rail services for Iowa businesses	✔	✔			✔		
21	Explore additional transload facilities to provide Iowa businesses with more access to lower cost railroad freight services	✔	✔			✔		
22	Explore opportunities to leverage a barge and rail multimodal solution to provide a cost-effective freight transportation alternative	✔	✔		✔	✔		✔
23	Explore opportunities to build a logistics park to colocate cross-docking, intermodal, transloading, and warehousing facilities	✔	✔			✔		
24	Collaborate with the railroads to provide Iowa companies with more access and capacity to accommodate additional Iowa freight shipments	✔	✔					✔
25	Explore opportunities to reposition empty containers by barge and reduce repositioning costs	✔	✔			✔	✔	✔
26	Explore and implement strategies to reduce deadhead truck miles	✔	✔	✔		✔	✔	✔
27	Explore opportunities for railroads to provide additional lower cost freight rail transportation for high volume traffic lanes within Iowa	✔	✔	✔	✔			

2016 IOWA RAIL PLAN

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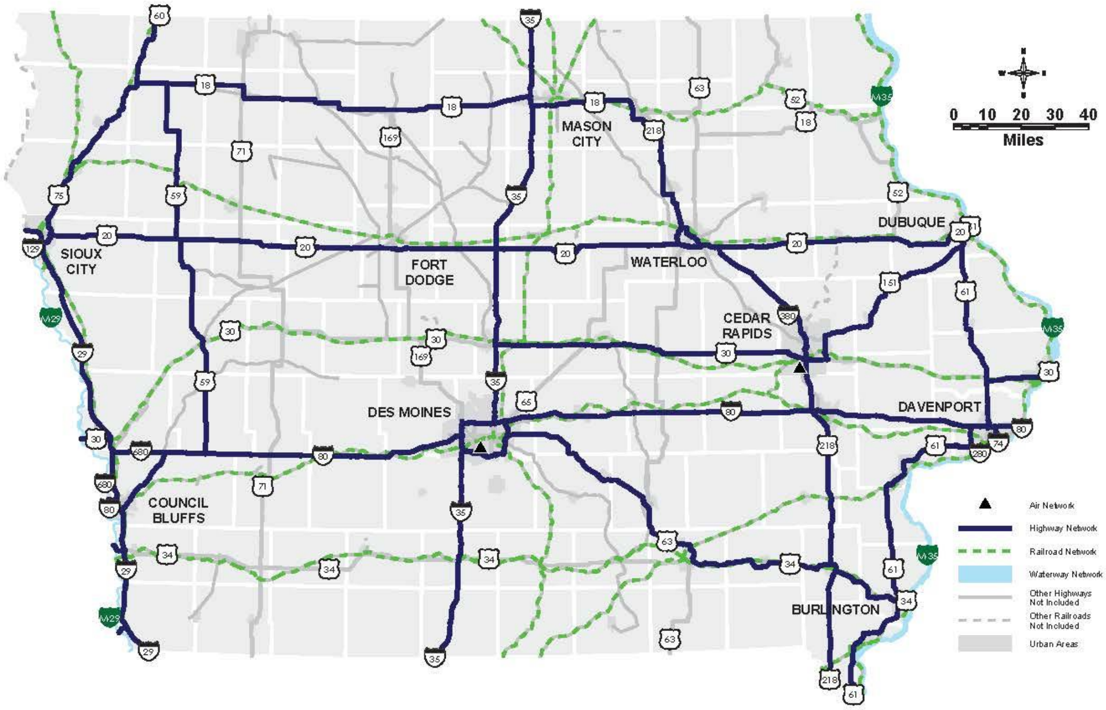
State Freight Plan: What We Have Heard

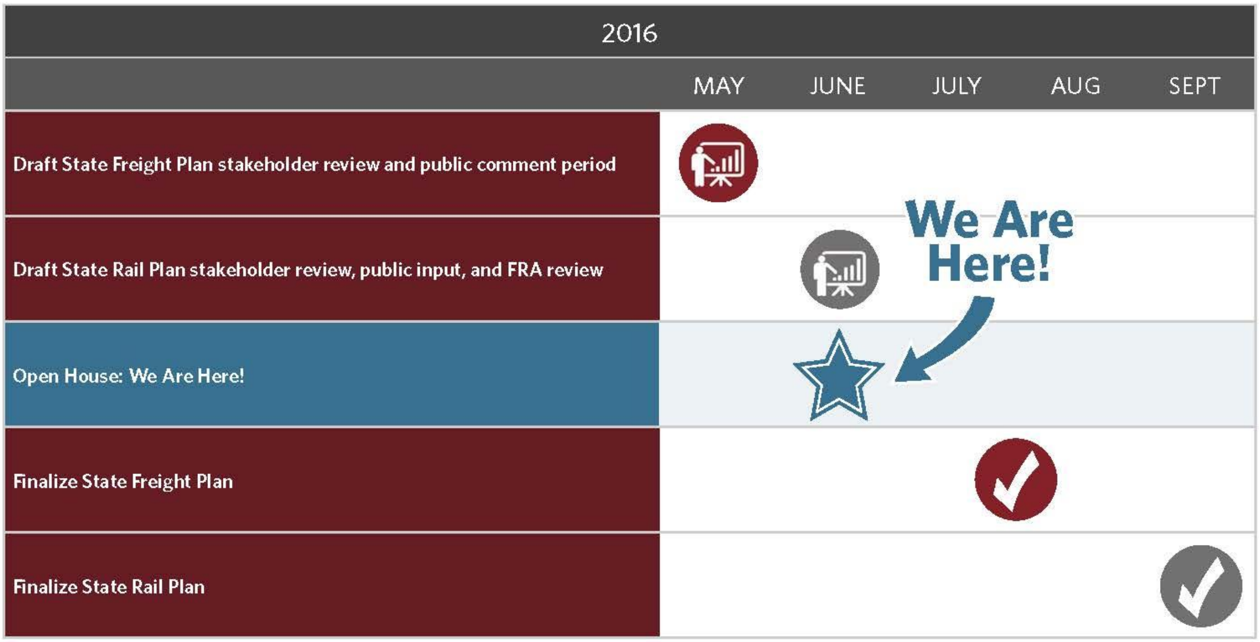
Stakeholder coordination and public outreach recognized:

- Funding for all modes of freight transportation is a constant obstacle.
- Freight industries want reliable transportation above all else.
- There is a need for more intermodal connections.
- Heavy truck traffic on I-80 in eastern Iowa is a concern.
- The nation's locks and dams on the inland waterway system are in need of funding for maintenance and improvements.
- All freight transportation modes are important and impact each other.
- The State of Iowa should be thinking regionally, nationally, and internationally when considering freight movement.
- Some state and federal regulations hinder freight movement.
- Greater harmonization and standardization of rules in regulation between states is desired by shippers.

Multimodal Freight Network Map



Next Steps


2016
MAY
JUNE
JULY
AUG
SEPT
Draft State Freight Plan stakeholder review and public comment period
Draft State Rail Plan stakeholder review, public input, and FRA review
Open House: We Are Here!
Finalize State Freight Plan
Finalize State Rail Plan
We Are Here!

Stay Involved

- **Visit the website:** **www.EngageFreightRailPlans.IowaDOT.gov**
- **Have a comment about the State Rail Plan?**
  Visit **www.EngageFreightRailPlans.IowaDOT.gov** to review the draft State Rail Plan and provide comments until July 23.
- **Have a comment about the State Freight Plan?**
  Visit **www.IowaDOT.gov/IowaInMotion/Freight.html** to review the draft State Freight Plan and provide comments until June 15.
- **Send us an email:** **info@EngageFreightRailPlans.com**

Appendix D: Comments

State Rail & Freight Plan Online Meeting

Web Statistics

June 8 – July 8, 2016

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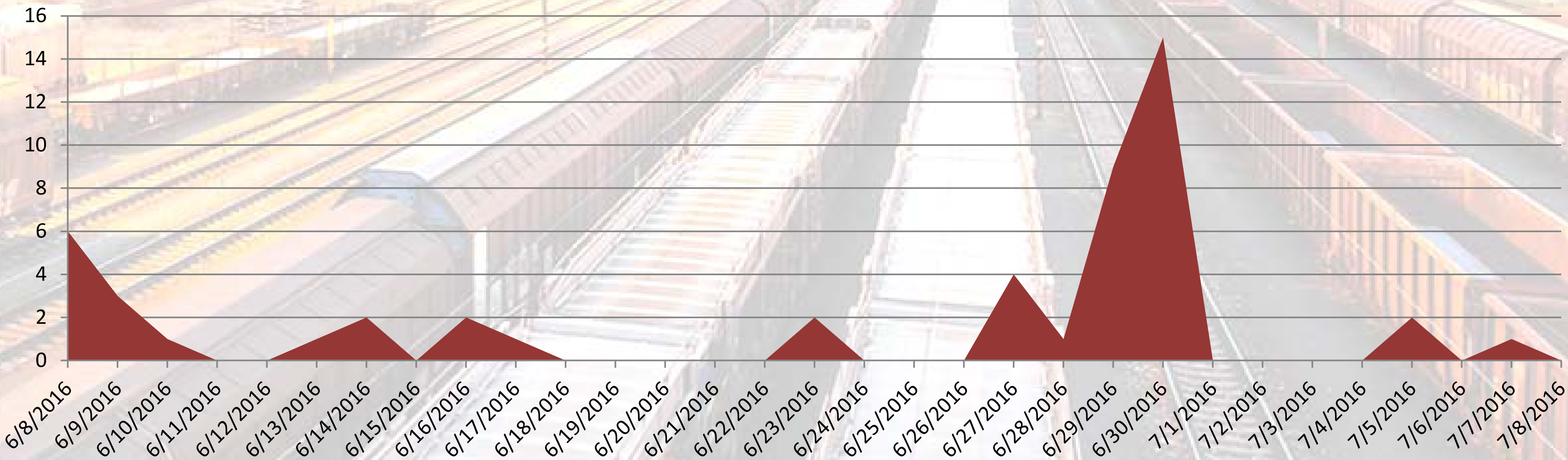
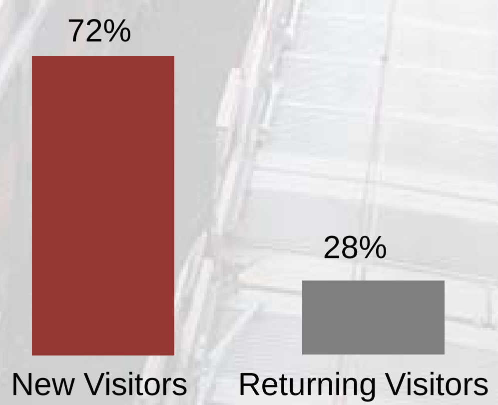
Visitors (June 8 – July 8)



Totals

Sessions	50 (26 U.S.)
Visitors	40
Pageviews	56
Avg. Session Duration	2:15

Visitors by Type



Top Visitors by US Location

Omaha	11
Unknown	4
Ames	3
Chicago	3
Cedar Rapids	2

Video Stats (June 8 – July 8)

Video	# of Visitors	% Play Rate (# Unique Plays)	Hours Watched (total)	Average Engagement
Welcome	43	44.2% (19)	0.2	65.7%
Introduction to Rail Transportation and Freight Systems	45	24.4% (11)	.1	69.7%
Introduction to Stakeholders	44	27.3% (12)	0.1	75.6%
State Rail Plan and State Freight Plan Schedules	31	19.4% (9)	0.1	36.2%
Introduction to the State Rail Plan	44	20.5% (9)	0.1	81.7%
State Rail Plan: Federal Railroad Guidance	44	27.3% (12)	0.1	85.5%
Introduction to the State Freight Plan	45	17.8% (8)	0	98.6%
State Freight Plan: Goals, Purpose, and Federal Guidance	41	24.4% (10)	0.1	71.4%
Stay Involved	25	16.0% (4)	0	43.3%

F.3 Issues-Based Workshop Meeting Summary and Invitation List

Iowa Rail and Freight Plan Issues-Based Workshop:

Summary

Prepared for the Iowa Department of Transportation

HDR

October 2015

Iowa Rail and Freight Plan Issues-Based Workshop Summary

as of 10/15/2015

Contents

Workshop Summary

Workshop Overview

The Iowa Department of Transportation (DOT) hosted a one-day workshop to engage a range of stakeholders in the development of the State Freight and Rail Plans. The workshop was held on Thursday, September 24, 2015, in Des Moines, Iowa, and consisted of three interactive exercises that focused on consolidating the stakeholder issues, concerns and goals tied to freight and rail planning for the Iowa DOT.

Outreach

Multiple email notifications were sent to a database of 188. An email invitation letter was distributed on August 31 and September 2; a reminder invitation email was distributed on September 11; an extension invitation email was sent on September 18; and a follow-up email invitation was sent on September 23 (Appendix B, Example Workshop Invitations).

Table 1: Outreach Dates

Outreach	Date
Save the Date Email	8/31
Save the Date Email	9/2
Invitation Email	9/11
RSVP Deadline Email	9/18
Agenda Email	9/23

Workshop Agenda and Outcomes

Attendees

Thirty-eight people attended the workshop including representatives from the DOT, an elected official representative, industries related to freight and rail transportation and special interest groups.(Appendix A, Invitation Mailing and Attendee List)

Agenda and Outcomes

The workshop was held on Thursday, September 24, 2015 at the Holiday Inn Mercy Area Hotel, Top of the Tower Room, located at 1050 6th Avenue, Des Moines, Iowa. Registration began at 8:00 a.m. with the workshop commencing at 8:30 a.m. continuing until 2:45 p.m. The workshop included an introduction from Iowa DOT Director of Office of Rail Transportation Tammy Nicholson and two presentations including sessions for visioning, issues identification and issues categorization. Participants received a registration packet with a handout and six maps. (Appendix C, Attendee Handout Packet)

Introduction

Iowa DOT Director of Office of Rail Transportation Tammy Nicholson welcomed attendees and emphasized that the workshop marked the beginning of the public engagement outreach for both the Iowa State Rail and Freight Plans. The goal of the workshop was to validate the State Freight Plan goals and begin developing the State Rail Plan goals. Director Nicholson outlined the Iowa DOT's interest and commitment to both freight and rail transportation in Iowa. Nicholson closed her portion of the presentation by reviewing the schedule and next steps in the development of both plans.

Presentation 1: 2016 Iowa Freight Plan, Background and Input Session

Garrett Pedersen with Iowa DOT's Office of Systems Planning presented on the background of the State Freight Plan. He described the State Freight Plan objectives and provided context on what freight means in terms of the intermodal connection. The presentation detailed current stakeholder input gathering and the plan strategies. Pedersen introduced the Federal Highway Administration guidance they are using as they develop the freight improvement strategies. He also explained the different freight improvement projects that are being worked on for each mode: aviation, highway, railroad, waterway and pipeline. Lastly, he explained the statewide freight network optimization strategy development.

Visioning Process

The visioning session was intended to validate the current State Freight Plan goals and identify what additional goals should be considered as part of the plan.

Participants remained at their tables and used the voting technology devices each received at registration. Theresa McClure of HDR facilitated the voting session. Participants voted on the level of impact each goal would have on optimizing freight operations in the State of Iowa. After each voting slide, participants offered their input on their responses. The voting results validated and helped identify next steps in refining the goals for the State Freight Plan. (Appendix D, Goal Input Process).

Presentation 2: 2016 Iowa Rail Plan Overview

Iowa DOT's Freight and Passenger Policy Coordinator Amanda Martin provided an overview of the development of the State Rail Plan. She introduced the Federal Railroad Administration (FRA) guidance that informs the development of the State Rail Plan. Martin discussed the goals and objectives the Iowa DOT has for the plan. Tammy Nicholson provided context for participants to learn about where Iowa rail and freight are today. Nicholson ended the presentation with an overview of Iowa's rail programs and funding level.

SWOT Analysis Activity

Theresa McClure facilitated a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis activity with the full group to develop a unified vision for the action plan.

Participants were broken into five groups, of approximately the same size, and asked to identify strengths, weaknesses, opportunities and threats of the rail system.

Each group assigned a speaker and a scribe. The table self-facilitated a discussion on the strengths, weaknesses, opportunities and threats of the rail system in Iowa. After each group worked through each category, McClure facilitated a round-robin reporting discussion on each SWOT category. CyBiz scribes documented each category. SWOT results were placed on the wall in the room. A master list of SWOT items was compiled. Participants received three sticker dots for each SWOT category and were asked to vote for the items in each category they felt were most important; participants could use their dots in any way they saw fit, including placing all three dots by one item. (Appendix E, Rail Plan SWOT List)

Table 2: Top Five Items from Each Category of the SWOT Analysis

Strengths	Weaknesses
1. *Private ownership and funding*	1. *Bottlenecks associated with yard capacity*
2. *Efficiency driven*	2. *No major intermodal hub*
3. *The need to move large quantities of bulk freight*	3. *Too many grade crossings*
4. *Class 2 and 3 railroad connection to community*	4. *High volume of pass through traffic*
5. *Connection of modes*	5. *Availability of railcars – for lease or purchase*
Opportunities	**Threats**
1. *Expand transload and intermodal load facilities*	1. *Aging infrastructure*
2. *Additional state funding for railroads*	2. *Truck size and weight – 33' trailers specifically*
3. *Economic development*	3. *Uncertainty*
4. *Railroad capacity expansion*	4. *Uncertainty renewal of 45G rail tax credit*
5. *Congestion reduction on highway system*	5. *Regulatory issues – Positive Train Control (PTC)*

Issues Identification and Categorization

The visioning session was intended to help understand the full breadth of issues faced by Iowa stakeholders with rail and freight industry interests in Iowa. Workshop participants were separated into groups by the project team, based on the organizations they represented, to discuss issues from the following points of view: advocacy, policy, research/planning, business, rail and government.

One project team member with Iowa DOT team members facilitated the following focus groups to discuss the issues that most critically impact rail operations in Iowa.

1. *Passenger Rail*
2. *Safety and Security of Freight Operations*
3. *Economic and Workforce Development*
4. *Multimodal Freight Networks*
5. *Multimodal Freight Link and Connectors*

One CyBIZ scribe assisted each set of facilitators.

Participants then came back into a large group and reported on their small-group findings. (Appendix F, Focus Group Reports) General themes were taken from these reports to inform the State Rail Plan.

Table 3: Themes from Issues Identification and Categorization

Passenger Rail	Safety and Security of Freight Operations
• *Lack of dedicated line* • *Competing modes and costs of modes* • *Lack of demand* • *Need appeal, incentive* • *Creates jobs, develops economy*	• *Very good compared to other states* • *Cities lack enough information, resources on hazmat derailments* • *Need additional training, education* • *Additional funding*
Economic and Workforce Development	**Multimodal Freight Networks**
• *Transportation is key* • *Efficiency* • *Workforce development* • *Additional funding* • *Aging infrastructure* • *Connections to rural communities* • *Worker availability*	• *Globalization* • *Aging infrastructure* • *Need greater connectivity* • *Selective rail investments* • *New industry trends driven by Panama Canal expansion* • *Not enough vehicle/container capacity to move freight* • *Intermodal/multimodal transportation facilities (to transfer goods mode to mode)* • *Lack of enough access points* • *Transit time of railroads*
Multimodal Freight Link and Connectors	
• *Underutilized transloads* • *Improved rail car availability and capacity* • *Global access* • *Improved efficiency and standardization* • *Service issue with capacity* • *Corridor development* • *Economic development opportunities*	

Next Steps

Amanda Martin closed the meeting with an overview of the next opportunities for public involvement and invited participants to consider participating in the High Leverage Stakeholder Committee.

Appendices

Appendix A: Invitation Mailing and Attendee List

First Name	Last Name	Organization	Attended?
Fjay	Allison	10-15 Regional Transit Agency	
Jim	Dougherty	ADM	✓
Brett	Madison	ADM	
Joel	Brinkmeyer	Agribusiness Association of Iowa	
John	Riches	Alcoa	
Kevin	Burke	Alliant Energy Transportation/ CR & IA City Railroad	
Derrick	James	Amtrak	
Adam	Krom	Amtrak	
Craig	Kroeger	Appanoose County Community Railroad (APNC)	
Melody	McHugh	Army Corps of Engineers	
Ron	White	ARTCO Fleeting Service	
Becky	Nardy	ATURA Transportation Planning Affiliation	✓
		Barr Nunn Transportation Inc.	
		Beisser Lumber Co.	
Denise	Bulat	Bi-State Regional Commission	
Gena	McCullough	Bi-State Regional Commission	✓
Becky	Passman	Bi-State Regional Commission	
Sarod	Dhuru	BNSF Railway	✓
Paul	Nowicki	BNSF Railway Company	
Fenner	Stevenson	Boone & Scenic Valley Railroad & Museum	
Brian	Keierleber	Buchanan County Engineers Office	
Steve	Hoth	Burlington Junction Railway	
Andrew	Hoth	Burlington Junction Railway (BJRY)	✓
Jonathon	Wingate	Burlington Junction Railway (BJRY)	
Robert	Wingate	Burlington Junction Railway (BJRY)	
Steve	Hoambrecker	Burlington Urban Service	
Brian	McClatchey	Cambus	
Herb	Jones	Canadian Pacific Railroad	
Brad	Hildebrand	Cargill	
Larry	Rooney	Cartersville Elevator Inc.	
Justin	Fox	CDM Smith	✓
Jeff	Woods	Cedar Rapids and Iowa City Railway Co. (CRANDIC) Railroad	
Mark	Buschkamp	Cherokee Area Economic Development Corporation	
Kurt	Scheible	Citibus	
Greg	Reeder	City of Council Bluffs	
Mayor Roy	Buol	City of Dubuque	
Mayor Gordon	Canfield	City of Grinnell	
Geoff	Fruin	City of Iowa City	
Tom	Determann	Clinton Regional Development Corpoartion	
Jim	Kvedaras	CN Railroad	✓
Vicky	Robrock	Coralville Transit	
Chad	Lambi	CRANDIC	

Iowa Rail and Freight Plan Issues-Based Workshop Summary

as of 10/15/2015

2016 IOWA RAIL PLAN

IOWA IN MOTION planning ahead 2040

First Name	Last Name	Organization	Attended?
Jack	Parliament	D & I Railroad Co. (DAIR)	✓
Elizabeth	Presutti	DART	
Troy	Russell	Decker Truck Line, Inc.	
Susan	Dixon	Department of Homeland Security	
Dave	Johnston	Department of Homeland Security & Emergency Management	✓
Todd	Ashby	Des Moines Area Metropolitan Planning Organization	
Zach	Young	Des Moines Area Metropolitan Planning Organization	✓
Jack	Sawyer	Des Moines Transportation Company	
William	Boal	Drake University	
Steve	Falck	Environmental Law and Policy Center	✓
Shirley	McGuire	Federal Motor Carrier Safety Administration	✓
Kyle	Gradinger	Federal Railroad Administration	
Rob	Toncar	FedEx	
Teresa	Valenta	FedEx	
Caitlin	Hughes Rayman	FHWA	
Nicole	Katsikides	FHWA	
Sean	Litteral	FHWA	
Mike	LaPietra	FHWA	✓
John	Wahlert	Firestone	
Murry	Fitzer	Florilli Transportation	
Stacy	Timperley	Forbs	✓
Beth	Bilyeu	Forest City Economic Development	
Wynne	Davis	FRA	
Peter	Schwartz	FRA	
Dave	Wilcox	Global Processing Inc.	
Jay	Byers	Greater Des Moines Partnership	
Greg	Jenkins	Greater Muscatine Chamber of Commerce & Industry	
Dave	Coppess	Heartland Co-Op	
Tom	Hauschel	Heartland Co-Op	
Todd	Phillips	Heartland Co-Op	
Steve	Engemann	Hermann Sand & Gravel	
		HNI	
		Hormel Foods Corp.	
Karl	Kruse	Hy-Vee, Inc.	✓
Peter	Rickershauser	Independent Board Member Iowa Interstate Railroad	
Ron	Lang	Independent Trucker	
Tim	Woods	International Traders of Iowa	✓
Basak	Aldemir-Bektas	InTrans	
Jing	Dong	InTrans	✓
Delia	Moon-Meier	Iowa 80 Group	
Rebecca	Neades	Iowa City Chamber	
Chris	O'Brien	Iowa City Transit	

First Name	Last Name	Organization	Attended?
		Iowa Corn Processors Glidden	
Harold	Hommes	Iowa Department of Agriculture and Land Stewardship	
Jennifer	Wright	Iowa Department of Natural Resources	
Brett	Tjepkes	Iowa Department of Public Safety	
John	Adam	Iowa Department of Transportation	
Stu	Anderson	Iowa Department of Transportation	
Phou	Baccam	Iowa Department of Transportation	✓
Kyle	Barichello	Iowa Department of Transportation	✓
Bonnie	Castillo	Iowa Department of Transportation	
Mike	Clayton	Iowa Department of Transportation	
Mitchell	Dillavou	Iowa Department of Transportation	
Ed	Engle	Iowa Department of Transportation	✓
Major Lance	Evans	Iowa Department of Transportation	✓
Sam	Hiscocks	Iowa Department of Transportation	✓
Laura	Hutzell	Iowa Department of Transportation	
Sandra	Larson	Iowa Department of Transportation	
David	Lorenzen	Iowa Department of Transportation	
Mark	Lowe	Iowa Department of Transportation	
Craig	Markley	Iowa Department of Transportation	✓
Amanda	Martin	Iowa Department of Transportation	✓
Diane	McCauley	Iowa Department of Transportation	✓
Phil	Meraz	Iowa Department of Transportation	✓
Phil	Mescher	Iowa Department of Transportation	✓
Tamara	Nicholson	Iowa Department of Transportation	
Garrett	Pedersen	Iowa Department of Transportation	✓
John	Selmer	Iowa Department of Transportation	
Sam	Shea	Iowa Department of Transportation	✓
Cindy	Shearer	Iowa Department of Transportation	
Paul	Trombino III	Iowa Department of Transportation	
Jeff	Von Brown	Iowa Department of Transportation	✓
John	Wilson	Iowa Department of Transportation	
Adam	Broughton	Iowa DNR	
Joseph	Rude	Iowa Economic Development Authority	
Cindy	Litwiller	Iowa Falls Area Development Corporation	✓
Don	McDowell	Iowa Farm Bureau	✓
Joanne	Tinker	Iowa Governor's Traffic Safety Bureau	
Carrie	Evans	Iowa Interstate Railroad	
Jerry	Lipka	Iowa Interstate Railroad	
Joe	Parsons	Iowa Interstate Railroad	✓
Cheryl	Rangel	Iowa Interstate Railroad	
Kathy	Evert	Iowa Lakes Corridor Development	

First Name	Last Name	Organization	Attended?
Robert	Palmer	Iowa League of Cities	
Brenda	Neville	Iowa Motor Truck Association	
Amy	Homan	Iowa Northern Railway Company	✓
Dan	Sabin	Iowa Northern Railway Company	
Dan	Sabin	Iowa Northern Railway Company	
Stephanie	Carlson	Iowa Pork Producers Association	✓
Renee	Schachterle	Iowa River Railroad Inc. (IARR)	
Tim	Borich	Iowa State University	
Judi	Eyles	Iowa State University	
Scott	Grawe	Iowa State University	
Bobby	Martens	Iowa State University	
David	Fellon	Iowa Traction Railway Co. (IATR)	
Michael	Johns	Iowa Traction Railway Co. (IATR)	
Cecil	Wright	Iowa Utilities Board	
Steve	Lallier	J. B. Hunt Transport	✓
Gary	Whicker	J. B. Hunt Transport	
		Jacobson Companies Jacobson Transportation Company	
Kent	Jordan	Jacobson Companies, Jacobson Transportation Company	
		John Deere	
Walt	Valiant	Kent	
Osama	Shihadeh	Kent Corporation	✓
Scott	Cirksena	Kenworth Truck Company	
Mike	Hadley	Keokuk County Board of Supervisors	
Nathan	Johns	Keokuk Junction Railway Co. (KJRY)	
Scott	Stabbe	Key Cooperative	
Ernie	Steffensmeier	Lee County Engineers Office	
Carla	Eysink	Marion County Development Commission	
Michael	Helgerson	Metropolitan Area Planning Agency	✓
Greg	Youell	Metropolitan Area Planning Agency	
Brad	Neuman	Metropolitan Planning Organization of Johnson County	✓
Kent	Ralston	Metropolitan Planning Organization of Johnson County	
		MidAmerican Energy Company	
Melanie	Gray	Monsanto	
Brad	Neuman	MPO of Johnson County	
Brad	Spratt	Muscatine Power and Water	
Bill	Winkelman	National Pork Board	
Michael	Dolch	Office of United States Senator Joni Ernst	✓
Francis	Edeker	Operation Life Saver	
Dave	Silverio	Ottumwa Transit	
		Owen Industries Carter Lake	
Kip	Wills	PHMSA	
Richard	Grenville	PortKC, Kansas City, MO	

Iowa Rail and Freight Plan Issues-Based Workshop Summary

as of 10/15/2015

First Name	Last Name	Organization	Attended?
Terry	Bailey	Pottawattamie County Growth Alliance	
Jason	Hutcheson	Professional Developers of Iowa	
Libby	Ogard	Prime Focus LLC	✓
Rick	Hunsaker	Region XII Council of Governements	
Ben	McLean	Ruan	
Kevin	Ekstrand	Scarbrough International, LTD	
Corey	Nikkel	Schillinger Genetics, Inc.	
Mike	Norris	Southeast Iowa Regional Planning Commission	
Leesa	Lester	Southern Iowa Trolley	
Mike	Steenhoek	Soy Transportation Coalition	
Jantina	Wennerstrom	Soy Transportation Coalition	✓
Liz	McDonald	SSAB, Inc.	✓
John	Tobin	SSAB, Inc.	
Dave	Purdy	State of Nebraska Passenger Rail Advocate	
David	Ewing	States for Passenger Rail	
Steve	Ford	Stonebridge Ltd.	
Brent	Vanderleest	Sully Transportation	
Randy	Draper	Target	
		TMC	
		Trinity Towers Newton	
Col. Craig	Baumbartner	U.S. Army Corps of Engineers	
Christine	Schrage	UNI-College of Business	
Wayne	Borg	Union Pacific Railroad	
Kyle	Nodgaard	Union Pacific Railroad	✓
Kelli	O'Brien	Union Pacific Railroad	✓
Rabah	Amir	UofIowa - Economics	
Ann	Campbell	UofIowa - Logistics	
Paul	Hanley	UofIowa - Transportation Policy	
Mark	Peterson	UPS	
		Van Wyk Freight Lines Inc.	
Matt	Decker	Vermeer	
Bill	Neeses	West Central Co-Op	✓
Bill	Horan	Western Iowa Energy, LLC	
Thomas	Kopp	World Food Processing, LLC- St. Paul	
Tina	Draur	XPO Logistics	
Tyler	Vande Vorde	XPO Logistics	
Heather	Clark		
Jackie	Corletto		
Shane	Cullen		
Natalie	Hammer		
Onna	Houck		
Jeff	Kurtz		

Iowa Rail and Freight Plan Issues-Based Workshop Summary

as of 10/15/2015

First Name	Last Name	Organization	Attended?
Daniel	LaKemper		
Raymond	Lang		
Dennis	Miller		
Charles	Monte Verde		
Calvin	Nutt		
Jim	Obradovich		
Henry	Posner III		
Joshua	Sabin		
Mark	Sabin		
Daniel	Sanchez		
Alan	Schroeder		
Lon	Van Gemert		

Appendix B: Example Workshop Invitations

Email distributed 8/31/2015

IOWA DOT

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www.iowadot.gov

August 31, 2015

We invite you to attend an issues-based workshop for the statewide rail and freight planning efforts. Your expertise and participation in the workshop will provide us with important insight and guidance in the development of the Iowa State Rail Plan and State Freight Plan, which is a multimodal freight plan. As we develop these plans, we know it is important to rely on those who work with both rail and freight every day. **We need your input and voice.**

The purpose of this workshop is to introduce you to the details of those plans and your role in the development process. We are committed to actively engaging private sector rail and freight infrastructure owners, freight industry stakeholders, shippers, public planning agencies, transit operators, railroad and freight organizations and passenger rail stakeholders in the planning process.

This workshop marks the beginning of our upcoming public and stakeholder engagement efforts for the planning process. Because we have aligned the development of both plans, we recognize there are overlaps. Similar issues and concerns will come up as both of these plans are developed. By combining the stakeholder engagement process, we are able to facilitate more efficient outreach efforts, such as this workshop. Your input, expertise and perspective will help shape and strengthen each of these plans. **By attending this workshop, you will have the opportunity to thoroughly share your concerns, needs and benefits while networking with experts from across the state.**

This workshop will:

- develop a baseline understanding of stakeholders' thoughts on multimodal freight development, transportation safety, economic development, passenger rail, targeted state investment and hazardous materials transportation; and
- integrate and coordinate stakeholder and public involvement with technical planning activities that have already occurred by the Iowa Department of Transportation

Meeting Details:
Date: September 24, 2015
Time: 8:00 am – 3:45 pm
Location: Holiday Inn Downtown – Mercy Area
1050 6th Ave
Des Moines, IA 50314

State Rail Plan Goals

- *Create a state rail vision and a supporting program of proposed public rail investments and improvements that will result in quantifiable economic benefits to Iowa.*
- *Enable Iowa to implement an efficient and effective approach for merging passenger and freight rail elements into the larger multimodal and intermodal transportation framework.*
- *Incorporate initiatives from the federal and state level, aligning the priorities of Iowa rail stakeholders.*
- *Provide a vision for integrated freight and passenger rail planning in the state, unifying the common interests of the various stakeholders within Iowa.*
- *Coordinate with the development of the Iowa Freight Plan and the Iowa State Transportation Plan.*
- *Ensure an open and inclusive process.*
- *Provide an outline to educate the public on Iowa's rail system.*

State Freight Plan Goals

- *Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness*
- *Reduce congestion on the freight transportation system*
- *Improve the safety, security, and resilience of the freight transportation system*
- *Improve the state of good repair of the freight transportation system*
- *Use advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system*
- *Reduce adverse environmental and community impacts of the freight system*
- *Gather stakeholder input around key areas: multimodal freight development, transportation safety, economic development, passenger rail, targeted state investment and hazardous materials transportation.*

Join us!

We encourage you or a representative of your organization to participate. Please RSVP by emailing info@engagerailfreightplans.com or calling Wendy at (712) 326-3735 by September 15th.

We look forward to seeing you.

Sincerely,

Stuart Anderson

Stuart Anderson, Director
Planning, Programming and Modal Division

Iowa Rail and Freight Plan Issues-Based Workshop Summary

as of 10/15/2015

Email distributed 9/11/2015

IOWA DOT
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www.iowadot.gov

September 11, 2015

We invite you to participate in an Issues-Based Workshop for the statewide rail and freight planning efforts. The workshop takes place:

Date: Thursday, September 24
Time: 8:00 am - 3:45 pm
Location: Holiday Inn Downtown - Mercy Area
1050 6th Ave, Des Moines, IA 50314
***Attendance is free and lunch will be provided.**

Your expertise and participation in the workshop will provide us with important insight and guidance in the development of the Iowa State Rail Plan and Freight Plan. The State Freight Plan is is a multimodal freight plan. As we develop these plans, we know it is important to rely on those who work with rail and freight every day. **Your input is important!**

At the workshop we will to introduce you to the details of the plans and your role in the planning process. We are committed to actively engaging private sector rail and freight infrastructure owners, freight industry stakeholders, shippers, public planning agencies, transit operators, railroad and freight organizations, and passenger rail stakeholders in the planning process.

By attending this workshop, you will have the opportunity to share your concerns, needs and benefits while networking with experts in the freight and rail industry from across the state.

Join us! We encourage you or a representative of your organization to participate. Please RSVP by emailing info@engagefreightrailplans.com or calling Wendy at (712) 326-3735 by September 15th.

We look forward to seeing you.

Stuart Anderson, Director
Planning, Programming and Modal Division

800 Lincoln Way
Ames, IA 50010

Email distributed 9/18/2015

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September 18, 2015

There is still time to RSVP to attend the Issues-Based Workshop. Don't delay, you have until Monday, September 21st to respond!

By attending this workshop, you will have the opportunity to share your concerns, needs and benefits about Iowa's rail and freight transportation systems and provide input into what they need to look like in the future. Plus, have the chance to network with other freight and rail industry experts from across the state.

The workshop takes place:

Date: Thursday, September 24
Time: 8:00 am - 3:45 pm
Location: Holiday Inn Downtown - Mercy Area
1050 6th Ave, Des Moines, IA 50314
***Attendance is free and lunch will be provided.**

Join us! We encourage you or a representative of your organization to participate. Please RSVP by emailing info@engagefreightrailplans.com or calling Wendy at (712) 326-3735 by September 21st.

We look forward to seeing you.

Stuart Anderson

Stuart Anderson, Director
Planning, Programming and Modal Division

800 Lincoln Way
Ames, IA 50010

Opt Out

Connect with us! Our website is live! If you have any questions, visit http://engagefreightrailplans.iowadot.gov/.

Iowa Rail and Freight Plan Issues-Based Workshop Summary

as of 10/15/2015

Email distributed 9/23/2015

IOWA DOT
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www.iowadot.gov

September 23, 2015

The Issues-Based Workshop is tomorrow, September 24th!

We will be seeking your input on the rail and freight system in the state today and what it needs to look like in the future as the department prepares a rail and multimodal freight plan. For your convenience, we are sending tomorrow's agenda. **Please note that registration begins at 8:00 a.m. and the meeting welcome begins at 8:30 a.m.**

Thursday, September 24

Holiday Inn Downtown – Mercy Area
Top of the Tower Room
1050 6th Avenue
Des Moines, IA 50314

WiFi Login: guest
Password: rewardsclub

8:00 – 8:30 am

- **Registration**

8:30 – 8:45 am

- **Welcome and Safety Briefing**

8:45 – 10:00 am

- **Freight Context Setting and Visioning**

10:00 – 10:15 am

- **Break**

10:15 – 11:30 am

- **Rail Context Setting and Visioning**

11:30 – 12:00 pm

- **Lunch**

12:00 – 2:00 pm

- **Focus Group Break Outs**

  Table assignments correspond with the sticker on your nametag.

  1. **Table One (red)**
  2. **Table Two (blue)**
  3. **Table Three (green)**
  4. **Table Four (yellow)**
  5. **Table Five (orange)**
- **Issues Categorization**

2:00 – 2:15 pm

- **Break**

2:15 – 3:45 pm

- **Focus Group Reports and Wrap-up**

Stuart Anderson

Stuart Anderson, Director
Planning, Programming and Modal Division

800 Lincoln Way
Ames, IA 50010

Opt Out

Connect with us! Our website is live! If you have any questions, visit http://engagefreightrailplans.iowadot.gov/.

Appendix C: Attendee Handout Packet

Issues-Based Workshop Agenda

Thursday, September 24

Holiday Inn Downtown – Mercy Area
Top of the Tower Room
1050 6th Avenue
Des Moines, IA 50314
WiFi Login: guest
Password: rewardsclub

8:00 – 8:30 am

- ***Registration***

8:30 – 8:45 am

- ***Welcome and Safety Briefing***

8:45 – 10:00 am

- ***Freight Context Setting and Visioning***

10:00 – 10:15 am

- ***Break***

10:15 – 11:30 am

- ***Rail Context Setting and Visioning***

11:30 – 12:00 pm

- ***Lunch***

12:00 – 2:00 pm

- ***Focus Group Break Outs***
  Table assignments correspond with the sticker on your nametag.
  1. ***Table One (red)***
  2. ***Table Two (blue)***
  3. ***Table Three (green)***
  4. ***Table Four (yellow)***
  5. ***Table Five (orange)***
- ***Issues Categorization***

2:00 – 2:15 pm

- ***Break***

2:15 – 3:45 pm

- ***Focus Group Reports and Wrap-up***

2016 **IOWA RAIL PLAN**

ISSUES-BASED WORKSHOP HANDOUT

September 2015

WELCOME!

The purpose of today's workshop is to introduce you to details of the Iowa State Rail and Freight Plans, explain your role in the development process, answer questions and receive your comments.

Today we will:

- Develop a baseline understanding of your thoughts on multimodal freight development, transportation safety, economic development, passenger rail, targeted state investment and hazardous materials transportation; and
- Integrate and coordinate stakeholder and public involvement with technical planning activities that have already occurred.

Background

In September 2013, the Federal Railroad Administration (FRA) published its Final State Rail Plan Guidance, which provided direction for State Rail Plan stakeholder and public involvement. We are actively engaging private sector rail and freight infrastructure owners, public planning agencies, transit operators, rail authorities, railroad and freight organizations, and passenger rail stakeholders. The Iowa State Rail Plan will identify proposed improvements in urban and rural areas for those who travel through it.

The State Freight Plan outlines freight planning activities that will achieve the objective for the state to provide a safe, efficient and convenient freight transportation system to Iowans. The Freight Plan is a way to connect all of these initiatives and allow them to move forward towards a common goal of optimal freight transportation throughout the state. In addition, the Freight Plan will guide our investment decisions to maintain and improve the freight transportation system, and ultimately strengthen Iowa's economy and raise the quality of life for our citizens.

The development of a comprehensive Iowa State Rail Plan in collaboration with the implementation of the Freight Plan offers an opportunity for us to accurately define what the rail and freight system in the state looks like today and what it needs to look like in the future.

State Rail and Freight Plan Overlap

The State Rail and Freight Plans are closely related and have several overlapping activities. Combining public engagement efforts of both the Rail and Freight Plan allows us to integrate feedback appropriately. Due to the subject matter, there is natural overlap of information, data and analysis for both rail and freight.

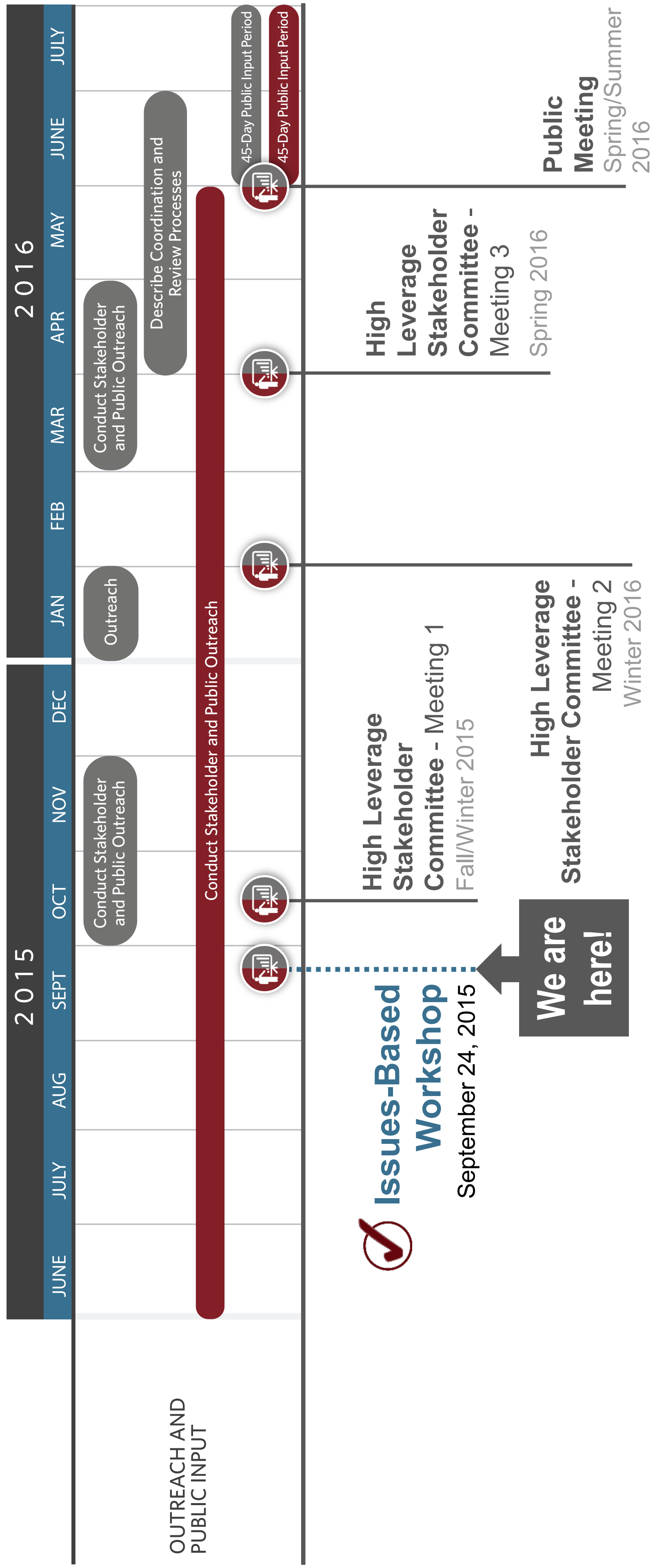
Draft State Rail Plan Goals

- Create a state rail vision and a supporting program of proposed public rail investments and improvements that will result in quantifiable economic benefits to Iowa.
- Enable Iowa to implement an efficient and effective approach for merging passenger and freight rail elements into the larger multimodal and intermodal transportation framework.
- Incorporate initiatives from the federal and state level, aligning the priorities of Iowa rail stakeholders.
- Provide a vision for integrated freight and passenger rail planning in the state, unifying the common interests of the various stakeholders within Iowa.
- Coordinate with the development of the Iowa Freight Plan and the Iowa State Transportation Plan.
- Ensure an open and inclusive process.
- Provide an outline to educate the public on Iowa's rail system.

State Freight Plan Goals

- Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness
- Reduce congestion on the freight transportation system
- Improve the safety, security, and resilience of the freight transportation system
- Improve the state of good repair of the freight transportation system
- Use advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system
- Reduce adverse environmental and community impacts of the freight system
- Gather stakeholder input around key areas: multimodal freight development, transportation safety, economic development, passenger rail, targeted state investment and hazardous materials transportation.

What's Next?



STAY INVOLVED

- Participate in the workshop's online survey: http://engagefreightrailplans.iowadot.gov/resources/surveys
- Visit us at http://engagefreightrailplans.iowadot.gov
- Email us: at info@EngageRailFreightPlans.com

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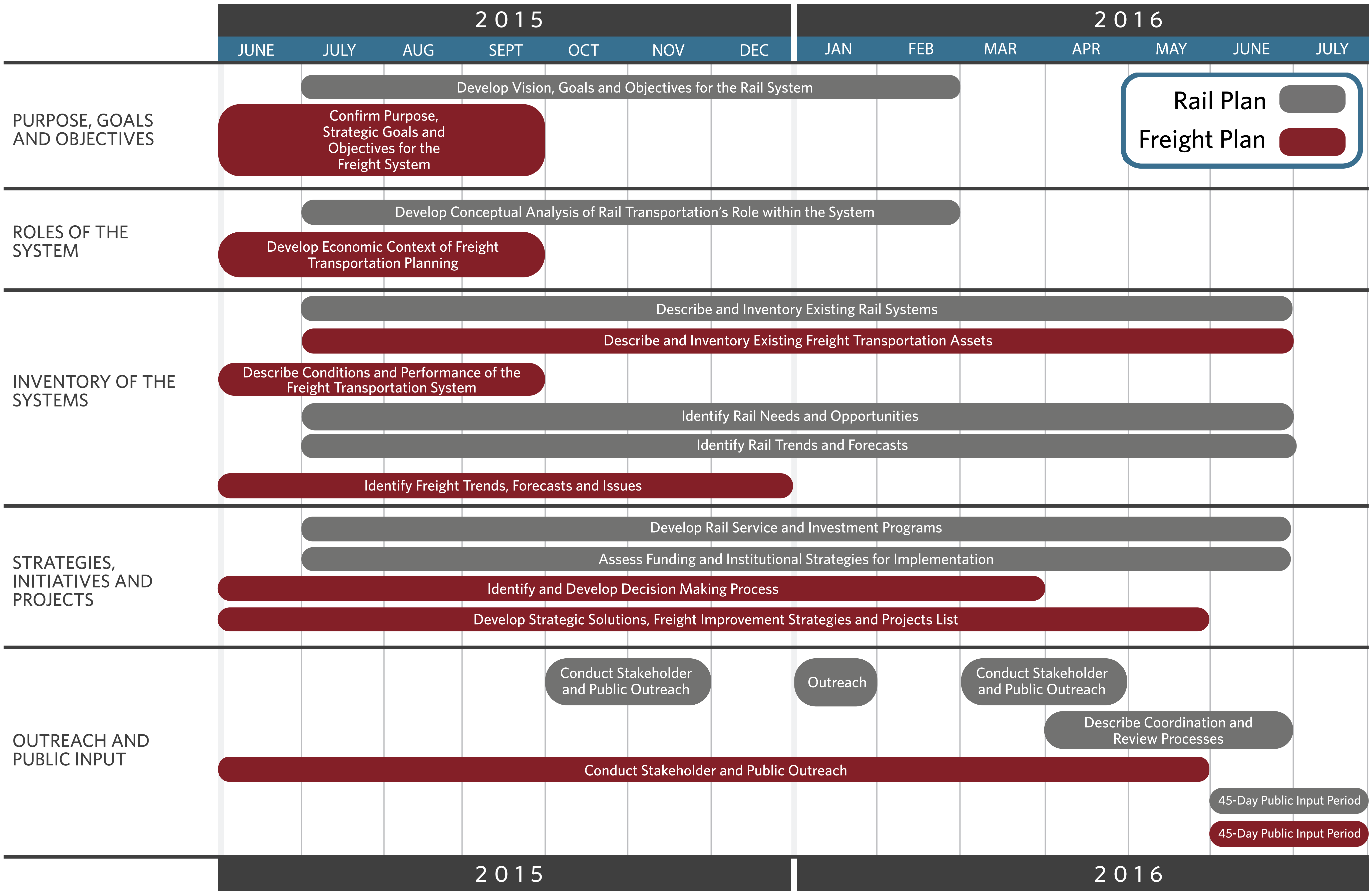
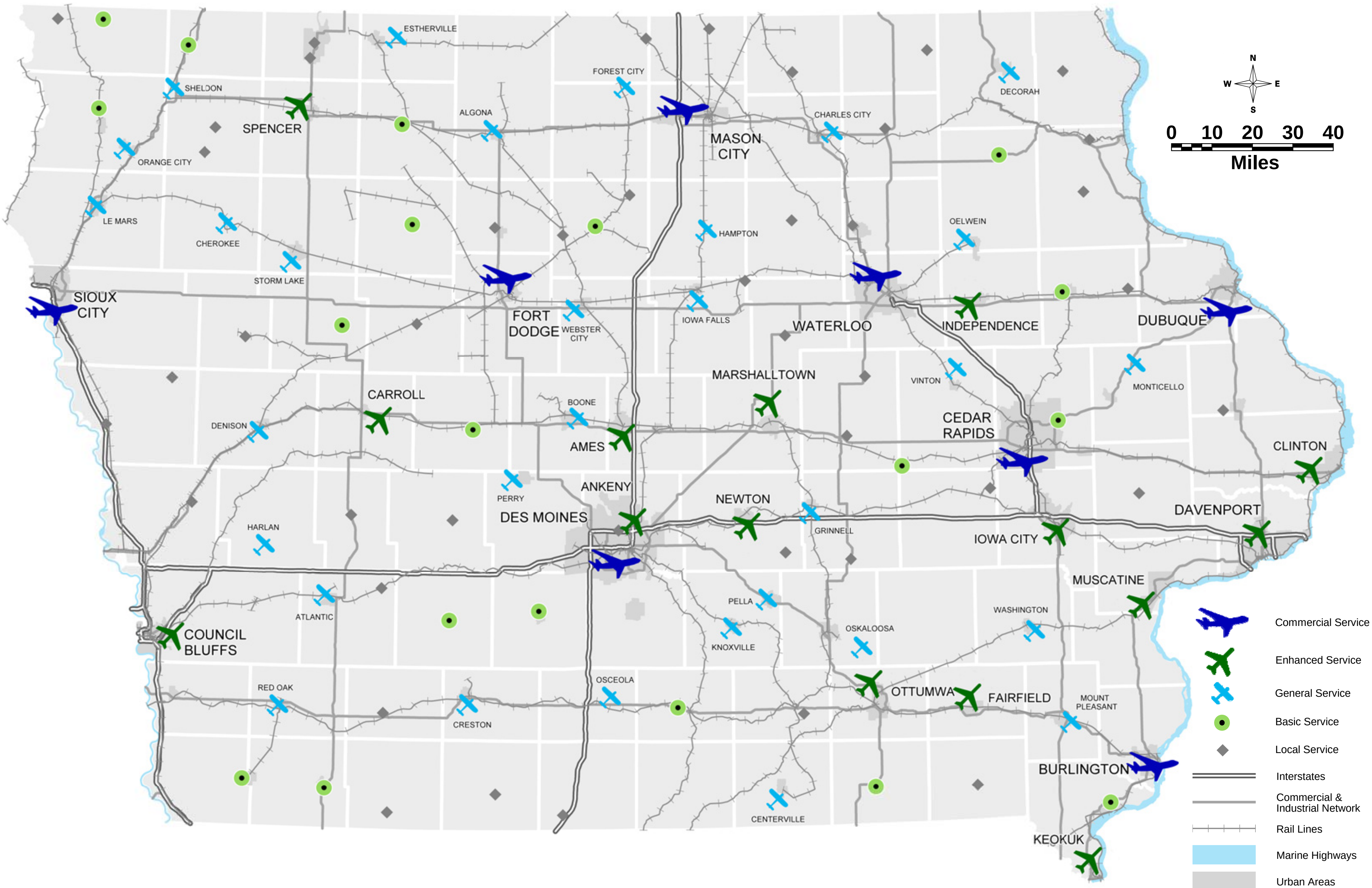
What is the Schedule for the Plans?





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FOREST CITY
DECORAH
SHELDON
SPENCER
ALGONA
MASON CITY
CHARLES CITY
ORANGE CITY
LE MARS
CHEROKEE
HAMPTON
OELWEIN
STORM LAKE
SIOUX CITY
FORT DODGE
WEBSTER CITY
IOWA FALLS
WATERLOO
INDEPENDENCE
DUBUQUE
MARSHALLTOWN
VINTON
MONTICELLO
CARROLL
BOONE
DENISON
CEDAR RAPIDS
AMES
CLINTON
ANKENY
PERRY
NEWTON
DAVENPORT
DES MOINES
HARLAN
GRINNELL
IOWA CITY
MUSCATINE
ATLANTIC
PELLA
WASHINGTON
COUNCIL BLUFFS
KNOXVILLE
OSKALOOSA
RED OAK
OSCEOLA
OTTUMWA
FAIRFIELD
MOUNT PLEASANT
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Enhanced Service
General Service
Basic Service
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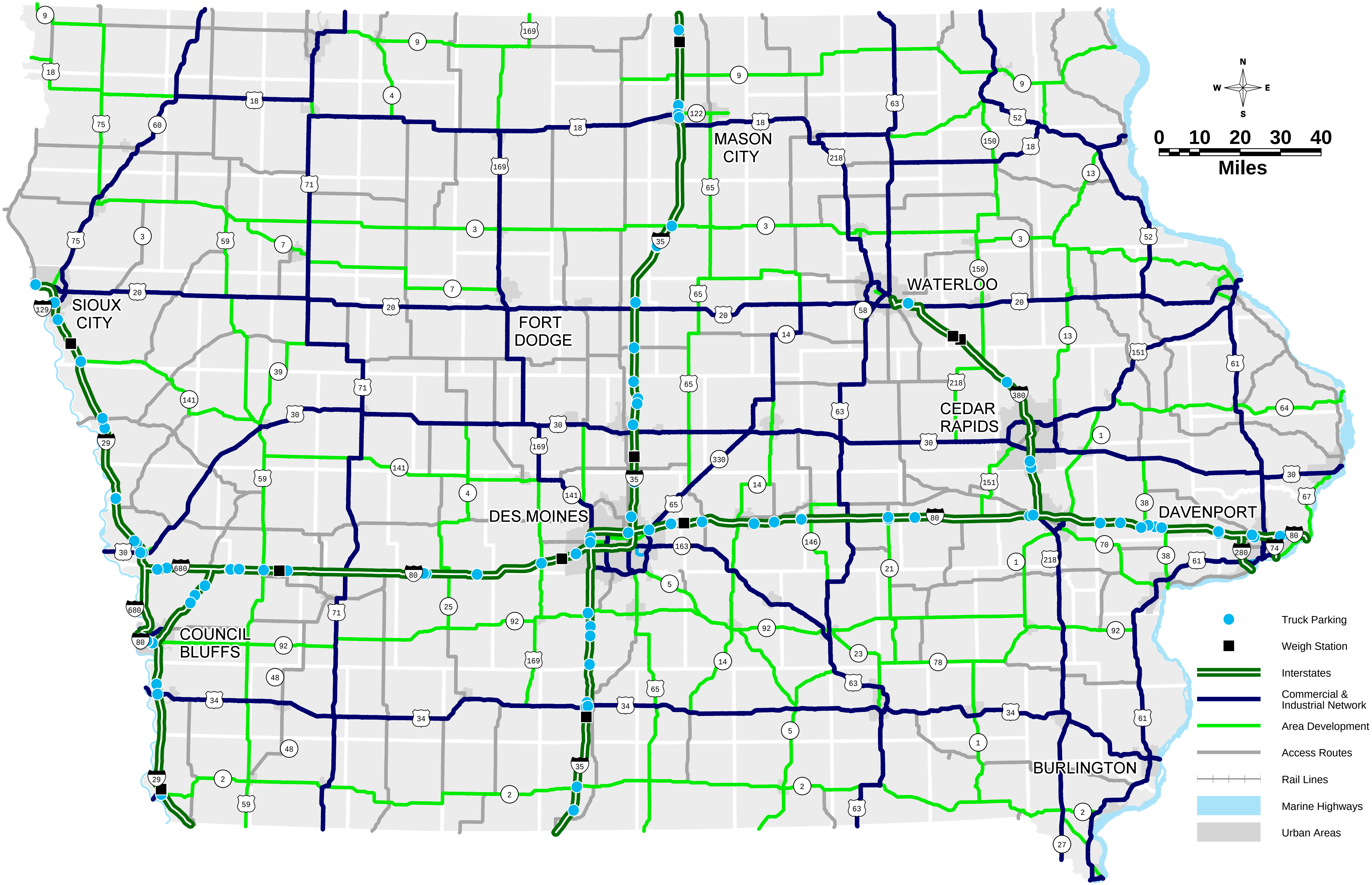
Interstates
Commercial & Industrial Network
Rail Lines
Marine Highways
Urban Areas



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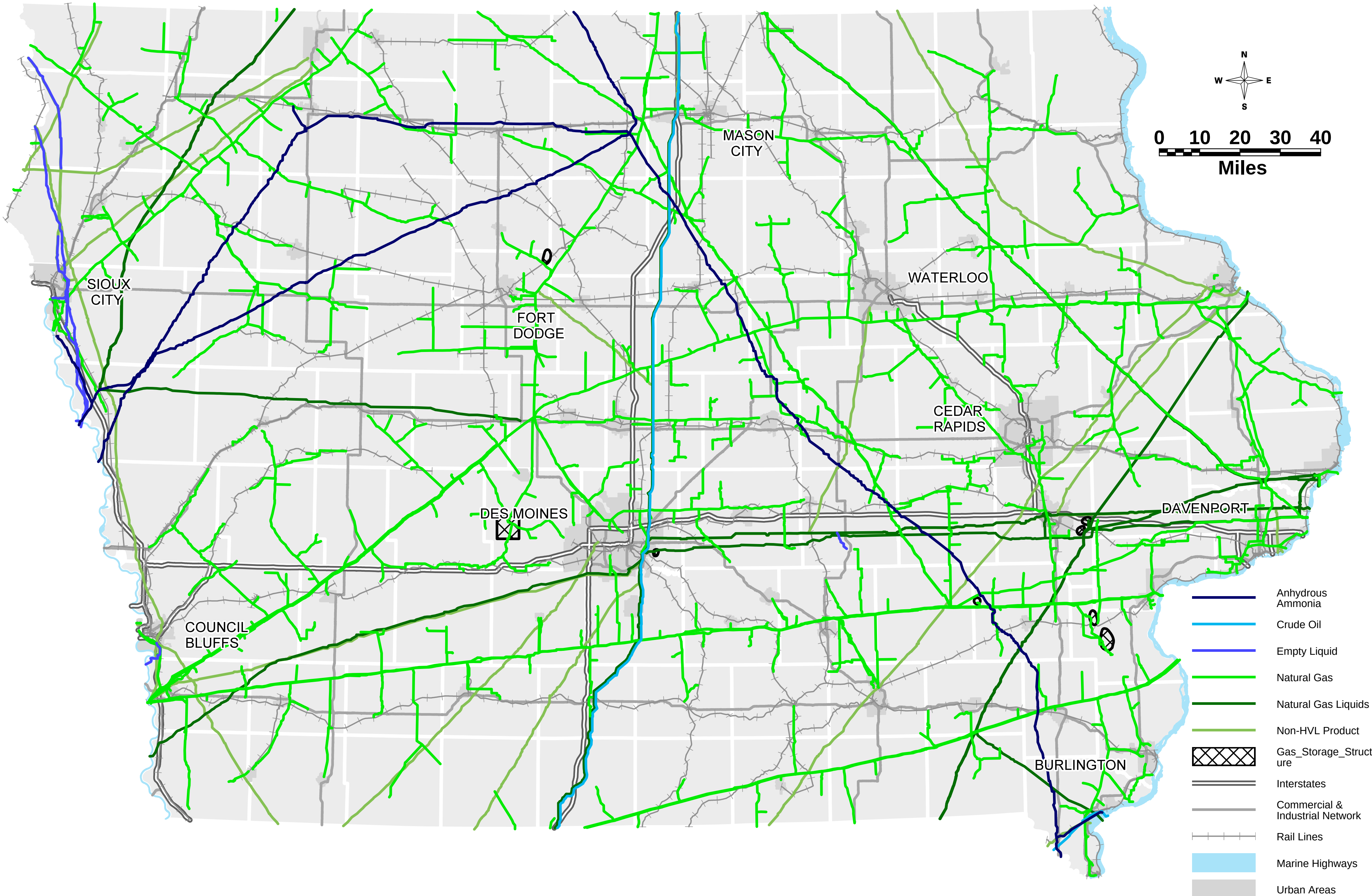
Area Development
Access Routes
Rail Lines
Marine Highways
Urban Areas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BURLINGTON
Anhydrous Ammonia
Crude Oil
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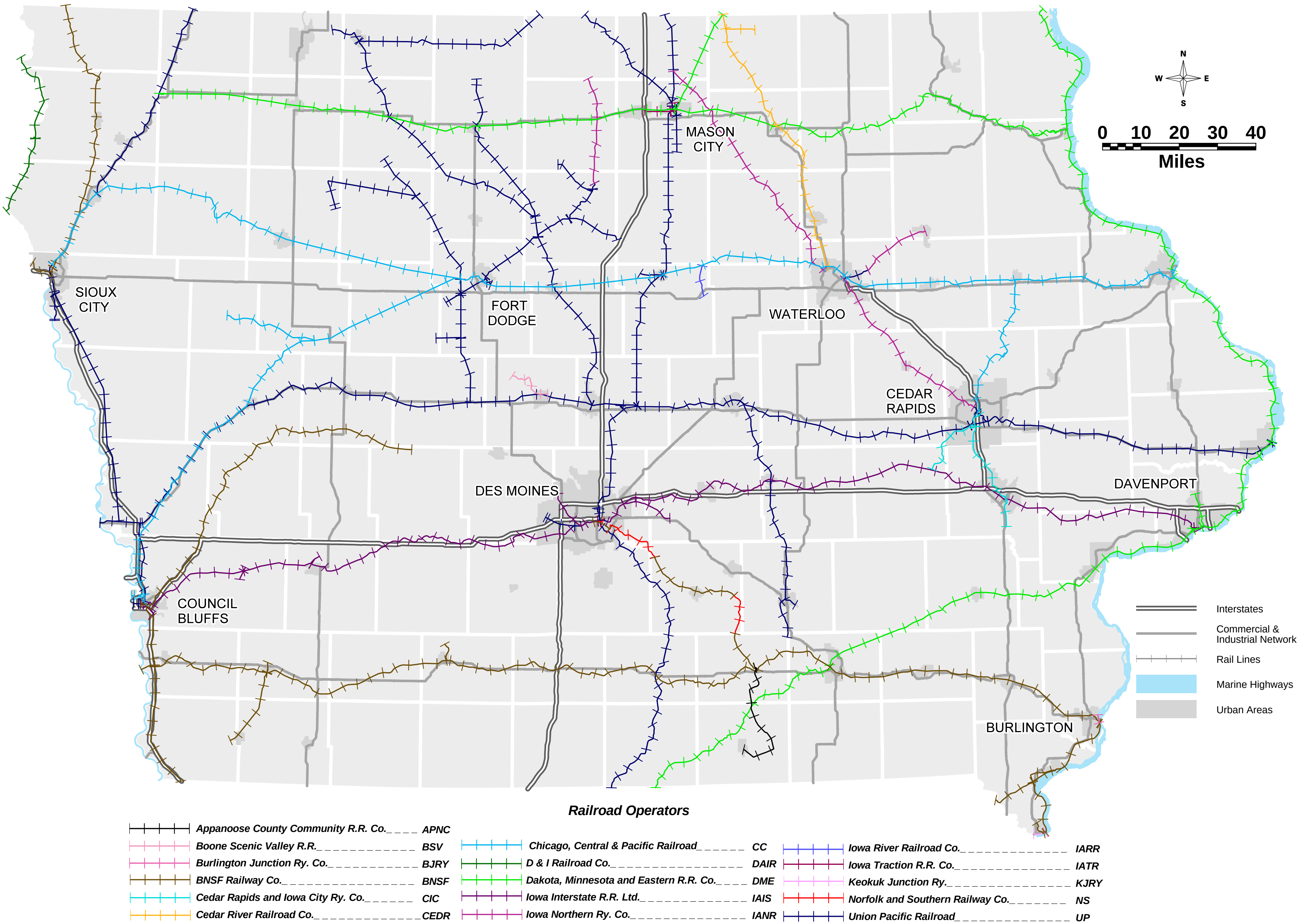
Natural Gas
Natural Gas Liquids
Non-HVL Product
Gas_Storage_Structure
Interstates
Commercial & Industrial Network
Rail Lines
Marine Highways
Urban Areas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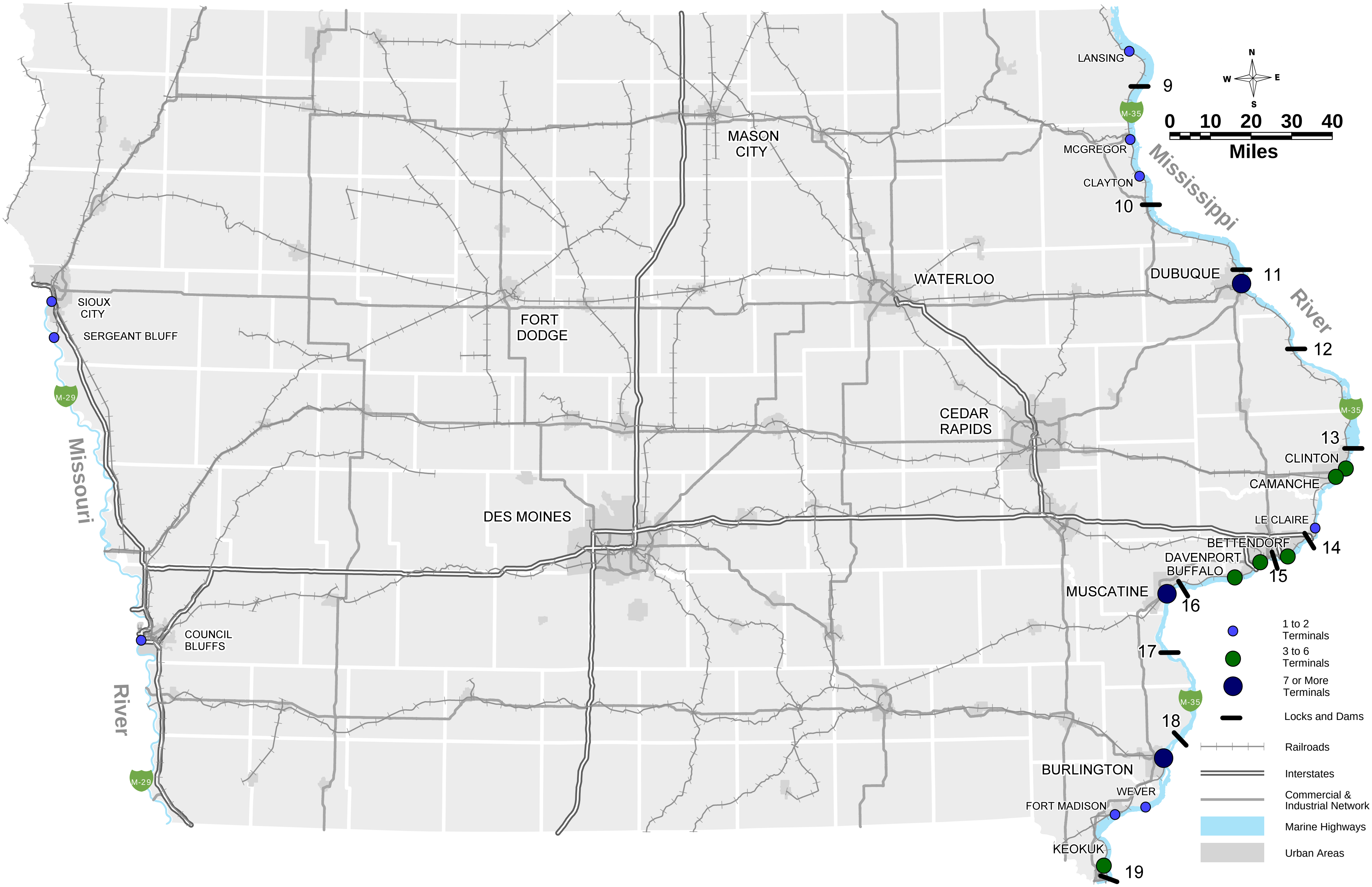
CEDAR RAPIDS
DES MOINES
DAVENPORT
COUNCIL BLUFFS
BURLINGTON
Interstates
Commercial & Industrial Network
Rail Lines
Marine Highways
Urban Areas
Railroad Operators
Appanoose County Community R.R. Co. APNC
Boone Scenic Valley R.R. BSV
Burlington Junction Ry. Co. BJRY
BNSF Railway Co. BNSF
Cedar Rapids and Iowa City Ry. Co. CIC
Cedar River Railroad Co. CEDR
Chicago, Central & Pacific Railroad CC
D & I Railroad Co. DAIR
Dakota, Minnesota and Eastern R.R. Co. DME
Iowa Interstate R.R. Ltd. IAIS
Iowa Northern Ry. Co. IANR
Iowa River Railroad Co. IARR
Iowa Traction R.R. Co. IATR
Keokuk Junction Ry. KJRY
Norfolk and Southern Railway Co. NS
Union Pacific Railroad UP


IOWA
RAILROAD SERVICE MAP
Prepared by
IOWADOT
Phone (515) 239 - 1664
In Cooperation with
United States
Department of Transportation
July 1, 2014
Miles
Kilometers
Operating Railroads
Amtrak — AMTK
Appanoose County Community R.R. Co. — APNC
Boone Scenic Valley R.R. — BSV
Burlington Junction Ry. Co. — BJRY
BNSF Railway Co. — BNSF
Cedar Rapids and Iowa City Ry. Co. — CIC
Cedar River Railroad Co. — CEDR
Chicago, Central & Pacific Railroad — CC
D & I Railroad Co. — DAIR
Dakota, Minnesota and Eastern R.R. Co. — DME
Iowa Interstate R.R. Ltd. — IAIS
Iowa Northern Ry. Co. — IANR
Iowa River Railroad Co. — IARR
Iowa Traction R.R. Co. — IATR
Keokuk Junction Ry. — KJRY
Norfolk and Southern Railway Co. — NS
Soo Line — SOO
Union Pacific Railroad — UP
Private Track – Cargill Alliance — CGAQ
Non-Operating Railroad Owners
Canadian National Railway Co. — CN
Canadian Pacific Railroad — CP
CBEC Railway Co. — CBRX
D & W Railroad Inc. — DWRV
North Central Iowa Rail Corridor — NCIRC
Pioneer Rail Corp. — PNRC
Progressive Rail — PGR
State of South Dakota — SD
Trackage Rights Only — ( )
Primary Operator — (<>)
Trackage Rights
(BNSF) (IANR)
(CC) (KJRY)
(DAIR) (NS)
(DME) (SOO)
(IAIS) (UP)
Special Notes
1 CBRX -- Six Miles of track in the Council Bluffs area
2 IATR -- Thirteen miles of track in Mason City
3 BJRY -- Five miles of track in Burlington
4 CGAQ -- Privately owned track south of Eddyville
4 - 10 - 2015



LANSING
9
M-35
MCGREGOR
CLAYTON
10
Mississippi
River
DUBUQUE
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CLINTON
CAMANCHE
LE CLAIRE
BETTENDORF
14
DAVENPORT
BUFFALO
15
MUSCATINE
16
17
18
BURLINGTON
WEVER
FORT MADISON
KEOKUK
19
MASON CITY
WATERLOO
FORT DODGE
CEDAR RAPIDS
DES MOINES
SIOUX CITY
SERGEANT BLUFF
M-29
Missouri
River
COUNCIL BLUFFS
N
W
E
S
0 10 20 30 40
Miles
1 to 2 Terminals
3 to 6 Terminals
7 or More Terminals
Locks and Dams
Railroads
Interstates
Commercial & Industrial Network
Marine Highways
Urban Areas

Appendix D: Goal Input Process

The themes and issues captured during the goal input process follow the voting results from the workshop.

Session Name
New Session 9-24-2015 9-44 AM

Date Created	Active Participants	Total Participants
9/24/2015 7:41:37 AM	42	42

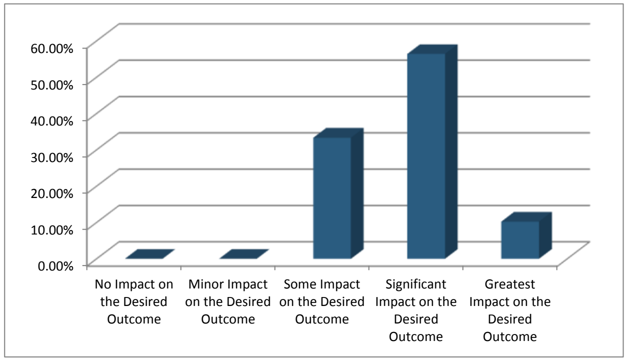
Average Score	Questions
0.00%	7

Results by Question

1. Baseline question (Omitted)

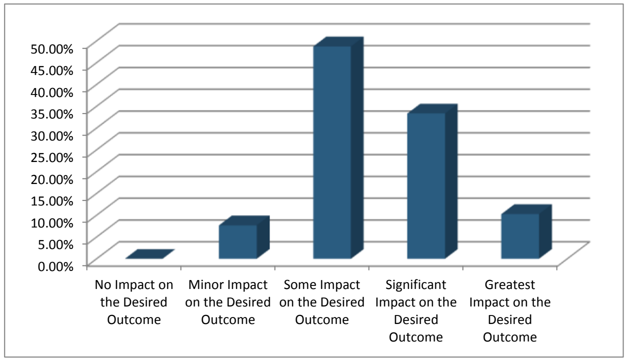
2. Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	0.00%	0
Some Impact on the Desired Outcome	33.33%	13
Significant Impact on the Desired Outcome	56.41%	22
Greatest Impact on the Desired Outcome	10.26%	4
Totals	**100%**	**39**



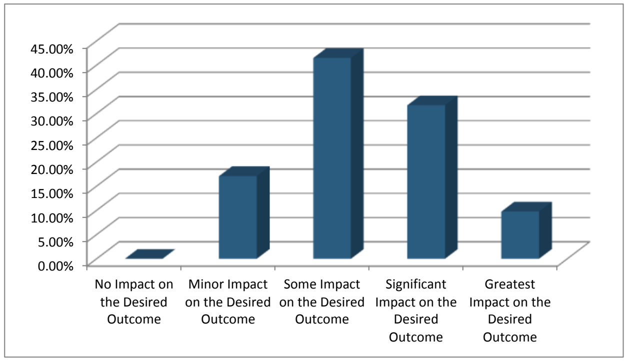
3. Reduce congestion on the freight transportation system (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	7.69%	3
Some Impact on the Desired Outcome	48.72%	19
Significant Impact on the Desired Outcome	33.33%	13
Greatest Impact on the Desired Outcome	10.26%	4
Totals	**100%**	**39**



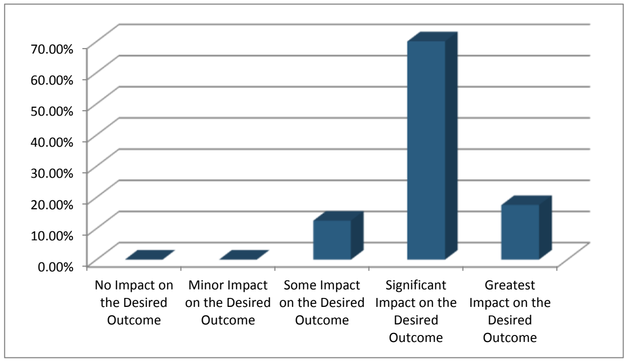
4. Improve the safety, security, and resilience of the freight transportation system (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	17.07%	7
Some Impact on the Desired Outcome	41.46%	17
Significant Impact on the Desired Outcome	31.71%	13
Greatest Impact on the Desired Outcome	9.76%	4
Totals	**100%**	**41**



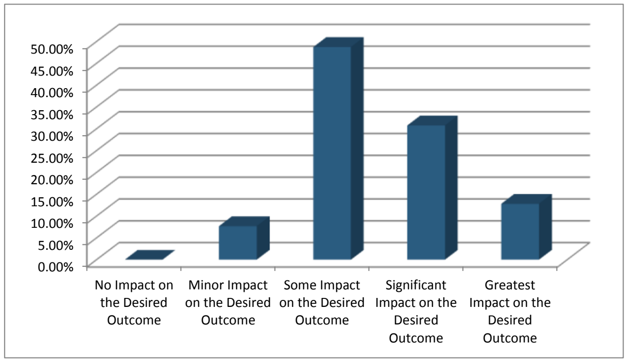
5. Improve the state of good repair of the freight transportation system (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	0.00%	0
Some Impact on the Desired Outcome	12.50%	5
Significant Impact on the Desired Outcome	70.00%	28
Greatest Impact on the Desired Outcome	17.50%	7
Totals	**100%**	**40**



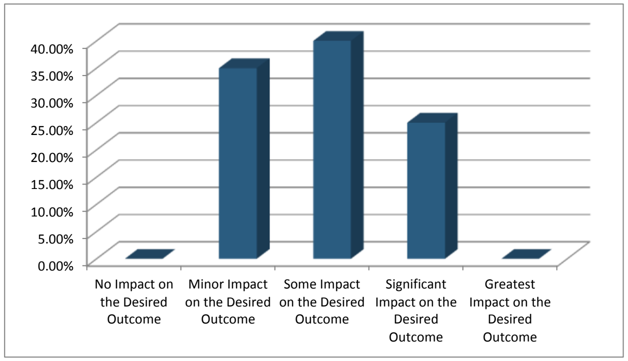
6. Use advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	7.69%	3
Some Impact on the Desired Outcome	48.72%	19
Significant Impact on the Desired Outcome	30.77%	12
Greatest Impact on the Desired Outcome	12.82%	5
Totals	**100%**	**39**



7. Reduce adverse environmental and community impacts of the freight system (Multiple Choice)

	Responses	
	Percent	Count
No Impact on the Desired Outcome	0.00%	0
Minor Impact on the Desired Outcome	35.00%	14
Some Impact on the Desired Outcome	40.00%	16
Significant Impact on the Desired Outcome	25.00%	10
Greatest Impact on the Desired Outcome	0.00%	0
Totals	**100%**	**40**



- ***Goal #1: Economic efficiency, productivity and competitiveness***
  - *Max efficiency is good/best*
  - *Captive shippers*
    - *Only served by 1 railroad: How will this affect my business?*
- ***Goal #2: Reduce congestion***
  - *Congestions is a problem (specifically on the highway)*
    - *Roads not growing at rate of transportation needs*
    - *Congestion = slower freight mobility*
  - *Rail congestion is in large metropolitan areas*
    - *Leave cars for long time/embargo issues*
  - *Need to look at surrounding states and Iowa effects*
  - *Waterway*
    - *Port coming in Muscatine*
    - *Barge to reduce rail congestion*
  - *Do you think we can build our way out of congestion?*
    - *With financial constraints… no*
    - *No – land constraints*
    - *Invest money where it will be the greatest impact*
  - *Can't build our way out… how to solve problem?*
  - *Iowa is a low population state*
    - *Congestion = highly used highways*
    - *Weight constraints*
  - *Improve roads*
    - *Get freight off highway on to the railroad*
  - *Smart growth based on economic areas*
  - *Need better access*
- ***Goal #3: Safety, security, resilience***
  - *Safety should be a high priority*
    - *1 event could cause major disruption*
  - *If we don't maintain safety/security of "Nation's Cross Roads", Iowa loses economic benefit*
  - *Protect integrity of Iowa's products*
- ***Goal #4: Improve the state of good repair***
  - *State of good repair = quality roads not there*
    - *Not safe or efficient*
  - *Rail also has season for repair (lots invested)*
  - *Private sectors also investing – full system*
  - *Problem = obsolete facilities*
    - *Maintain and replace old structures*
- ***Goal #5: Technology & Innovation***
  - *Too broad of a statement/goal*
    - *Break into "accountability" and separate categories*
    - *Can measure results better*
  - *Technology is involved in every action for some companies (HyVee)*
- ***Goal #6: Reduce environmental and community impact***
  - *Important to consider in state plan*
    - *Rail already considers & does well*
    - *Modal shift could facilitate more improvement*
  - *Railroads = common carrier responsibility*
  - *Trains backed up effects traffic*
  - *All modes important and affect each other*

- ***Adding goals***
    - *Regulatory environment*
    - *Separation of broad goals*
    - *Regional differentiation*

Appendix E: Rail Plan SWOT List

Below are the lists created by the individual small groups and with group voting results. Items in green represent the top themes of each section.

- ***Strengths***
  - *Private ownership and funding (+15)*
  - *Efficiency driven (+15)*
  - *Large volume (+14)*
  - *Class 2 and 3 railroad connection to community (+12)*
  - *Connection of modes (+9)*
  - *Proximity to waterways (+9)*
  - *Few incidents – safety (+6)*
  - *Rail cheaper than road (+5)*
  - *Safety and efficiency of freight movements (+4)*
  - *Shipment of agriculture (+4)*
  - *Class 2 railroad efficiency and innovation (+3)*
  - *Large network – Iowa well covered (+3)*
  - *Move over dimensional products – flexibility (+3)*
  - *24/7 (+3)*
  - *Service flexibility (+2)*
  - *Connection of modes (+1)*
  - *Current environmental protections (+1)*
  - *Passenger rail – more attractive to aging population (+1)*
  - *Movement of hazmat via rail*
  - *Common carrier requirements*
  - *Good velocity on East – West Union Pacific line*
  - *Technology = rail safety – especially weather*
  - *Presence Class 1 railroads in Iowa = more opportunity and bigger projects*
  - *Significant Railroad investment*
  - *High qualify transportation jobs*
  - *Double track = rapid transit*
  - *Passenger rail service exists*

- ***Weaknesses***
  - *Bottlenecks associated with yard capacity (+17)*
  - *No major intermodal hub (+16)*
  - *Too many grade crossings (+13)*
  - *Geographically challenged (+12)*
  - *Availability of railcars – for lease or purchase (+7)*
  - *Captive shippers (+7)*
  - *Transit times – trucks more competitive short range (+7)*
  - *Cost of projects and rail access (+5)*
  - *Activity of other states affect Iowa, but authority only over Iowa (+3)*
  - *State/local regulations on rail is not uniform (+3)*
  - *Supply of containers (+2)*
  - *Limited reach (+2)*
  - *Seasonality export/import imbalances (+2)*
  - *Lack of use and shippers – abandonment (+1)*
  - *Lack of community involvement by some railroads (+1)*
  - *High shipping requirements for rail (+1)*
  - *Lack of uniform rail weights across state (+1)*
  - *Passenger rail gaps in city coverage (+1)*
  - *Revenue inconsistency among modes (+1)*

- *Inconvenience for public transit (+1)*
- *High speed passenger rail = increase investment (+1)*
- *No room for switching (+1)*
- *Movement of goods in other modes*
- *Load constraints*
- *Relying on other intermodal transportation*
- *Lack of storage facilities*

- ***Opportunities***
  - *Expand transload and intermodal load facilities (+19)*
  - *Additional state funding for railroads (+15)*
  - *Economic development (+13)*
  - *Expanding capacity within existing railways (+10)*
  - *Lessening of congestion on primary and secondary roads (+8)*
  - *Improve efficiency (+8)*
  - *Decrease length of truck haul (+6)*
  - *Improving regional rail connectivity (+4)*
  - *Better balance of regulation and deregulation (+4)*
  - *Improvements to passenger rail = improvement to freight (+3)*
  - *More port authorities (+3)*
  - *More outreach for rail shipping (+2)*
  - *Land use planning improvements – connections (+2)*
  - *Advancement in technology (+2)*
  - *Commuting potential for students – rail (+2)*
  - *CREATE = optimization and efficiency (+1)*
  - *Freight stoppages due to passenger rail (+1)*
  - *State logistics specialists (+1)*
  - *Improve efficiency to mitigate driver shortage (+1)*
  - *Reduce overall transportation emissions (+1)*
  - *Private investment*
  - *Relationships with railroads*
  - *Containerized freight accommodation*
  - *Rail bank inventory of prior lines*
  - *Partnerships with local development authorities*
  - *Commuting to universities and hospitals*
  - *Expansion of Panama Canal – and other global improvements*
  - *Freight forwarder education*
  - *Technology as in PTC*
  - *Raising rail shipping option awareness*
  - *Planned major study in Quad Cities*

- ***Threats***
  - *Aging infrastructure (+19)*
  - *Truck size and weight – 33' trailers specifically (+16)*
  - *Uncertainty (+8)*
  - *Uncertainty renewal 45G (+7)*
  - *Regulatory issues – PTC (+7)*
  - *Passenger rail – lower performance of freight rail (+7)*
  - *Reduced funding (+6)*
  - *Passenger rail discussion clouds freight rail discussion (+5)*
  - *Reregulation/open access (+5)*

- *Iowa surrounded by other production states – limited capacity = limited growth (+4)*
- *Better infrastructure needs (+4)*
- *Limited capacity = limited growth (+3)*
- *Perception of passenger rail (+3)*
- *Crude oil transportation through small communities (+3)*
- *Communities not supportive of rail (+2)*
- *PTC timeline compliance (+1)*
- *Labor issues and strikes (+1)*
- *Environmental effect on expansion (+1)*
- *Weather (+1)*
- *Lobby between different modes (+1)*
- *Reinvestment in rail bank inventory (+1)*
- *Competition (+1)*
- *Proximity to existing sites (+1)*
- *Low gas prices (+1)*
- *Pressures from urban development – rail yards (+1)*
- *Risk of terrorism*
- *Regional competitiveness*
- *Abandonment*
- *Decrease in current priority commodities*
- *Disruptions – loss in customers*
- *Too many intermodal facilities = inefficiency*

Appendix F: Focus Group Reports

Below are the lists created by each focus group.

FOCUS GROUP: PASSENGER RAIL #1

- *Level of investment*
- *Right projects*
- *How many people ride*
- *Opinion: should invest (biased) – Kelli*
- *Regional railroad: Chicago – Iowa City*
- *Passenger rail is good. Needs dedicated lines*
- *Constraint of freight and passenger system*
    - *Potential to decrease highway volume*
        - *Safety on highway system*
- *Competing modes & cost of modes*
- *Serves elderly populations*
- *Student population connection to Chicago*
- *Require major subsidies*
- *Balance transportation needs*
- *How to build demand?*
- *Passenger rail provides options*
- *Dubuque & Iowa City connections make most sense*
- *Need to travel to Iowa City is substantial*
- *Local municipal partnerships are strong*
- *Constraints are too large*
- *Need dedicated track*
- *Good if neutral impacts to freight*
- *Removes congestion off interstate*
- *Need to ensure competitive of driving*
- *Public sees the benefit*
- *Incentives, low cost option*
- *Good business sense*
- *Not enough awareness*
- *No competition for service*
- *Not as convenient/cost effective in comparison*
- *Doesn't stop at the station*
- *Mulitmodal station planning needed*
- *Education about subsidies*
- *Promoted CREATE*
- *Support congestion solutions in Chicago*
- *Education on what it is & benefits*
- *Public – private partnerships funding*
- *Primary audience to be the public*
- *What you can do better*
- *Hard to mix passenger with freight service*
- *High cost of maintenance after established*
- *Rails will always be highly subsidized, hard to cover cost of operation*
- *Many demographics, need to look at other modes*
- *True cost of passenger rail do not equal true cost of other transportation*
- *Passenger takes priority over state when combined*
- *Other countries trying to get cars off road*
    - *Higher taxes, etc.*

- *Congestion may force cars off road*
- *Need to invest to keep Iowa competitive*
- *Prioritize investment in future technology*
    - *At the expense of what we're doing now*
- *Autonomous vehicles are safer & more efficient*
    - *Eliminate crashes, eliminate congestion*
- *Leader in the creativity market*
- *No demand because of low population, need appeal*
- *Today's cost, not enough incentive to use train*
- *Invest in improvements to make more reliable*
- *Could provide economic development for station communities*
- *Need to convince it is sustainable & cost effective*
- *Ridership/dollar of different modes of transportation*
- *Not enough room for additional infrastructure*
- *Good out of state, doesn't work in state*
    - *Doesn't go where you need to go*
    - *Cities not big enough*
    - *No frequency*
- *Will lose competitive advantage without intercity support*
- *Not a priority now*
- *Solving a problem with a problem*
- *No need because scattered cities, not a long a line*
- *Will Iowa interstate give up right of way?*
- *Voters and politicians should decide what level of investment*
- *Confusion with freight rail, passenger rail, etc.*
    - *All are connected, find distinctions*
- *Invest in freight first, passenger second or third because of political climate*
- *Would you pay full price ticket if not subsidized?*
- *Need high speed rail to and from big cities*
- *Would have economic impact in Iowa*
    - *Show what Iowa has to offer*
- *Useful for entertainment and day trips*
- *Creates jobs and develops economy*
- *How do we balance freight & rail and keep both systems competitive?*
- *How do we pay for this in the midst of our other transportation needs?*
- *Do we have the population to support this?*
- *We need to offer transportation alternatives*

FOCUS GROUP: SAFETY AND SECURITY OF HIGHWAY/RAIL OPERATIONS #2

- *Current state of freight in Iowa*
    - *Very good compared to other states*
    - *More crossings*
    - *Truck lanes?*
    - *Tax credits 45G continue*
        - *Tax increase is good*
    - *Technology to notify is good (light boards)*

- *Hazmat response on training and awareness*
    - *Rarely happen (incidents)*
    - *Community concern*

  - *Railcars safer from 90's to today*
  - *Build around risk*
  - *Preparedness – Yankton, SD ethanol derailment, risk is always there*
  - *Don't think cities have enough info or resources on hazmat derailments*
    - *Most first responders are volunteers*
  - *Training (Union Pacific sends trainers)*
    - *Local FD always looking for training*
    - *Main issues for first responders was not having enough wather*
      - *Know resources needed*
    - *Union Pacific has 3 hazmat specialists across state*
    - *Want whole rail system to be safe*
    - *Rail has advantage, drivers for trucks have to have qualifications*
  - *Locals aren't trained, not enough manpower*
  - *Quad Cities have enough training and manpower, large impact, evacuation plan is high level*
    - *Security, has terrorism task force*
  - *Railcars have lower incidents*
    - *Amount of oil has increased over last 10 years*

- *Grade crossings*
  - *Multitude*
  - *Which should be closed?*
  - *Who pays?*
  - *Pay to close crossings (increase money for intercity)*
  - *Identify priorities*
    - *Signal system = increased priority*
    - *Public complaints call IA DOT*
  - *Contact city engineers*
  - *List all crossings and talk about highest traffic congestion or concern*
  - *DOT can't say there is a specific crossing that is unsafe enough to deal with*
  - *Small amount of crossings*
  - *Maintenance issue*
  - *Way too many crossings*
  - *Offered $1 million to closed crossings, local governments turned it down*
    - *They say people use it*
  - *Quad Cities (Iowa side) industry working adjacent to river, trains stopped more than 10 minutes*
    - *People can't get to work*

TS&W
  - *Not a huge issue other than cost of maintenance*
  - *Twin 33 trailers (sometimes 3)*
    - *Issue for drivers*
    - *Against increasing TS&W = FedEx, UPS*
  - *Crossings ripped out because of heavy loads*
  - *Larger trucks do more damage to pavement – especially if overweight*
  - *Railroad pays for own infrastructure*
    - *Taxing rail for roads communities don't use*
  - *Intimidating for small vehicles*
  - *Newer driver have increased chance of texting and driving*
  - *Larger is better on non-interstate, west central able to eliminate a truck*
  - *Truckers are taking advantage of public roads, not paying fees, taking away from railroads*
  - *Some movements would not be on rail, truck only*
  - *Good for efficiency*

      - *Economy*
  - *Highway is safer with lower TS&W*
  - *Change in agriculture, more industrialized (can't handle trucks) roads & bridges*
  - *If infrastructure can't handle it, do we need to transform into smaller?*
  - *DOT only looks at damage on semi's, not cars*
  - *Heavy trucks, last mile is in local areas*
  - *One 80,000 pound truck does same damage as 5,000 Toyota Corollas*
  - *Truckers like heavier loads, loading and unloading is more difficult*
  - *Can't force one method or another, but can subsidize to encourage*
  - *Safety compared to railroad*
  - *Truckers accept larger weight loads*
  - *Raising truck load size will take from rail road*
  - *Hard on bridges and interstate – roads in general*
  - *Cost*
- *Safety hazards*
  - *Education and awareness*
  - *Security*
      - *Feel safe (isn't on radar for project)*
      - *Iowa falls isn't an issue*
  - *Not a lot of problems with big trucks*
  - *Too big of weight jump (80 – 91)*
  - *Truck improvements, bigger tires and axles*
  - *91 cost benefit advantages for highways, not truckers*
      - *20,000 on one axle*
  - *Damage on pavement, need more funds for infrastructure (who's going to pay for it?)*
  - *Operation LifeSaver keeps people from being killed in rail accidents*
  - *Trespassing (senior pictures on railroads)*
  - *Driving around gates*
  - *Educate!*
  - *The larger well trained areas are hours away*
- *Rail investment*
  - *Accessed funding from Iowa DOT = beneficial*
  - *Want more funding*
- *Local crossings*
  - *Rivers?*
  - *Terrorists*
- *Truck parking*
  - *Not feasible to park all trucks*
  - *Truck driver hours*
      - *Lowest level acceptable, is that the best level?*
  - *Self-driving vehicles? What kind of infrastructure would be needed?*
  - *Dedicated freight liner that would be automated, California can't afford Convert to rail, less trucks*
  - *Driver hour caps*
  - *Trucks want facilities*
- *Number one rail problems*
  - *Unmanaged crossings*
  - *Obstructions to buildings/industries*
  - *Signage*
  - *Participation to close crossings (too many)*
- *Railroad inspections*

  - *Number of inspectors*
  - *No collapse in 34 years*
  - *Annual inspections, spot inspections, etc.*
  - *No want to hire more*
  - *Number not an issue*
- *Awareness and training*
  - *Not good for locals (DMT)*
  - *Money needs to be increased (invest)*
  - *Local Police and Fire Departments need the training*
    - *Secure scene*
    - *Get water*
    - *Stay upwind*
  - *ADM knows they're in a citizen's task force, doesn't know what they do*

FOCUS GROUP: ECONOMIC AND WORKFORCE DEVELOPMENT #3

- *Transportation is critical for economic development*
- *Efficiency*
  - *Reducing time*
  - *Improving infrastructure*
  - *Access to transload facilities*
  - *Goods need to efficiently move from point a – b*
  - *Cost*
  - *Time reduction to reduce cost*
  - *Reliability*
  - *Reducing stopping points*
  - *Full loads with back hauls most efficient*
  - *Availability of rail cars*
- *Workforce development*
  - *Lack of drivers and warehouse workers*
- *What needs funding?*
  - *Locks & dams*
  - *Rural roads and bridges*
  - *Short line can drive economic development*
  - *Grade separation – Road conditions*
  - *Overpass/underpass*
  - *Improve interconnectivity of rail*
  - *Bridges; invest in technology for condition monitoring; swing bridges outdated*
  - *Education of economies of intermodal facilities*
  - *Highway improvement*
  - *Water way expansion*
  - *House transload facilities*
- *Class 1 view*
  - *Combination of Class 2 and 3*
- *What's needed?*
  - *Money*
  - *Focusing on priorities*
  - *North/South transport not as efficient as East/West on all modes of transportation*
  - *Need sufficient volumes*
  - *Carload transits; warehouses*
  - *Waterway barge associations*
  - *Focus on rail*

- *Role of transportation*
    - *Can't work without it*
    - *Can't have industry*
    - *Existing infrastructure builds opportunity*
- *How competitive is Iowa's system?*
    - *Plan to expand current shipping*
- *Hurdles*
    - *Old system/worn out; Hasn't been updated*
    - *Difficult to move goods to the Southeastern United States from Iowa*
    - *What rail connections you have available*
    - *Shipper education – lack of awareness; Rail is an after thought*
    - *Short lines can be an engine for economic development*
    - *Rural bridge condition*
    - *Worker availability*
    - *Qualified drivers*
    - *Location*
    - *No major hub*
    - *Training*
- *Funding allocation*
    - *Partnering with economic development*
    - *Education toward students about rail jobs*
- *Iowa transport system*
    - *Better rail network system*
    - *No major issues*
    - *Possibly introduce barges down Missouri River*
- *Opportunities*
    - *Transload centers*
    - *Intermodal facility*
- *Industry trends*
    - *Wasting money on intermodal facilities*
    - *No incentive to favor Iowa*
    - *Innovation in driverless cars*
    - *Energy trends; negative impact on coal*
    - *Product diversification*
- *Panama Canal*
    - *Allow goods to move easier*
- *Issues of transportation*
    - *International competition*
    - *Rail car availability*
    - *Bridge infrastructure deficiency*
- *Improvements*
    - *Greater efficiency*
    - *Strategic road improvements in supply chain*
    - *Paving gravel roads; allow semi's to travel*
    - *Accessibility; speed up flow*
    - *Consolidation of facilities, more facilitates*
    - *Infrastructure development*
- *Transportation modes*
    - *Competition*
    - *Need for volume makes it less competitive*

- *Time vs. cost*

- *Misc.*
  - *Consider agricultural producers*
  - *Railcar is favored*
  - *Larger dimensions*

FOCUS GROUP: MULTIMODAL FREIGHT NETWORKS #4

- *Strengths*
  - *Globalization*
  - *IA is doing a great job anticipating truck traffic*
    - *Creates fluid highway conditions*
  - *Moline airport*
  - *Network for trucks*
- *Weakness*
  - *Road system conditions*
  - *Coverage of major roads (I80/I35 are the only main)*
  - *Railroad coverage in smaller cities/towns*
  - *Focus on all commercial airports for freight rather than in just metro areas*
  - *Low grade and rural roads*
  - *Lock and dam structure and speed*
  - *River shuts down 3 months of the year*
- *Efficiency*
  - *Cheaper to transport than other countries*
    - *Lack of equipment/shipping containers along rivers*
      - *Intermodal facilities in Des Moines would help*
  - *Bottleneck analysis*
  - *River crossing capacity – highway and railroad*
  - *Winter road conditions*
- *Competitive improvements*
  - *Iowa needs greater connectivity*
    - *Between modes and between locations*
    - *Connections to marine ports (intermodal ports)*
  - *Technology advancements to make intermodal transportation more efficient*
  - *Consolidation of facilities to increase efficiency*
  - *6 lane highway*
  - *Double tracking*
  - *Create more by-passes for metro areas*
    - *By-pass for transcontinental traffic*

Challenges
  - *Railroad*
  - *Public policy which is friendlier to railroads*
  - *What justifies the investment of infrastructure?*
- *Industry trends*
  - *Panama Canal*
  - *Renewable energies*
  - *Crude by rail*
  - *Use of CNG*
  - *Uniformity of containers on truck and rail… but not on air*
    - *Standardization of containers*
  - *Public/private relationships/partnerships*
- *Pivotal transportation issue for Iowa freight*

    - *Truck size and weight*
    - *Driver shortage*
    - *Public and private monetary support of infrastructure*
    - *Facilities to connect with markets*
        - *How can IA create larger capacity to ship goods?*
    - *Positive train control (PTC)*
    - *Phase out TIH (chemical) fertilizer*
    - *Re-authorization*
    - *Regulation*
    - *Political uncertainty*
    - *Equipment supply*
    - *Infrastructure*
    - *Facilities*
- *Suggestions*
    - *Corridor focused groups to discuss needs*
        - *What companies exist to address these needs?*
        - *What funds exist to help with intermodal needs/functions?*
            - *It's hard to find facilities to move goods from mode to mode*
        - *Corridor ways to address and focus geographical needs*
- *Issues*
    - *Maintaining roads and bridges, locks and dams*
    - *Infrastructure*
    - *Equipment supply issue*
        - *Not enough vehicle/container capacity to move freight*
    - *Intermodal transportation facilities (to transfer goods mode to mode)*
    - *Not enough access points*
    - *Transit time of railroads*
- *Education on benefits of different modes*
    - *Shippers may not know about all the modes*
    - *Should have dedicated "State" people to educate shippers*
    - *Not enough communication channels to information*
    - *Shippers unaware of how modes work together*
- *DOT's role in education of shippers*
    - *Educate and assist funding when there's public benefit*
    - *Help relocate companies to Iowa based on infrastructure*
    - *Present plan for funding to legislature for private sector*
        - *DOT representing businesses to legislature*
        - *Inform legislature of issues*
    - *Prioritize needs of all business issues*
    - *Tool kits*
    - *Funding for infrastructure*
    - *LIFTS program*
    - *Connector for solutions*
        - *Site development*
    - *Providing info and connections for business*
- *Custom's process*
    - *Good*
    - *No issues*
- *Air cargo access*
    - *Insufficient*

- No access
- *Pipeline sufficiency*
    - *Not yet*
    - *Ok as is*
- *Hurdles to address*
    - *Lack of focus on Class 2 and class 3 railroads*
    - *Commodity mix on network*
    - *Funding*
- *Incentives*
    - *28G*
- *Connectivity between modes*
    - *Drive efficiency*
    - *Access to markets*
- *Transloads have 4 minimum requirements and if any one of the 4 is lacking, it is noticed and can be a huge barrier. The 4 we have identified are:*
    - *Infrastructure*
    - *Marketing*
    - *Throughput service*
    - *Critical mass*
- *LIFTS program is spot-on, addresses risk sharing*
- *Collaboration: need for shippers to collaborate to efficiently use resources & to create freight densities*
- *Strategic approach to locate transloads*
- *Data to help identify freight locations*
- *Four locations for new transloads*

FOCUS GROUP: MULTIMODAL FREIGHT LINK AND CONNECTORS #5

- *LIFTS $2.6 million October 23*
    - *Grant allows building ahead and allows responsiveness to customers needs*
    - *Encompasses more than rail*
    - *Infrastructure = flexibility*
    - *Public funding and public benefit*
    - *Supplement private funding to share risks*
    - *Helps spark development*
- *Source loading and transloading at port*
- *Overall more efficient with co-op to ship via rail to port with ocean liners that have containers*
- *Intermodal containers*
    - *Limited locations for class 1 and steam ships*
- *Virtual container yard*
    - *Placing empty containers somewhere in internal Iowa*
    - *Requires commercial interest*
- *What can IA DOT do to help?*
    - *Rail tool kit*
    - *Awareness*
- *Question 5: Transloads competitive advantage?*
    - *Hyvee struggle of cost and timing to use railroad for vendors outside of Iowa, but between coasts*
    - *Underutilized transloads CB, Omaha area*
    - *LIFTS = 2.6 million Oct 23 (test run)*
    - *How can we improve? Anyone who is shipping? Connectivity between modes*
    - *Having shippers pay attention to counties in need of rail opportunity for shippers*
    - *Target high volume lanes*
- *Consider transit times*

- *Just in time (currently)*
- *Export 30% pork to need rail to operate efficiently*
    - *Includes Mexico*
- *U.P. will be more fluid and will look to be more efficient*
    - *UP crossing closures helped with efficiency*
- *Rochelle underutilized and very cheap location, competes with Chicago*
- *Oversized ag equipment opportunity for intermodal*
- *Hyvee wants intermodal in Des Moines*
- *JB Hunt largely rail*
- *ADM a lot of internal intermodal transport*
- *Barriers to operational efficiency*
- *Rail car availability = capacity*
    - *Ag seasonal demands*
    - *Railroads don't always have enough for specific products*
    - *State funding for specific products*
        - *Like Washington – ideally cars are not sitting in storage but are in use outside of season*
- *Trouble from local to global access*
- *State role is getting products global*
- *State providing data in areas that need a lot of computing power (commodities for example)*
- *Efficiency is standardization*
- *Multi use rail cars*
- *Service issue with capacity*
    - *Passenger rail competing*
- *Wage to find drivers also issue with 21 age requirement?*
    - *Although 18 is still too young*
- *Short haul distances*
- *Larger work force*
- *Need more transloads*
- *Part of problem is capacity and part of it is operational equipment, service, knowledge*
- *A consolidator to help reach critical mass*
- *Justifying initial investment on faith is hard, starting small but allowing for room to go*
- *Memphis CN success*
- *DSM transload model*
    - *Ownership*
    - *Competitiveness*
    - *Open access*
- *LIFT doesn't need to fund operator as long as business is there*
- *Transload facilities for county engineers could save money transporting gravel (for example) via rail*
- *Creston? Pella? Grundy? Indianola? Waterloo?*
- *Vermeer greater access*
- *Ottumwa is good example of transload success*
- *Using state to advocate especially for new industry*
- *LIFT – DOT listened and continued to get attention from state*
- *Corridor development, industry in that area, strategic approach, avoid competition with each other*
- *Intermodal needs more volume*
- *DSM too close to Chicago?*
- *More business creates more need*
- *Shipper cooperative*

Appendix G: Focus Group Questions

Focus Group Break Out #1: Passenger Rail

Facilitator: Theresa McClure

The need to travel throughout the region is growing, as many business and pleasure travelers see opportunities in Iowa and surrounding states. The opportunities presented by a Midwest intercity passenger rail system have been part of Iowa's transportation plans since 1996.

To date, Iowa DOT has completed in-depth studies of the entire corridor from Chicago to Council Bluffs-Omaha. The study determined that intercity passenger rail from Chicago across Iowa is a good idea for a number of reasons.

Extending the Chicago to Quad Cities route to Iowa City is the first critical step toward expanding intercity passenger rail in Iowa. Although Iowa lacks sufficient state/local match for full implementation at this time, preliminary engineering and detailed environmental studies (Tier II NEPA) are under way to prepare for future construction and position the project for future funding opportunities.

Issue Questions

- *To what level of investment should Iowa DOT focus on improving passenger rail in the state of Iowa?*
- *Are the corridors currently under analysis still the right areas of investment today? Should other corridors be prioritized?*
- *If Iowa DOT continues to focus on improving passenger rail in the state of Iowa, who would be the primary audience to educate on the need for improved service?*
- *Should public-private partnerships be identified to support funding needs?*
- *How should passenger rail service be coordinated with other multi-modal transportation options in the state?*
- *To what level should Iowa DOT focus on improving coordination with passenger and freight rail operators to ensure both freight and rail operations are both optimized?*
- *Where are the biggest opportunities to capitalize on investments in the freight and rail system that will maximize benefits to the entire system?*
- *What focus should Iowa DOT put on improving and maintaining the existing passenger rail service through the state of Iowa?*
- *Are there enough incentives to encourage passenger rail as a source of transportation?*
- *What are the biggest strengths of the current long-distance passenger rail routes? (The long-distance routes currently include stops in Fort Madison on the Southwest Chief and stops in Burlington, Mount Pleasant, Ottumwa, Osceola, Creston, and Omaha on the California Zephyr.)*
- *What are the biggest weaknesses of current long-distance passenger rail routes? (The long-distance routes currently include stops in Fort Madison on the Southwest Chief and stops in Burlington, Mount Pleasant, Ottumwa, Osceola, Creston, and Omaha on the California Zephyr.)*
- *Is there enough education about passenger rail, its access points, and the viability of it as a transportation mode?*
- *Have promotions and advertisements regarding passenger rail use been effectively deployed in today's digital age?*

Focus Group Break Out #2: Safety and Security of Highway/Rail Operations

Facilitator: Kevin Keller

Highway Safety

Truck safety has improved measurably over the past decade. Since 2001, the number of truck crashes, and truck crash-related fatalities and injuries have dropped sharply. From 2001 to 2011, the number of truck crashes dropped 33 percent, outpacing the safety improvements of other vehicles. In this same period, the number of truck-involved fatalities fell 28 percent and the number of truck-involved injuries fell 39 percent. The primary causes in crashes where the truck driver is at fault are driver fatigue, excessive speed, unfamiliarity with the areas traveled, equipment failure, and weather conditions. However, according to recent FHWA data, a passenger car driver is three times as likely to contribute to a fatal crash as was the truck driver's behavior. Trucks can weigh up to 30 times more than passenger vehicles and require more stopping distance, especially when loaded. They also cannot be steered as easily as cars. When involved in a collision with a passenger vehicle, the size and weight of large trucks increases the severity of the damage. Although fatal crash rates for large trucks have fallen (by 77 percent from 1975 to 2009, compared to 64 percent for cars over the same period), truck crashes are more likely to result in severe injuries or fatalities than those involving only cars.

Driver Shortages

The Federal Highway Administration (FHWA) has predicted a 92.5 percent growth in freight demand from 2002-2035. Because of this anticipated growth, demand for all commercial freight modes (truck, ship, air, and rail) will increase, with the expectation that trucking will continue to have the dominant share of the activity. In the US, the average age of a commercial truck driver is 55. Currently, it is estimated that there are 30,000 unfilled truck driving jobs, and these numbers are continuing to climb. As the economy improves, the driver shortage is likely to be more acute and safety is likely to become a larger issue until new drivers develop the necessary experience and skills. Also, according to a January 2013 Journal of Commerce article, the annualized driver turnover rate for large carriers has been above 90 percent. That means a carrier with 200 drivers would hire 180 drivers over the course of the year, sometimes filling the same seat several times.

Truck Parking

It has long been acknowledged that a shortage exists of adequate and safe parking for commercial motor vehicle operators at the state and national levels. The demand for commercial vehicle parking far exceeds capacity. As originally conceived, public rest areas were to serve as temporary rest areas and short-term safety breaks for the traveling public. As the trucking industry expanded, these rest areas began to serve as long-term, overnight parking for long-haul commercial vehicle operators, thereby contributing to overcrowding at rest areas. As reported in the National Transportation Research Board National Cooperative Highway Research Program (NCHRP), Synthesis 317: Dealing with Truck Parking Demands (2003), "most parking supply is located in commercial truck parking lots and plazas, and the overcrowding problem (is) concentrated in public rest areas." Factors contributing to the commercial vehicle parking issue include poor geometric design of facilities and access; lack of information at the location on space availability, including amenities; and lack of security. Limits on stays in public facilities and parking space shortages leave truckers with few alternatives. MAP-21 does not include a formal truck parking program; however, it does make truck parking projects eligible for funding under the National Highway Performance Program, the Surface Transportation Program and the Highway Safety Improvement Program.

Increased Truck Size and Weight

Iowa follows federal law by placing weight limits on trucks in order to protect pavement and bridges from damage and excessive wear and tear. Truck weight is also a major factor in the severity of truck-passenger vehicle incidents. Simply put, the heavier the vehicle, the worse the damage. Heavier trucks, and trucks carrying loads in excess of maximum weight limits can be more difficult for the driver to control because they require increased stopping distance; have an increased potential to roll due to a higher center of gravity; and attain higher speeds when traveling downhill, decreasing steering capability. Iowa DOT often receives requests to increase truck (or axle) weight limits or to implement programs that would collect additional fees for compensation of overweight loads. There are several reasons for these requests. Hauling larger loads with fewer trucks can help some industries reduce transportation costs and increase efficiency. Competition and changing market conditions puts pressure on freight-dependent industries to lower costs, to provide greater efficiencies and to increase service quality. The U.S. Department of Transportation recently completed a comprehensive examination of issues surrounding current Federal truck size and weight (TS&W) limits and potential impacts of changes to those limits. Safety has been one of the issues of greatest concern in previous TS&W studies, yet it is difficult to quantify many safety impacts.

Highway-railroad Grade Crossing Safety

Highway-railroad grade crossings are not wholly the responsibility of either the private railroad companies or highway authorities. Since crossings occur where the two modes of travel intersect, it is a shared responsibility. Iowa's current practices to address safety and security of rail operations are based on a four-point strategy summarized as:

- ***Education:*** *The state maintains a working relationship with Iowa Operation Lifesaver. This organization exists to increase public awareness of grade crossing traffic laws and hazards.*
- ***Enforcement:*** *Laws pertaining to highway-railroad grade crossings and trespassing are a key component of discouraging unsafe behavior. Educational programs for the public, as well as enforcement officers and the courts, regarding the possible consequences of breaking these laws help reduce the number of violators.*
- ***Engineering:*** *Maintenance and physical improvements to the crossings and highways are vital to the safety of the traveling public.*
- ***Funding Programs:*** *Programs in place to provide the grants to implement physical and system improvements along the rail network. The state identifies and prioritizes most highway crossing safety grant applications based on portions of the Iowa Benefit-Cost ratio.*

Funding has been legislatively allocated from the Road Use Tax Fund since 1961 to address the highway system's responsibility for crossings, but the annual amounts have not increased since the 1980's. However since that time, rail miles have decreased, rail tonnage has dramatically increased, and highway traffic has risen. In other words, trains are longer and heavier, crossings are more heavily traveled by both trains and motor vehicles, crossing surfaces are subject to more wear and tear and crossings represent a far greater safety concern due to the higher potential for vehicle/train interactions at crossings.

	1985	2013	Percentage Change
Rail miles in Iowa	4682	3850	18% fewer miles
Rail movements	127 million tons	352 million tons	177% increase in tonnage
Vehicle miles traveled	20 million miles	31.5 million miles	57.5% increase in miles traveled

Railroad Inspection

The Federal Railroad Administration has responsibility for safety and inspection on the bulk of the national rail system. Federal inspectors enforce safety regulations in five disciplines – track, signal, operating practices, equipment/mechanical, and hazardous materials. The Iowa DOT participates in a federal program that supplements the federal inspection program with two track inspectors that have the same authority as the federal inspectors. Their responsibilities include inspecting all track in the state at least annually, and have the authority to focus inspections on other areas where a need is shown or anticipated.

Security

Security is an important consideration in the transportation planning process, and has received heightened attention since the terrorist attacks of Sept. 11, 2001. Security should not be thought of only in terms of criminal or terrorist attacks, but also vulnerability to natural and manmade incidents, such as floods, tornadoes, and hazardous materials spills. In Iowa, recent flooding and winter weather events have dramatically impacted both rural and urban transportation systems, requiring adjustments to response policies and procedures. All modes of transportation are vulnerable to disruption due to natural or manmade incidents. The Iowa DOT partners with agencies at all levels of government, as well as private firms, to implement security initiatives.

Issue Questions

General safety

- *From your perspective, how do you rank the safety of the freight system in your community, near your home, and or near your business?*
- *What improvements could increase safety in these areas?*
- *Does the freight safety affect your business or quality of life? If so, how?*
- *What freight safety improvements are needed in Iowa? Why are these areas important?*
- *Do you have concerns about the volume of oversized/overweight loads on roadways? If so, please share*

Highway-railroad crossing safety, including crossing improvements

- *Are highway-railroad grade crossings in your community safe? Are there any problematic crossings that need to be addressed? If so, which ones.*

Hazardous materials shipments

- *Do you ship hazardous materials which require placarding? If so, explain.*
- *Does the shipment of hazardous materials affect you and/or your company? If so, how?*
- *What improvements could decrease potential risks associated with shipping hazardous materials?*
- *Are there high levels of concern for hazardous material shipping, or are existing procedures more than adequate to mitigate negative effects of shipping hazardous materials?*
- *Do you have an internal safety and compliance division or do you outsource this responsibility? If so, explain.*

Rail accidents/incidents not at crossings, like a trespassing pedestrian crossing the mainline, or a derailment

- *Do you have concerns about trespassing pedestrians crossing mainlines? Is so, please share.*
- *Do you have concerns about derailments due to poor track conditions, faulty equipment, or any other cause? If so, please share.*

Safety education

- *Are you aware of Operation Life Saver and other educational resources available to you? What other education is needed?*

Security

- *Do you have concerns about rail and/or freight terrorism and how to prevent it? If so, please share.*
- *Do you have concerns about the freight infrastructure's vulnerability to natural disasters, such as flooding and/or climate change?*

Rail investment

- *Do you have access or have you attempted to utilize Iowa DOT funded or facilitated rail safety programs? What is the effectiveness of these programs?*
- *Should the Iowa DOT explore alternative funding options to improve rail crossings?*
- *Should Iowa DOT lead the initiative to implement, operate, and add improved rail safety technology to the rail system? Are there other agencies that need to be involved? Are there alternative funding sources for this technology?*

Focus Group Break Out #3: Economic and Workforce Development

Facilitator: Jara Sturdivant-Wilson

Throughout Iowa's history, economic growth has occurred along thoroughfares of all forms, from our rivers to our railroads and highways. While, on the surface, the relationship between transportation improvements and economic growth seems rather straightforward, many professionals and academics would argue that it is not yet fully understood. Regardless, it is critical that the potential economic impacts of transportation projects are considered during the planning process. Within the Iowa DOT, the importance of this consideration is manifested in a number of ways. The Five Year Program, for example, identifies several transportation policies, the first of which is to promote a system that maximizes economic benefits for Iowa. As part of the programming process, economic development impacts are considered as candidate projects are identified and evaluated. In addition, the Revitalize Iowa's Sound Economy (RISE) Program has funded highway projects that have supported the creation of nearly 54,000 jobs over the program's 26-year existence and the Railroad Revolving Loan and Grant program supports rail economic development projects. The Linking Iowa's Freight Transportation System (LIFTS) program is a new grant funding opportunity to improve Iowa's freight transportation system. The LIFTS program grant funding is not limited to a particular mode of transportation, but is designed to assist projects that contribute to effective and efficient freight transportation. Project eligibility is far ranging. Iowa is not alone in these efforts, as many state transportation agencies support economic vitality through various policies and programs. This support can be provided indirectly through policies that recognize economic development as a consideration in funding decisions, or it can be provided more directly through dedicated funding sources for economic development projects.

- *How efficient is the overall transportation system in Iowa? What improvements would help increase efficiency?*
- *How competitive are the transportation modes in Iowa? What improvements would make Iowa more competitive?*
- *What are the current hurdles in the transportation system that may block future economic development?*
- *What industry developments and trends, both within Iowa and beyond, are most important for decisions related to the the rail and freight transportation system?*
- *Looking to the future, what one element, or combination of elements of the freight and rail transportation system requires the most attention to support the growth of the Iowa economy?*
- *In what ways will the planned expansion of the Panama Canal affect Iowa?*
    - *Should Iowa DOT be prepared to make changes in the rail and freight system that adapt to the changes the Panama Canal will have on the transport of goods?*
- *Should Iowa DOT funding be targeted at increasing access to barge facilities along the Missouri and Mississippi rivers?*
    - *Why? Why not?*
- *Should Iowa DOT funding be targeted at increasing the number/access to transloading/intermodal facilities throughout Iowa? Why? Why not?*
- *Assuming adequate federal, state, or public private partnership funding, what freight and rail projects should Iowa DOT prioritize to have the biggest impact on Iowa's economic competitiveness? What potential impacts are there if these improvements are not made?*
- *Are there federal and state transportation regulations that are a hindrance or obstacle to economic competitiveness in the state? If so, describe.*

Focus Group Break Out #4: Multimodal Freight Networks

Facilitator: Justin Fox

The State of Iowa, as a producer state, demands the efficient movement of freight. There is a growing need for adequate infrastructure to move freight safely, securely and efficiently. Like other states, freight in Iowa is moved a number of ways. The majority of freight is moved by truck and rail, both of which have experienced steady growth over the past two decades. Iowa's freight is also moved via air and water. Further, over the past 20 years, air cargo movements have remained stable, as trucking has been integrated into delivery systems. Although air cargo represents only a small portion of total freight movement, total ton-miles have doubled since the 1980s. Iowa's two major waterways, the Mississippi and Missouri rivers, move primarily grain and other bulk commodities to and from Iowa and provide access to the extensive network of inland waterways in the United States. Located along these rivers are 60 barge terminals, which transfer bulk commodities between barge, rail, and truck.

In addition, railroads are a vital part of Iowa's overall transportation system, helping to move both freight and passengers safely and efficiently. Railroads are absolutely critical for some Iowa freight commodities, including corn, soybeans, chemicals, motor vehicles and other equipment, wood and paper products, minerals and ores, coal, and biofuels.

Passenger rail can play a critical role in helping to address the ongoing challenges of unstable energy prices, higher levels of greenhouse gas emissions and the growing mobility needs of Iowans. Without efficient railroad transportation, Iowa's economy would suffer. Maintaining and improving railroad service in Iowa requires a proactive partnership between a number of organizations, including private rail carriers, rail shippers, passengers, the Iowa DOT, other state and federal agencies, and local governments

- *Different industries will have different modal needs (truck, rail, water, air). Currently, what are the strengths and weaknesses in these modal systems in Iowa?*
- *How efficient is the overall transportation system in Iowa? What improvements would help increase efficiency?*
- *How competitive are the transportation modes in Iowa? What improvements would make Iowa more competitive?*
- *What are the current hurdles in each transportation mode that need to be addressed in the state?*
- *What industry developments and trends, both within Iowa and beyond, are most important for decisions related to the the rail and freight transportation system?*
- *What are the most pivotal transportation issues for freight shipping in the state?*
- *Are there enough incentives to utilize all modes as a viable transportation and freight options? Are there specific disincentives for using certain modes?*
- *Is there enough education regarding all modes of transportation, and the benefits it provides for freight shipments?*
- *What should Iowa DOT's role be in developing, facilitating, and funding freight and rail improvements in the state?*
- *Is there a sufficient pipeline network in the state?*
- *Is there sufficient access to air cargo terminals in the state?*
- *Is the customs process timely and predictable?*

Focus Group Break Out #5: Multimodal Freight Links and Connectors

Facilitator: Libby Ogard

A majority of the movements by air, rail, and water are intermodal in the broadest sense. These movements usually begin or end with a truck movement for the first or final leg of a journey. These connections are critical to Iowa's competitive edge in the marketplace and take many forms, including but not limited to air freight or barge terminals, transloading facilities, cross docks, distribution centers, and intermodal container transfer facilities. Iowa DOT understands the importance of these connections, and supports rail intermodal facilities through the Railroad Revolving Loan and Grant Program. Currently, a one-time grant program called LIFTS is seeking applications for a wider range of multimodal connections.

- *Do you use domestic intermodal container service? Do you use international intermodal container service?*
- *Is Iowa's intermodal access sufficient to meet your business needs? What are the key intermodal network locations/lanes most important to your business?*
- *What are the barriers to your use of intermodal container service?*
- *Is chassis availability an issue for international container movement?*
- *Should the state establish overweight container highway corridors to facilitate international trade?*
- *What improvements are necessary to make Iowa more competitive?*
- *Is there sufficient container availability?*
- *Is there sufficient drayage capacity?*
- *Do transloading/intermodal facilities make sense to businesses in Iowa? What makes them useful? What makes them impractical?*
- *Is greater access to transloading/intermodal facilities needed? Where should they be located?*
- *Do you utilize transloading/intermodal facilities? Why or why not.*
- *What would be needed to increase transloading/intermodal facility use?*
- *Is there enough information available to help assess the costs and benefits of using a transloading/intermodal facility? Are you aware of the rail and barge transloading facility locations in Iowa?*
- *Should Iowa DOT funding be targeted at increasing the number/access to transloading/intermodal facilities throughout Iowa? Why? Why not?*
- *Should Iowa DOT funding be targeted at helping create logistics parks to encourage development where transportation assets are available?*
- *What strategies and solutions will be most effective in meeting the short and long-term needs for improving the efficiency of goods movement for Iowa region?*
- *Are the intermodal connectors between Iowa's highways, railways and ports adequate?*
- *As Iowa embarks on a container on barge pilot project, what support should Iowa DOT provide for Iowa users?*
- *Is the customs clearance process efficient and user friendly? What needs to be improved?*

Appendix H: Sign in Sheets

2016 **IOWA RAIL PLAN**

Sign-in Sheet
Issues-Based Workshop
September 24, 2015

Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Jing Dong Organization *(if applicable)* ISU	Address 350 Town Engr. City/Zip Ames Phone 50010 Email jingdong@iastate.edu	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name BRAD NEUMANN Organization *(if applicable)* MPOJC	Address 410 E WASHINGTON ST City/Zip IOWA CITY Phone 319-356-5235 Email ~~bneumann@io~~ brad-neumann@iowa-city.org	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Michael Dolch Organization *(if applicable)* Senator Joni Ernst	Address 733 Federal Building 210 Walnut City/Zip 50309 Des Moines, IA Phone 712-370-8188 Email michael_dolch@ernst.senate.gov	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name GENA McCULLOUGH Organization *(if applicable)* BISTATE REGIONAL COMMISSION	Address PO BOX 3368 City/Zip ROCK ISLAND, IL 61204-3368 Phone 309-793-6302 EXT146 Email gmccullough@bistateonline.org	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

2016 **IOWA RAIL PLAN**

Sign-in Sheet
Issues-Based Workshop
September 24, 2015

Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Jack Parliament Organization *(if applicable)* D&I Railroad	Address 300 S Phillips Ave # 200 City/Zip Sioux Falls SD 57117 Phone 605 330 6588 Email jdparliament@ lgeverist.com	☑ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☑ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☑ 55-64 ☐ 65+	☑ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Kyle Nodgaard Organization *(if applicable)* UP	Address 1400 Douglas St City/Zip Omaha 68179 Phone 402-544-2029 Email kdnodgaa@up.com	☑ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☑ Male ☐ Female	☐ 15-24 ☑ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☑ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Kelli O'Brien Organization *(if applicable)* Union Pacific	Address 1400 Douglas St City/Zip Omaha 68179 Phone 402 544. 4749 Email Kobrien@up.com	☑ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☐ Male ☑ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☑ 45-54 ☐ 55-64 ☐ 65+	☑ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Zach Young Organization *(if applicable)* DMAMPO	Address 420 Watson Powell Suite 200 City/Zip 50309 Phone 515 334 0075 Email zyoung@dmampo.org	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

2016 **IOWA RAIL PLAN**

Sign-in Sheet
Issues-Based Workshop
September 24, 2015

Contact Information						Notification & Demographic Information *(Optional)*			
Name	Organization *(if applicable)*	Address	City/Zip	Phone	Email	How were you notified about the meeting? (Email / Social Media / Letter / Postcard / Other)	Gender (Male / Female)	Age Range (15-24 / 25-34 / 35-44 / 45-54 / 55-64 / 65+)	Race/Ethnicity (White / Hispanic/Latino / Black or African American / American Indian/Alaska Native / Asian / Native Hawaiian/Pacific Islander / Other)
Sam Shea	Iowa DOT		Cedar Rapids IA	319 364 0235	sam.shea@dot.iowa.gov	☒ Email	☒ Male	☒ 35-44	☒ White
Don McDowell	Farm Bureau	5400 University	WDM 50266	515-225-5547	dmcdowell@ifbf.org	☒ Email; ☒ Other: Freight Advisory Mtg	☒ Male	☒ 25-34	☒ White
Andrew Hoth	Burlington Junction Railway	200 Jefferson st	Burlington IA 52601	319 754-5000	hothlaw@mchsi.com	☒ Email	☒ Male	☒ 35-44	☒ White
Steve Falck	ELPC		DSM	515 244 3113	sfalck@elpc.org	☒ Email	☒ Male	☒ 55-64	☒ White

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Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Jim Kvedaras Organization *(if applicable)* CN	Address 17641 S Ashland Ave City/Zip Homewood IL 60430 Phone 708-332-3508 (o) Email jim.kvedaras@cn.ca	☒ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Tim Woods Organization *(if applicable)* ITI	Address City/Zip Phone Email	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Nathan Johns Organization *(if applicable)* KJRY / PioneerRailcorp	Address City/Zip Phone Email	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Stacy Timperley Organization *(if applicable)* Forbs	Address City/Zip Phone Email	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	**Gender**	**Age Range**	**Race/Ethnicity**
Name PHIL MERAZ Organization *(if applicable)* IOWA DOT	Address 800 LINCOLN WAY City/Zip AMES 50010 Phone 515-239-1420 Email phillip.meraz@dot.iowa.gov	☒ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☒ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☒ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Jeff von Brown Organization *(if applicable)* Iowa DOT	Address City/Zip Same as above Phone Email	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☒ Other organization	☒ Male ☐ Female	☐ 15-24 ☐ 25-34 ☒ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Jantina Wennerstrom Organization *(if applicable)* Say Transportation Coalition	Address 1255 SW Prairie Trail City/Zip Ankeny, IA 50023 Phone * 515-334-1039 Email jwennerstrom@saytransportation.org	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☒ Other Mike Steenhoek	☐ Male ☒ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name STEPH CARLSON Organization *(if applicable)* IOWA PORK PRODUCERS ASSOCIATION	Address City/Zip Phone Email	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Osama Shihadeh Organization *(if applicable)* Kent Corp.	Address 1600 Oregon St. City/Zip Muscatine, 52761 Phone 563-264-4380 Email osamashihadeh@grainprocessing.com	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Liz McDonald elisabeth.mcdonald@ssab.com 563-260-1503 Organization *(if applicable)* SSAB	Address City/Zip Phone Email	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Jim Dougherty Organization *(if applicable)* ADM Terminal Svc	Address PO Box 107 City/Zip Camanche IA 52730 Phone 563-259-4111 Email james.dougherty@adm.com	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Steve Laller Organization *(if applicable)* JB Hunt	Address 155 S McKenzie Ln City/Zip North Liberty IA 52317 Phone 614-535-8116 Email Steve_laller@jbhunt.com	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Becky Nardy Organization *(if applicable)* RPA 14/ATURA SICOG	Address 101 E. Montgomery City/Zip Creston Phone 641 782-8491 Email nardy@sicog.com	☒ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☐ Male ☒ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☒ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Lance Evans Organization *(if applicable)* IADOT	Address 6310 SE Conv Blvd City/Zip Ankeny IA 50321 Phone 515-237-3214 Email D.Evans@Dot.Iowa.gov	☒ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☒ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☒ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Cindy Litwiller Organization *(if applicable)* Iowa Falls Area Dev.	Address 520 Rocksylvania Ave City/Zip Iowa Falls 50126 Phone 641-373-3455 Email director@iowafallsdevelopment.com	☒ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☐ Male ☒ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☒ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name MIKE LA PIETRA Organization *(if applicable)* FHWA	Address 105 6TH ST City/Zip AMES IA 50010 Phone 515-233-7360 Email mike.lapietra@dot.gov	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name SAROD DHUIRU Organization *(if applicable)* BNSF	Address City/Zip Fort Worth Phone Email	☒ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☒ Male ☐ Female	☐ 15-24 ☐ 25-34 ☒ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☒ Other
Name Jody Sandy Organization *(if applicable)* Hy-Vee, Inc.	Address WDM City/Zip Phone Email	☒ Email ☐ Social Media ☐ Letter ☐ Postcard ☒ Other	☐ Male ☒ Female	☐ 15-24 ☒ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Amy Homan Organization *(if applicable)* DANR	Address City/Zip CA Phone Email	☒ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☐ Male ☒ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☒ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Shirley McGuire Organization *(if applicable)* USDOT FMCSA	Address City/Zip Ames, IA Phone Email	☒ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☐ Male ☒ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☒ 45-54 ☐ 55-64 ☐ 65+	☒ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Dave Johnston Organization *(if applicable)* Iowa HSGMD	Address 7900 Hickman City/Zip DesMoines IA Phone 515-725-3295 Email david.johnston@iowa.gov	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Bill Neese Organization *(if applicable)* West Central Coop	Address 406 First St City/Zip Ralston, IA 51459 Phone 712-667-3407 Email billn@westcentral.net	☑ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☑ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☑ 55-64 ☐ 65+	☑ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Phou Baccam Organization *(if applicable)* IDOT	Address 6310 SE Convenience Blvd City/Zip Ankeny, IA 50321 Phone 515-237-3220 Email Phoumine.Baccam@dot.Iowa.gov.	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Phil Mescher Organization *(if applicable)* Iowa DOT	Address 800 Lincoln Way City/Zip Ames Iowa Phone 515-239-1629 Email phil.mescher@dot.iowa.gov	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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Contact Information		Notification & Demographic Information *(Optional)* How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Sam Hiscocks Organization *(if applicable)* Iowa DOT	Address 800 Lincoln Way City/Zip Ames, IA 50010 Phone 515-239-1004 Email samuel.hiscocks@dot.iowa.gov	☑ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☑ Male ☐ Female	☐ 15-24 ☑ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☑ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Mike Helgerson Organization *(if applicable)* MAPA	Address 2222 Cuming St City/Zip 68102 Phone 402-444-6866 Email mhelgerson@mapacog.org	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name CRAIG MARKLEY Organization *(if applicable)* IOWA DOT	Address 800 LINCOLN WAY City/Zip AMES 50010 Phone 515-239-1027 Email CRAIG.MARKLEY@DOT.IOWA.GOV	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Joe Parsons Organization *(if applicable)* Iowa Interstate RR	Address 5900 6th ST SW City/Zip Cedar Rapids IA 52404 Phone 319 298 5418 Email jbparsons@iaisrr.com	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

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Contact Information		Notification & Demographic Information *(Optional)*			
		How were you notified about the meeting?	Gender	Age Range	Race/Ethnicity
Name Ed Engle Organization *(if applicable)* Iowa DOT	Address City/Zip Phone Email	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Organization *(if applicable)*	Address City/Zip Phone Email	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Organization *(if applicable)*	Address City/Zip Phone Email	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other
Name Organization *(if applicable)*	Address City/Zip Phone Email	☐ Email ☐ Social Media ☐ Letter ☐ Postcard ☐ Other ______	☐ Male ☐ Female	☐ 15-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+	☐ White ☐ Hispanic/Latino ☐ Black or African American ☐ American Indian/Alaska Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other

Invitation List

FIRST NAME	LAST NAME	ORGANIZATION
Fjay	Allison	10-15 Regional Transit Agency
Jim	Dougherty	ADM
Brett	Madison	ADM
Joel	Brinkmeyer	Agribusiness Association of Iowa
John	Riches	Alcoa
Kevin	Burke	Alliant Energy Transportation/ CR & IA City Railroad
Derrick	James	Amtrak
Adam	Krom	Amtrak
Craig	Kroeger	Appanoose County Community Railroad (APNC)
Melody	McHugh	Army Corps of Engineers
Ron	White	ARTCO Fleeting Service
Becky	Nardy	ATURA Transportation Planning Affiliation
		Barr Nunn Transportation Inc.
		Beisser Lumber Co.
Denise	Bulat	Bi-State Regional Commission
Gena	McCullough	Bi-State Regional Commission
Becky	Passman	Bi-State Regional Commission
Sarod	Dhuru	BNSF Railway
Paul	Nowicki	BNSF Railway Company
Fenner	Stevenson	Boone & Scenic Valley Railroad & Museum
Brian	Keierleber	Buchanan County Engineers Office
Steve	Hoth	Burlington Junction Railway
Andrew	Hoth	Burlington Junction Railway (BJRY)
Jonathon	Wingate	Burlington Junction Railway (BJRY)
Robert	Wingate	Burlington Junction Railway (BJRY)
Steve	Hoambrecker	Burlington Urban Service
Brian	McClatchey	Cambus
Herb	Jones	Canadian Pacific Railroad
Brad	Hildebrand	Cargill
Larry	Rooney	Cartersville Elevator Inc.
Justin	Fox	CDM Smith
Jeff	Woods	Cedar Rapids and Iowa City Railway Co. (CRANDIC) Railroad
Mark	Buschkamp	Cherokee Area Economic Development Corporation
Kurt	Scheible	Citibus
Greg	Reeder	City of Council Bluffs
Mayor Roy	Buol	City of Dubuque
Mayor Gordon	Canfield	City of Grinnell
Geoff	Fruin	City of Iowa City
Tom	Determann	Clinton Regional Development Corpoartion
Jim	Kvedaras	CN Railroad
Vicky	Robrock	Coralville Transit
Chad	Lambi	CRANDIC

Jack	Parliament	D & I Railroad Co. (DAIR)
Elizabeth	Presutti	DART
Troy	Russell	Decker Truck Line, Inc.
Susan	Dixon	Department of Homeland Security
Dave	Johnston	Department of Homeland Security & Emergency Management
Todd	Ashby	Des Moines Area Metropolitan Planning Organization
Zach	Young	Des Moines Area Metropolitan Planning Organization
Jack	Sawyer	Des Moines Transportation Company
William	Boal	Drake University
Steve	Falck	Environmental Law and Policy Center
Shirley	McGuire	Federal Motor Carrier Safety Administration
Kyle	Gradinger	Federal Railroad Administration
Rob	Toncar	FedEx
Teresa	Valenta	FedEx
Caitlin	Hughes Rayman	FHWA
Nicole	Katsikides	FHWA
Sean	Litteral	FHWA
Mike	LaPietra	FHWA
John	Wahlert	Firestone
Murry	Fitzer	Florilli Transportation
Stacy	Timperley	Forbs
Beth	Bilyeu	Forest City Economic Development
Wynne	Davis	FRA
Peter	Schwartz	FRA
Dave	Wilcox	Global Processing Inc.
Jay	Byers	Greater Des Moines Partnership
Greg	Jenkins	Greater Muscatine Chamber of Commerce & Industry
Dave	Coppess	Heartland Co-Op
Tom	Hauschel	Heartland Co-Op
Todd	Phillips	Heartland Co-Op
Steve	Engemann	Hermann Sand & Gravel
		HNI
		Hormel Foods Corp.
Karl	Kruse	Hy-Vee, Inc.
Peter	Rickershauser	Independent Board Member Iowa Interstate Railroad
Ron	Lang	Independent Trucker
Tim	Woods	International Traders of Iowa
Basak	Aldemir-Bektas	InTrans
Jing	Dong	InTrans
Delia	Moon-Meier	Iowa 80 Group
Rebecca	Neades	Iowa City Chamber
Chris	O'Brien	Iowa City Transit
		Iowa Corn Processors Glidden
Harold	Hommes	Iowa Department of Agriculture and Land Stewardship

Jennifer	Wright	Iowa Department of Natural Resources
Brett	Tjepkes	Iowa Department of Public Safety
John	Adam	Iowa Department of Transportation
Stu	Anderson	Iowa Department of Transportation
Phou	Baccam	Iowa Department of Transportation
Kyle	Barichello	Iowa Department of Transportation
Bonnie	Castillo	Iowa Department of Transportation
Mike	Clayton	Iowa Department of Transportation
Mitchell	Dillavou	Iowa Department of Transportation
Ed	Engle	Iowa Department of Transportation
Major Lance	Evans	Iowa Department of Transportation
Sam	Hiscocks	Iowa Department of Transportation
Laura	Hutzell	Iowa Department of Transportation
Sandra	Larson	Iowa Department of Transportation
David	Lorenzen	Iowa Department of Transportation
Mark	Lowe	Iowa Department of Transportation
Craig	Markley	Iowa Department of Transportation
Amanda	Martin	Iowa Department of Transportation
Diane	McCauley	Iowa Department of Transportation
Phil	Meraz	Iowa Department of Transportation
Phil	Mescher	Iowa Department of Transportation
Tamara	Nicholson	Iowa Department of Transportation
Garrett	Pedersen	Iowa Department of Transportation
John	Selmer	Iowa Department of Transportation
Sam	Shea	Iowa Department of Transportation
Cindy	Shearer	Iowa Department of Transportation
Paul	Trombino III	Iowa Department of Transportation
Jeff	Von Brown	Iowa Department of Transportation
John	Wilson	Iowa Department of Transportation
Adam	Broughton	Iowa DNR
Joseph	Rude	Iowa Economic Development Authority
Cindy	Litwiller	Iowa Falls Area Development Corporation
Don	McDowell	Iowa Farm Bureau
Joanne	Tinker	Iowa Governor's Traffic Safety Bureau
Carrie	Evans	Iowa Interstate Railroad
Jerry	Lipka	Iowa Interstate Railroad
Joe	Parsons	Iowa Interstate Railroad
Cheryl	Rangel	Iowa Interstate Railroad
Kathy	Evert	Iowa Lakes Corridor Development
Robert	Palmer	Iowa League of Cities
Brenda	Neville	Iowa Motor Truck Association
Amy	Homan	Iowa Northern Railway Company
Dan	Sabin	Iowa Northern Railway Company
Dan	Sabin	Iowa Northern Railway Company

Stephanie	Carlson	Iowa Pork Producers Association
Renee	Schachterle	Iowa River Railroad Inc. (IARR)
Tim	Borich	Iowa State University
Judi	Eyles	Iowa State University
Scott	Grawe	Iowa State University
Bobby	Martens	Iowa State University
David	Fellon	Iowa Traction Railway Co. (IATR)
Michael	Johns	Iowa Traction Railway Co. (IATR)
Cecil	Wright	Iowa Utilities Board
Steve	Lallier	J. B. Hunt Transport
Gary	Whicker	J. B. Hunt Transport
		Jacobson Companies Jacobson Transportation Company
Kent	Jordan	Jacobson Companies, Jacobson Transportation Company
		John Deere
Walt	Valiant	Kent
Osama	Shihadeh	Kent Corporation
Scott	Cirksena	Kenworth Truck Company
Mike	Hadley	Keokuk County Board of Supervisors
Nathan	Johns	Keokuk Junction Railway Co. (KJRY)
Scott	Stabbe	Key Cooperative
Ernie	Steffensmeier	Lee County Engineers Office
Carla	Eysink	Marion County Development Commission
Michael	Helgerson	Metropolitan Area Planning Agency
Greg	Youell	Metropolitan Area Planning Agency
Brad	Neuman	Metropolitan Planning Organization of Johnson County
Kent	Ralston	Metropolitan Planning Organization of Johnson County
		MidAmerican Energy Company
Melanie	Gray	Monsanto
Brad	Neuman	MPO of Johnson County
Brad	Spratt	Muscatine Power and Water
Bill	Winkelman	National Pork Board
Michael	Dolch	Office of United States Senator Joni Ernst
Francis	Edeker	Operation Life Saver
Dave	Silverio	Ottumwa Transit
		Owen Industries Carter Lake
Kip	Wills	PHMSA
Richard	Grenville	PortKC, Kansas City, MO
Terry	Bailey	Pottawattamie County Growth Alliance
Jason	Hutcheson	Professional Developers of Iowa
Libby	Ogard	Prime Focus LLC
Rick	Hunsaker	Region XII Council of Governements
Ben	McLean	Ruan
Kevin	Ekstrand	Scarbrough International, LTD
Corey	Nikkel	Schillinger Genetics, Inc.

Mike	Norris	Southeast Iowa Regional Planning Commission
Leesa	Lester	Southern Iowa Trolley
Mike	Steenhoek	Soy Transportation Coalition
Jantina	Wennerstrom	Soy Transportation Coalition
Liz	McDonald	SSAB, Inc.
John	Tobin	SSAB, Inc.
Dave	Purdy	State of Nebraska Passenger Rail Advocate
David	Ewing	States for Passenger Rail
Steve	Ford	Stonebridge Ltd.
Brent	Vanderleest	Sully Transportation
Randy	Draper	Target
		TMC
		Trinity Towers Newton
Col. Craig	Baumbartner	U.S. Army Corps of Engineers
Christine	Schrage	UNI-College of Business
Wayne	Borg	Union Pacific Railroad
Kyle	Nodgaard	Union Pacific Railroad
Kelli	O'Brien	Union Pacific Railroad
Rabah	Amir	UofIowa - Economics
Ann	Campbell	UofIowa - Logistics
Paul	Hanley	UofIowa - Transportation Policy
Mark	Peterson	UPS
		Van Wyk Freight Lines Inc.
Matt	Decker	Vermeer
Bill	Neeses	West Central Co-Op
Bill	Horan	Western Iowa Energy, LLC
Thomas	Kopp	World Food Processing, LLC- St. Paul
Tina	Draur	XPO Logistics
Tyler	Vande Vorde	XPO Logistics
Heather	Clark	
Jackie	Corletto	
Shane	Cullen	
Natalie	Hammer	
Onna	Houck	
Jeff	Kurtz	
Daniel	LaKemper	
Raymond	Lang	
Dennis	Miller	
Charles	Monte Verde	
Calvin	Nutt	
Jim	Obradovich	
Henry	Posner III	
Joshua	Sabin	
Mark	Sabin	

Daniel	Sanchez	
Alan	Schroeder	
Lon	Van Gemert	

F.4 Survey Summary

HDR/IOWA DEPARTMENT OF TRANSPORTATION

Survey Results

State Rail and Freight Plan: Trends, Concerns, Comments, and Future Outlook Analysis

IOWA STATE UNIVERSITY
COLLEGE OF BUSINESS

1/14/2016

Table of Contents

Executive Summary

Objective

Implement a public survey and analyze the results to summarize the support, concern, and interest among Iowa transportation system stakeholders for HDR and the Iowa Department of Transportation (IADOT). This report combines a summary and analysis of the results from the public survey in partnership with CyBIZ Lab addressing the support, concern and interest among Iowa transportation stakeholders.

Findings

- Almost half of survey respondents (48%) are in the 51-65 age range.
- The majority of survey respondents (39%) indicated they are involved with Iowa transportation as a public agency.
- The category "Safety and Security" was the most answered section with 102 respondents (47%).
- Overal**l, respondents are concerned with the infrastructure for all modalities in Iowa** and want more funding to rebuild highways, create new rail connections and have more transloading facilities.
- The most pivotal transportation issues are **Iowa's infrastructure** and the **truck driver shortage**.
- 74% of the respondents suggest that funding should be targeted at increasing access to barge facilities.
- The barrier in using intermodal carrier services chose majority of respondents chose was **location**.
- There is a clear pattern from respondents that there is a **shortage of containers available** in Iowa.
- With more connections to major Midwest hubs were made, more passengers would travel by rail for business.
- 75% of the respondents want **equal to larger investment into passenger rail** than other transportation modes.
- Respondents are more concerned with the **connections rail has** to other cities than any other category.

Process

1. Review State Rail and Freight Plans to familiarize with process.
2. Interview key Iowa transportation stakeholders to obtain common topics that will be addressed.
3. Participate in the Issues-Based Workshop public forum and record discussions.
4. Generate survey questions for HDR/Iowa Department of Transportation (DOT) approval.
5. Collaborate with HDR to create optimal survey and distribution dates.
6. HDR rolls-out the survey utilizing their network; CyBIZ Lab monitors responses.
7. Gather all data after survey close date and identify common elements.

8. Download, clean, and send raw results to HDR.
9. Review raw data, analyze and summarize into a final report.

Overview

The survey this report analyzes and summarizes was designed to capture the current perception of industry and market players utilizing Iowa's rail and freight infrastructure. The survey was distributed to an audience of stakeholders of transportation in Iowa. Due to the way responses were collected (via website advertisement), it is difficult to estimate how many people the survey was sent to directly; however, 272 individuals responded to the survey. Responses were collected between the dates of October 23 and November 15, 2015, with reminders sent midway by HDR.

Of the 272 survey respondents: **100** responded to the Economic Workforce section, **66** responded to the Multimodal Networks section, **54** responded to the Multimodal Link section, **82** responded to the Passenger Rail section and **102** responded to the Safety and Security section. Note that individual respondents were able to select multiple sections.

Survey Design

The survey has five individual sections categorized by the type of questions asked in each section. This survey was uniquely designed to take a respondent through different sections of the survey based on their answer to a qualifying question. This route was taken to increase the response rate to questions by pinpointing which type of questions respondents would be interested in answering and reducing the number of questions they answered overall (for a quicker and simpler experience). For example: If a respondent answered Passenger Rail and Multimodal Links as their interests, they were taken through only those two sections.

Because of the nature of this design, and the general impatience of respondents in taking surveys, the rate at which respondents drop out of the survey increases the more questions they answer. Those who answered that they are interested in all or many of the categories have higher drop rates because of the amount of questions they have to answer. Our team considered these issues and worked with HDR and IADOT to reduce this drop rate with this design and have as many respondents finish the survey as possible.

Report Structure

This report covers the questions asked in the State Rail and Freight Plan survey, the respondents' answers and their overall comments. The report is organized by topical section, and each question is analyzed and summarized based on the responses. The beginning of every section analyzes the comments and overall trends for that particular section, and then continues into each question separately.

Conclusions are made from each question and supported by data from the survey and the Issues-Based Workshop summary.

Demographics

A total of 272 people responded to the survey. Of this, 219 indicated their age. The majority of respondents (48.4%) indicated they fell in the 51-65 age range. The next closest age range was 26-50 (40.6%). Figure 1 illustrates the age breakdown of all participants. A total of 103 respondents entered their zip code. After analyzing the zip codes, it appears that the largest represented area was 50010 – or the Ames area.

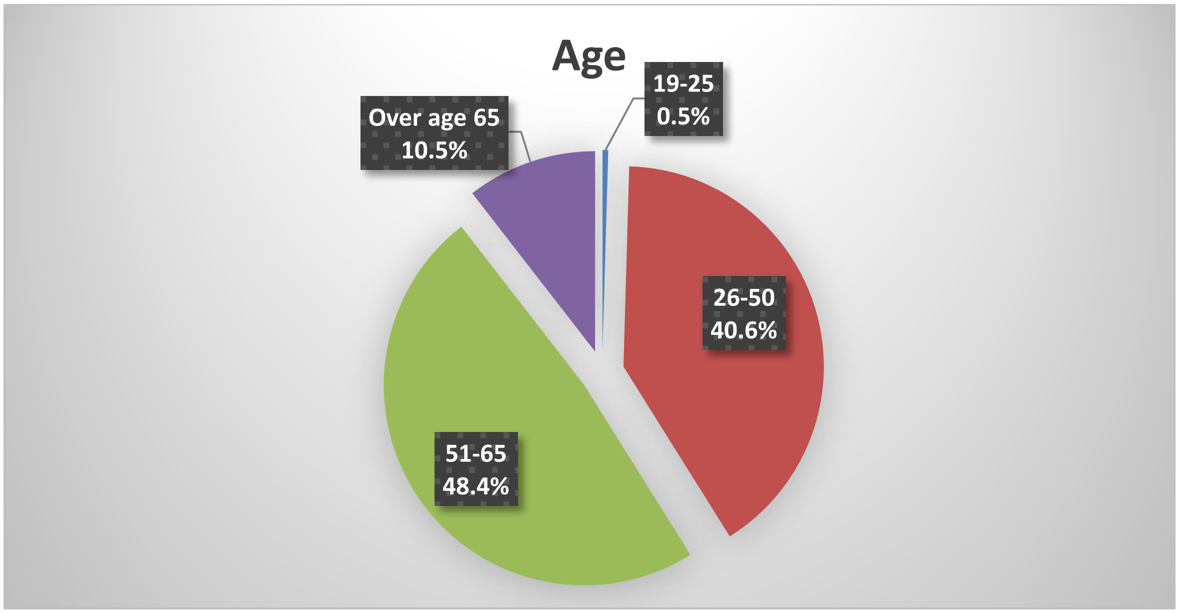

Figure 1: Age of Participants

While there was a wide representation of interests reported, there is some potential for bias due to a large representation of respondents that have experience within a given field as seen in Figure 2 of the demographic questions. A total of 220 respondents indicated their primary involvement with Iowa transportation. The largest group of respondents (39%) indicated their primary involvement with transportation in Iowa identified as a member of a "public agency" (see Figure 2). The next highest representation (20%) identified as "individuals." Class I Railroads and Regional Railroads represented some of the lowest respondent groups (4% each), and Shortline Railroads represented only 1% of respondents. Emergency responders accounted for at least four responses; however, these respondents identified this in the "other" category.

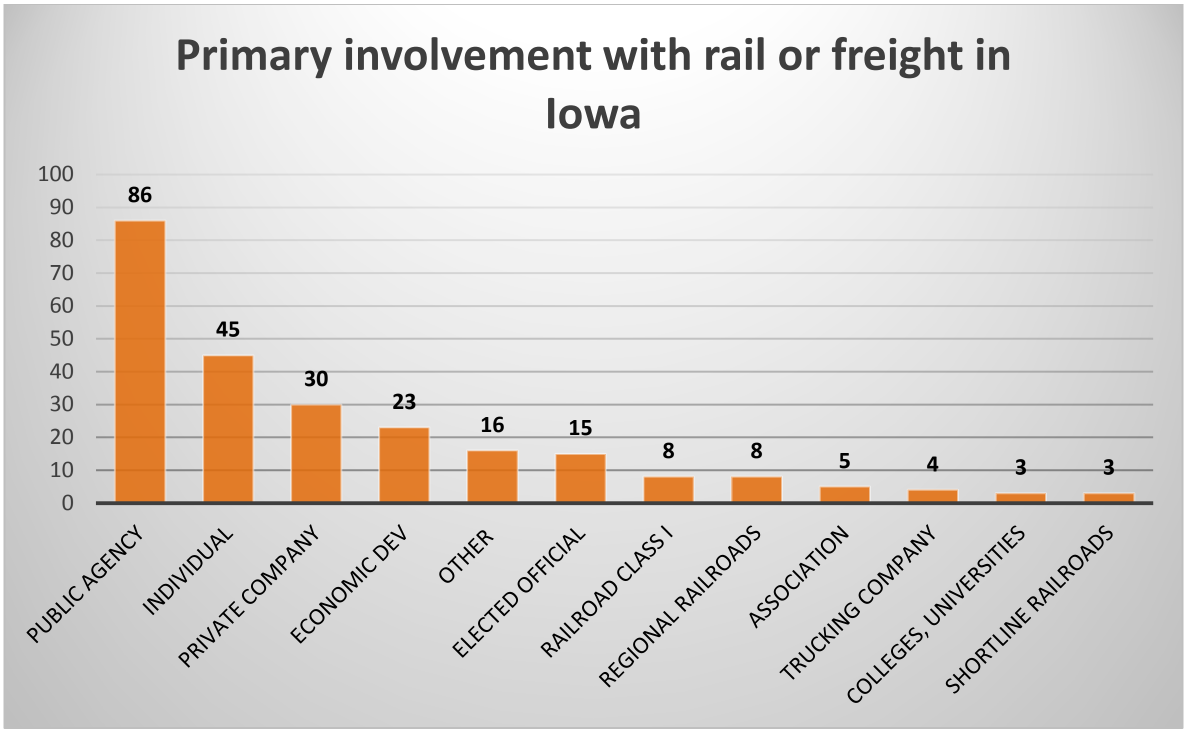

Figure 2: Participant Involvement

Economic and Workforce Development

The Economic and Workplace Development section of the survey focuses on the participants' current perception of various transportation modes in Iowa and their relationship using them. One hundred participants responded to these questions. The questions asked to produce these comments include:

- What improvements would make transportation modes in Iowa more competitive?
- Why/why not are transportation modes competitive in Iowa?

In the Economic and Workforce Development portion for the survey, respondents mentioned **rail** and he need for additional facilities the mot. Respondents also mentioned the improvement of the facilities located near **rivers**. **Competition** was mentioned to be more aggressive in trucking than rail, and comments on **infrastructure** mention improving bridges, highways and loadout facilities. This seems to enforce the topics discussed in the Issues-Based Workshop as well. A closer look at the comments exposed major areas of concern involving increasing efficiency, funding infrastructure improvements, increasing rail access for users, and increasing the number/access of river facilities.

How efficient is the overall transportation system in Iowa?

<u>Summary:</u> There were 91 respondents for this question. The majority of respondents, 61%, indicated that Iowa's current transportation system is "Moderately Efficient." Only two respondents indicated that the transportation system was not efficient at all, while only three respondents indicated that it was extremely efficient.

<u>Conclusions:</u> From reviewing the results of the questions in Figure 3, it can be seen that the overwhelming majority sees that Iowa's transportation system is efficient with room for improvement. Learning from the comments section and this question, it is understood among those who utilize the system, that though there are some infrastructure issues, the efficiency of the system as a whole is moderate to very efficient.

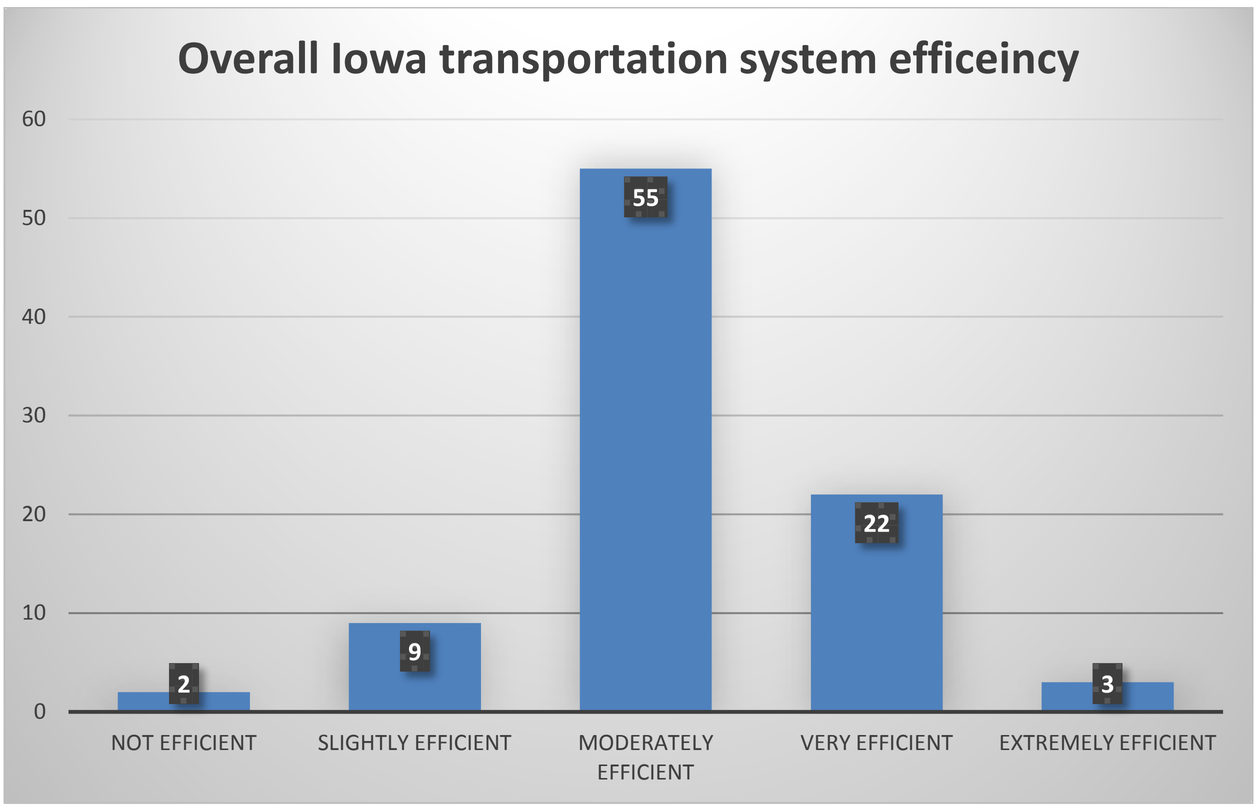

Figure 3: Iowa's transportation system efficiency

What are the current hurdles in the transportation system that may block future economic development?

Summary: Eighty respondents answered this question and had the choice to select all answers that applied. The majority of respondents (55%) indicated that "infrastructure" was one of the biggest hurdles that would affect economic development. This topic appeared highly ranked and mentioned in other sections of the survey comments. The next biggest hurdle indicated was "connectivity" (37%) followed by "access to number of viable modes" (28%). Only 10 (9%) of respondents indicated that "Training/Education" would be a hurdle that affects Iowa's economic development. Figure 4 highlights what respondents indicated as the current hurdles in the transportation system.

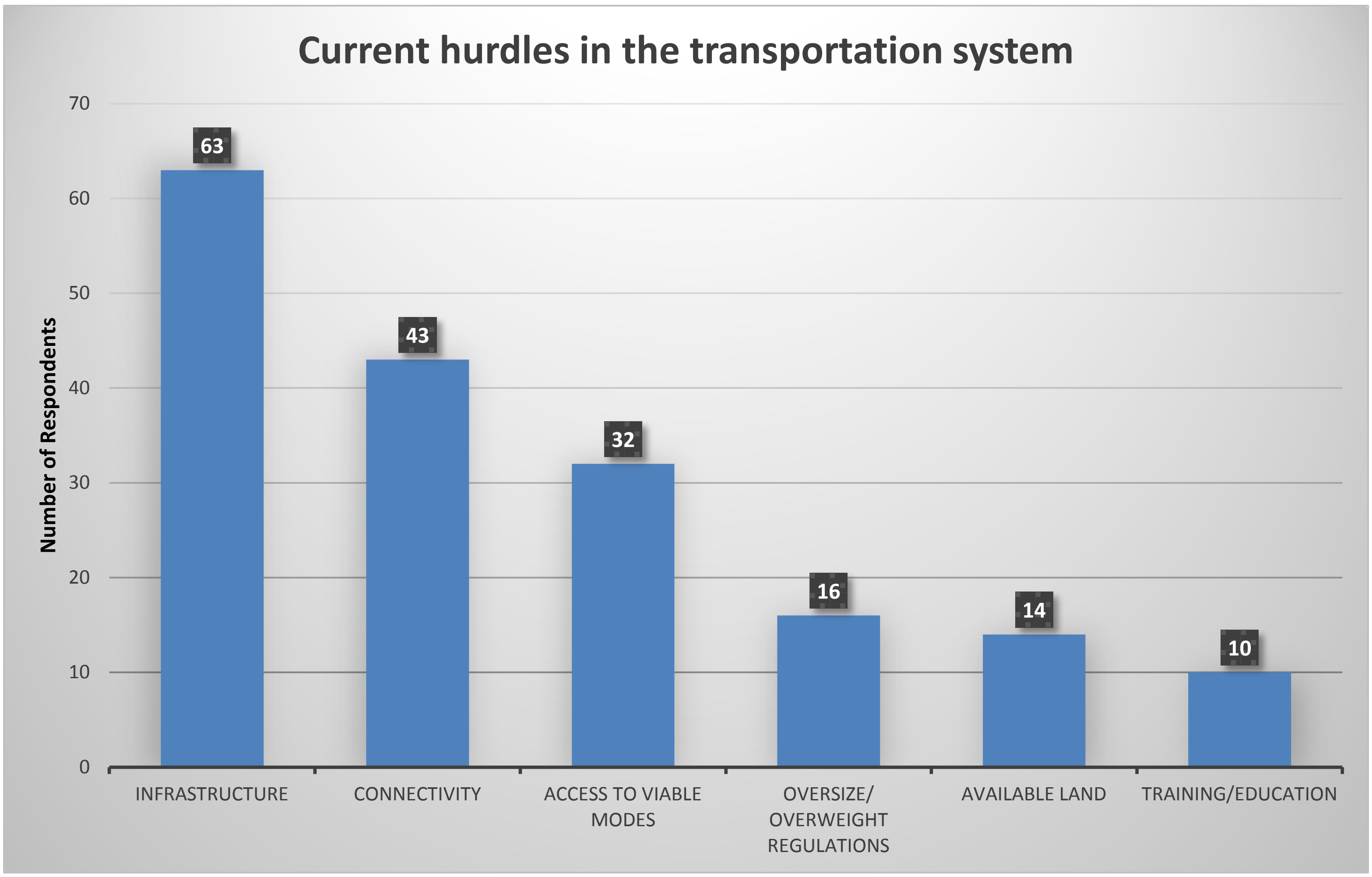

Figure 4: Current hurdles in the transportation system

Conclusions: It is clear that the infrastructure of Iowa's roads, bridges and facilities are the main concerns. This affects both connectivity and access to other modes. Also from the comments and discussions at the workshop, this concern mainly encompasses trucking transportation.

Using a scale from 1 to 5, rank what industry developments and trends that are most important for decisions related to the rail and freight transportation system (1 is most important, 5 is least important).

Summary: A total of 69 respondents answered this question. Out of the five different options to rank, "Transportation Connectivity" was ranked first the most number of times with 30 respondents putting it at the top. "Technology Advancements" had the lowest number of first place rankings with only four votes, however "Government Regulation" was ranked last the most with 36 votes. When analyzing the results of the rankings, the weighted average was taken for each of the categories and compared in Figure 5. The closer the category is to the center, the higher the category is rated.

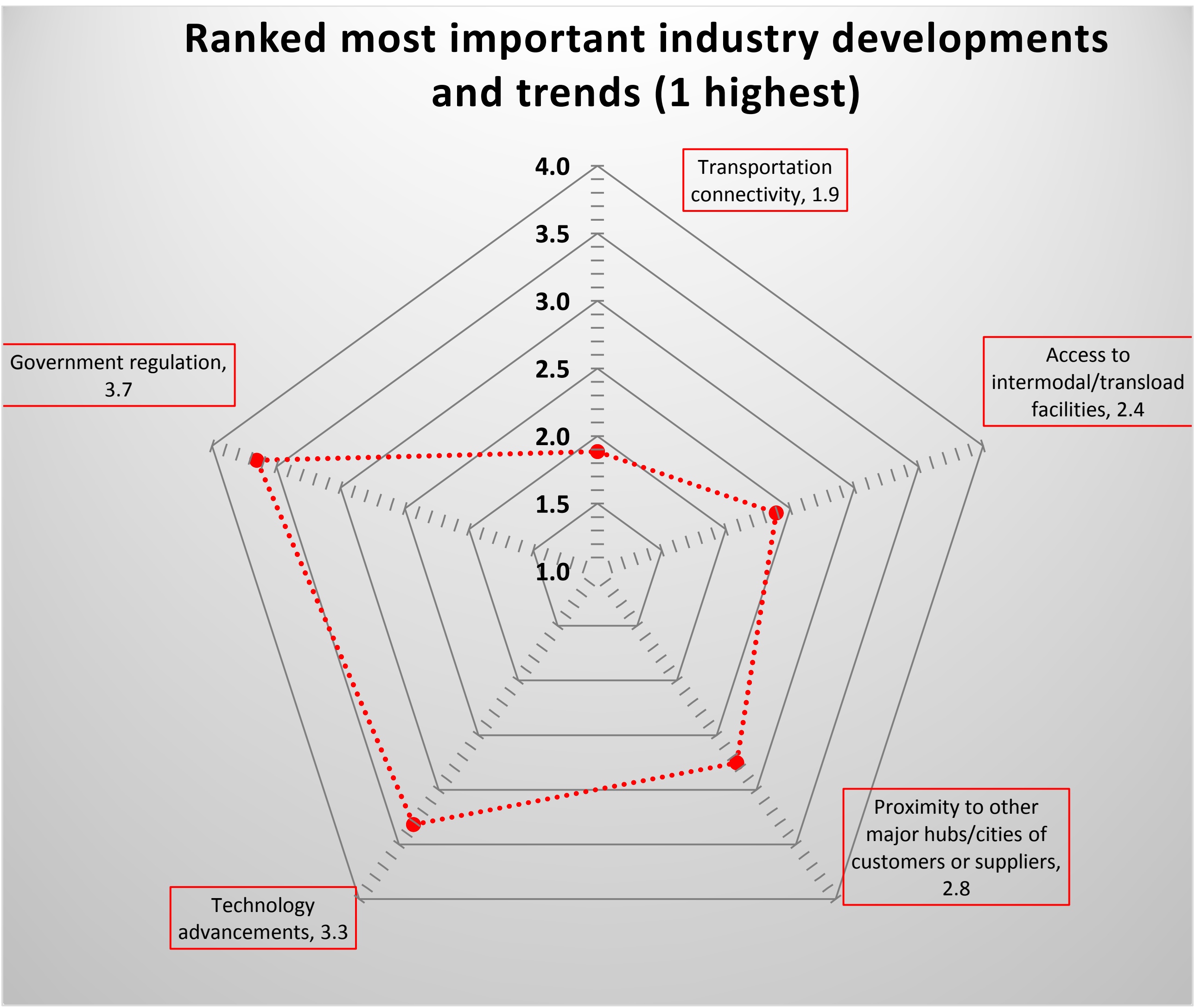

Figure 5: Ranked industry developments and trends (weighted average)

Conclusions: From the weighted average of respondents' answers, rankings from most important to least are as follows: transportation connectivity, access to intermodal/transload facilities, proximity to other major hubs/cities of customers or suppliers, technology advancements and last government regulation. Transportation connectivity is the highest ranked industry development and trend.

Should Iowa DOT funding be targeted at increasing access to barge facilities? If yes, where?

<u>Summary:</u> A total of 78 respondents answered this question. The majority of respondents (41%) indicated that funding should be focused on both the Missouri and Mississippi Rivers. If only one river could be focused on, 28% of respondents overwhelmingly indicated that facilities along the Mississippi River should be funded first – compared to the Missouri River funding priorities of 5%. There were 20 respondents (26%) who indicated that funding shouldn't be targeted at increasing access to barge facilities at all. Larger trends for barge facility access can be seen in Figure 6.

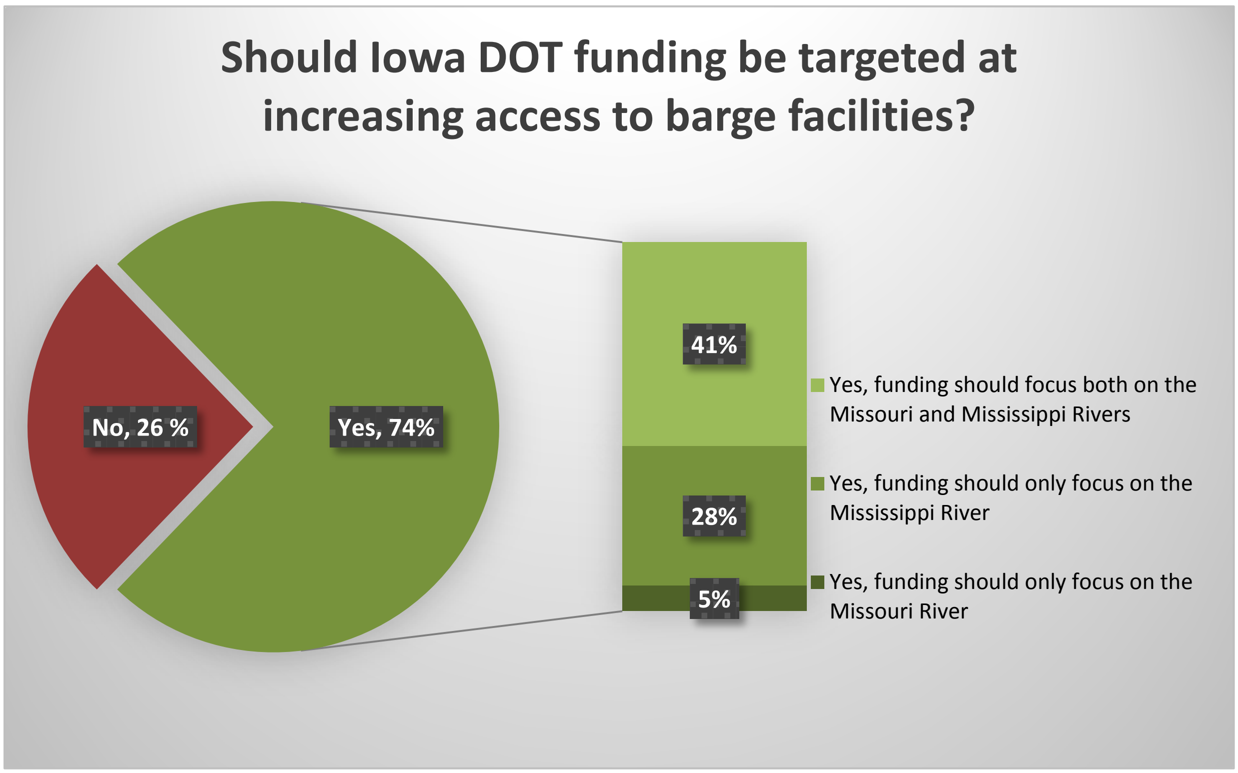

Figure 6: Funding targeted at increasing barge access and where

<u>Conclusions:</u> When the data is grouped into just "Yes" and "No" categories, some larger trends can be seen in Figure 6. With 74% of the respondents suggesting that funding should be targeted at increasing access to barge facilities, it is clear that barge infrastructure is suffering. Also, when pinpointing which river needs more support, the Mississippi is on top; yet the majority answered that both need funding.

Are there federal and/or state transportation regulations that are a hindrance or obstacle to economic competitiveness in the state?

Summary: A total of 56 respondents answered this question. There is a near even split between those who believe regulations are an obstacle to economic competitiveness, and those who do not see regulations being in the way of growth. The latter took the majority with just 52%. For those who indicated regulations were an obstacle, 15 entered a comment as to why. The most popular comment entailed "truck weight limits" (or similar) as being an obstacle to overcome. Some unique comments from this question included development of barriers along the Mississippi River and union labor contracts. Figure 7 illustrates the percentages of responses that indicate if regulations are hindrances in economic competitiveness.

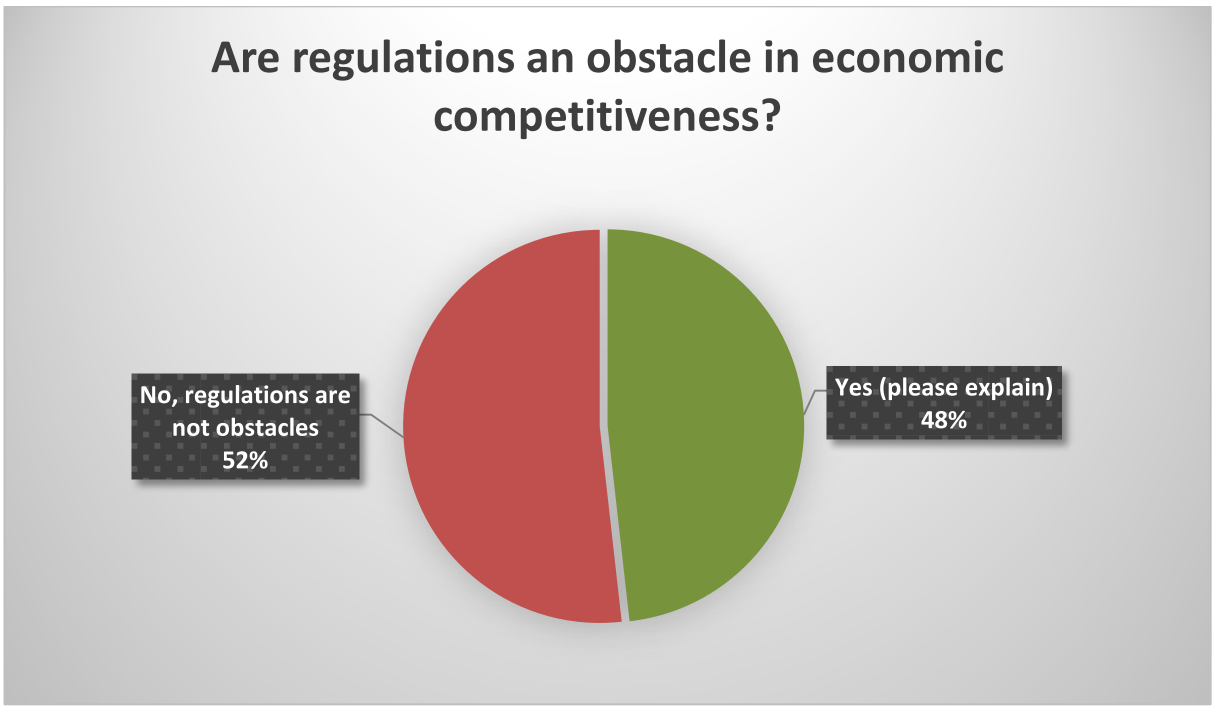

Figure 7: Are regulations an obstacle in economic competitiveness

Conclusions: Since there are many different ways regulations can affect industries, some parties benefit and some do not. For example, in the recent tank-car regulations[1], organizations and companies challenge safety regulations that would support other companies in the industry providing more services for safer rail systems. From the comments for those who answered "Yes", the underdevelopment of riverside infrastructure is mentioned again which seems to be a general theme to survey taker responses.

[1] Wronski, Richard. Chicago Tribune: "*New federal regulations on tank-cars*", 6/28/15. http://www.chicagotribune.com/news/ct-train-hazmat-safety-met-20150629-story.html

Multimodal Networks

The multimodal networks section of the survey focuses on the participants' current perception of regulations, current issues and education across different modes of transportation. 66 participants responded to these questions.

What are the most pivotal transportation issues for freight shipping in the state? (1 is the most pivotal, 6 is the least pivotal)

Summary: A total of 53 respondents answered this question. Out of the six options to choose from, "infrastructure" was ranked the highest (number 1) the most amount of times. It was also ranked the second highest (number 2) the most amount of times. "truck driver shortage" followed closely behind with 16 respondents indicating it was the second most pivotal transportation issue. The choice "equipment supply/availability" was only ranked as the most pivotal issue once, but was ranked last in comparison to "political uncertainty".

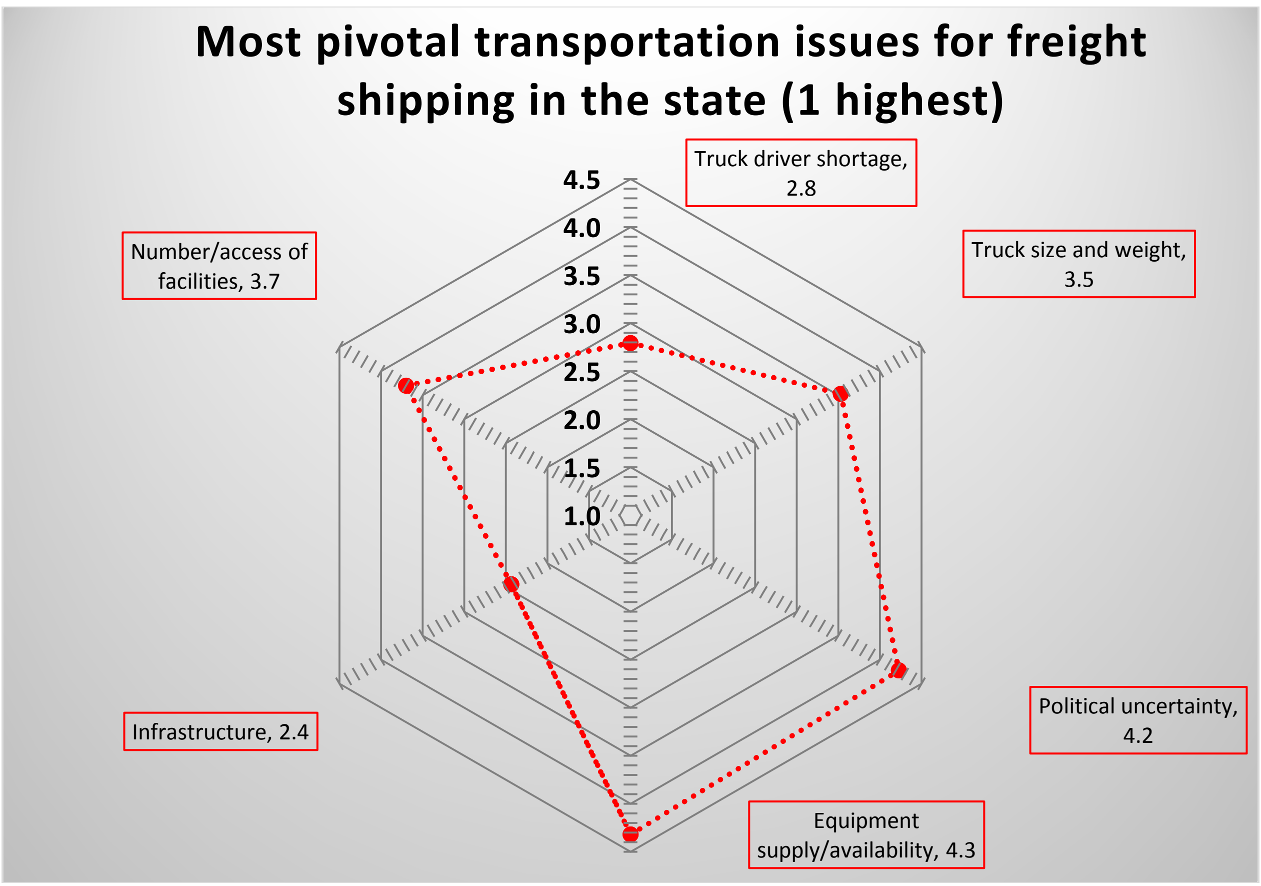

Figure 8: Most pivotal transportation issues for freight (weighted average)

Conclusions: When analyzing the results of the rankings, the weighted average was taken for each of the categories and compared in Figure 8. The closer the category is to the center, the higher the category is rated. From the weighted average, ranks from most important to least is as follows: Infrastructure, Truck driver shortage, Truck size and weight, Number/access of facilities, Political uncertainty and Equipment supply/availability.

Are oversized truck and weight permits easy and accessible to obtain?

Summary: A total of 38 respondents answered whether or not permits were easy to obtained, and only three expressed permits are not easy to obtain. All three of the respondents indicated that "online access" would make oversize permits easier to obtain, while only one respondent felt that the overall process could be quicker. The majority of respondents (92%) indicated that the permits are already accessible and easy to obtain.

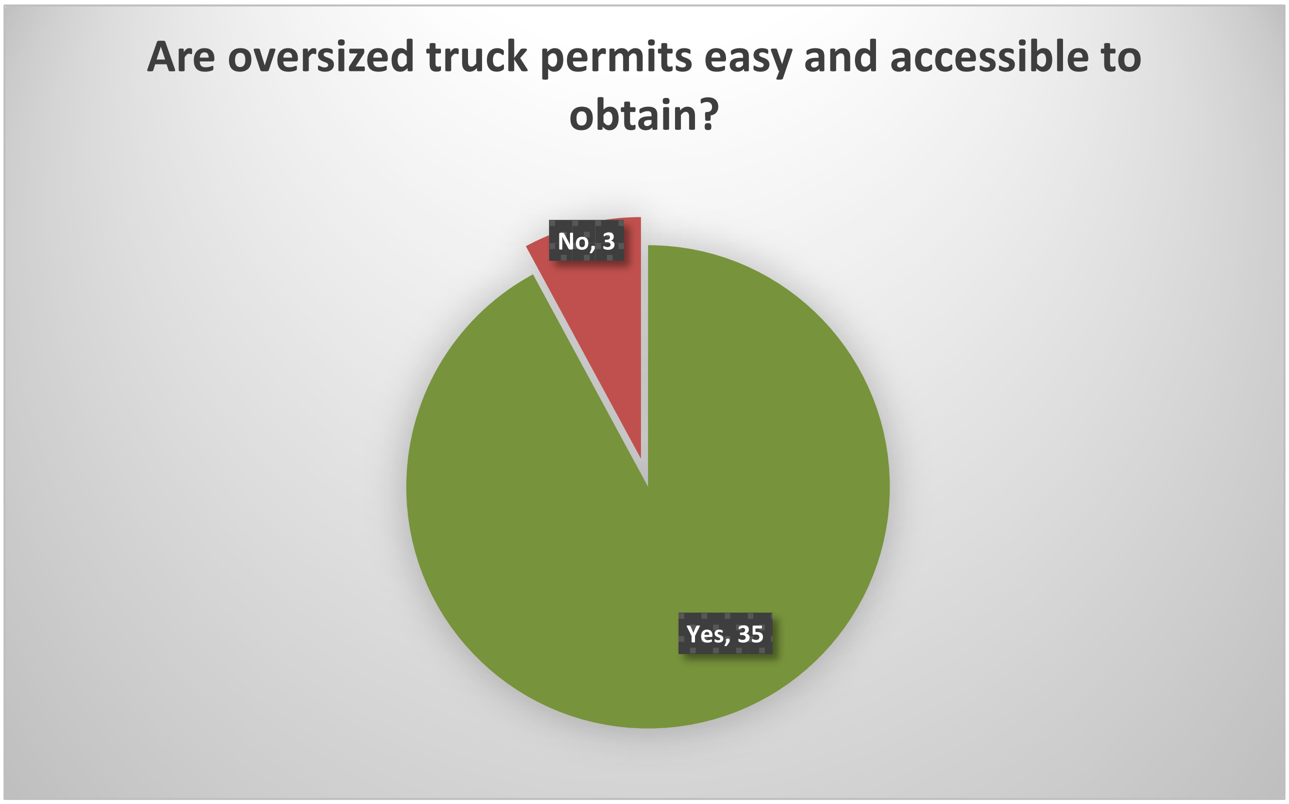

Figure 9: Accessibility of oversized truck permits

Conclusions: This question has a straightforward response that indicates the large majority does not struggle in obtaining permits.

Is there enough education regarding all modes of transportation and the benefits it provides for freight shipments?

Summary: A total of 43 respondents answered this question. The majority of respondents (56%) indicated that there are not enough education resources about transportation options in Iowa. Only seven respondents (16%) believed there was enough education and knowledge about the different transportation modes available. The remaining 28% think there are enough education resources available, but they may not be used appropriately – as there is a lack of knowledge about different mode options among shippers.

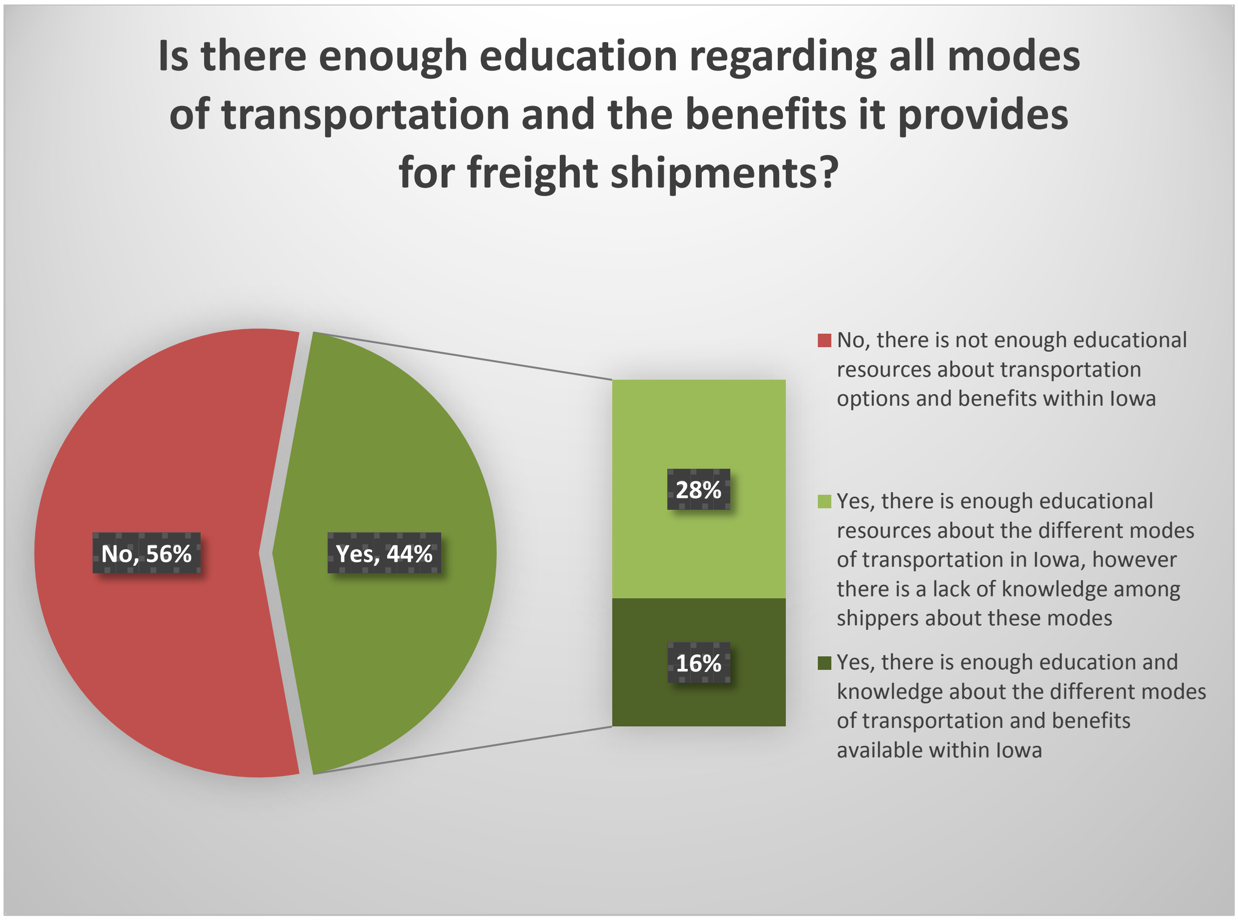

Figure 10: Availability of education for all modes of transportation

Conclusions: When asked about the availability of education and benefits provided, respondents were closely tied but leaned toward saying there was not enough education. When those who answered "Yes" indicated that "a lack of knowledge among shippers about modes" is the major concern.

Multimodal Links

The multimodal links section of the survey focuses on the participants' current perception of trainload connection, access and usage. Fifty-four participants responded to these questions.

Note that due to the low amount of responses in this section, there is a concern in stating that the results are statically significant. Since this was not all the data used in this report, findings were incorporated from the Issues-Based Workshop to confirm these results.
There weren't many comments in this section of the survey due to the lower number responding to this section; however, the common themes seem to involve **Chicago**, **Iowa**, and **increasing investment**. It appears that **legislature** and **politics** are also common throughout responses.

Do you use domestic intermodal container service and/or international intermodal container service?

Summary: Figure 11 highlights the responses of the 12 respondents who answered this question. It appears that most people either use both international and domestic services, or none at all. Only two respondents indicated they only use international container services, and none of the respondents solely use domestic container service.

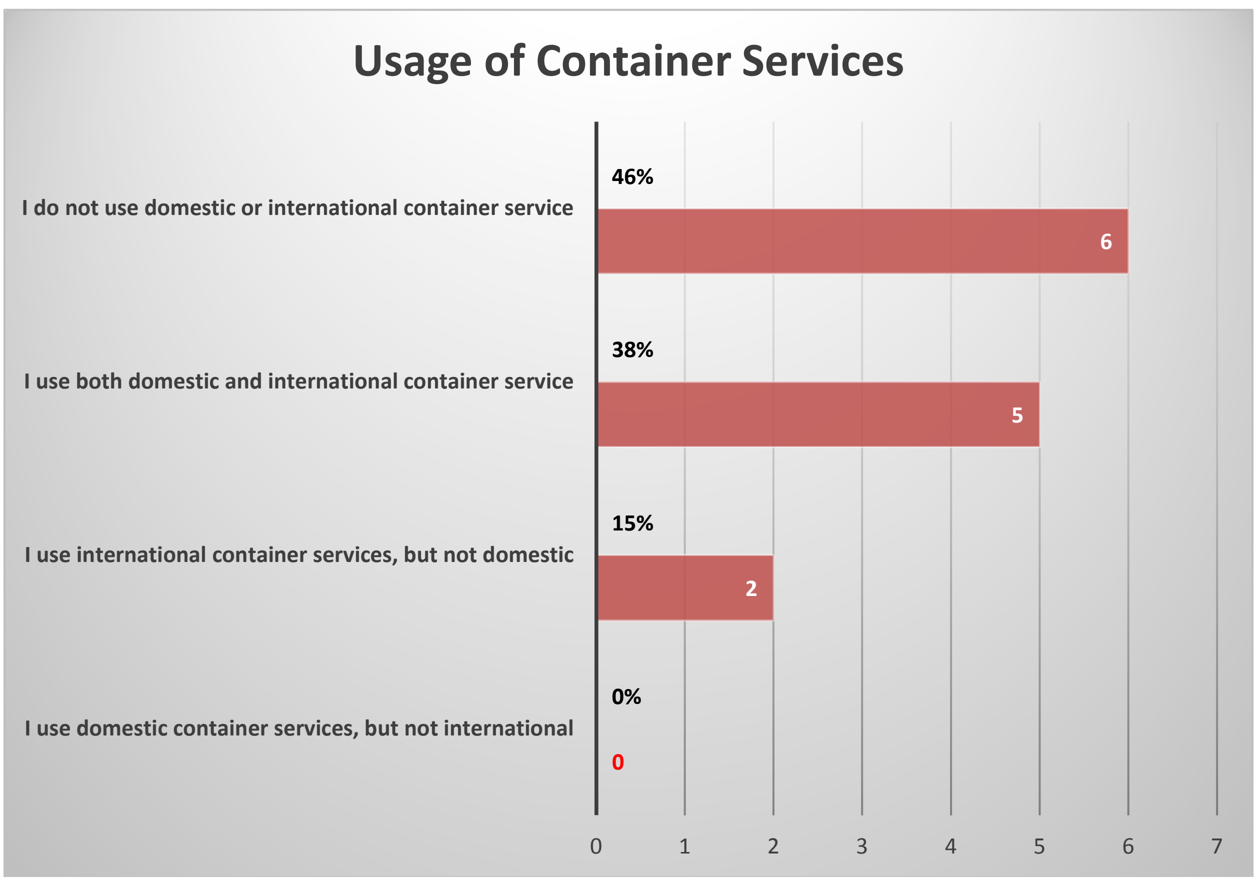

Figure 11: Usage of container services

Conclusions: When examining the results of this question, there are a low number of responses. In fact, many questions in this section have a lower number of responses, but it does not mean the results are irrelevant. In the case of usage, respondents are split between both ends of container use.

Is Iowa's intermodal access sufficient to meet your business needs?

Summary: Figure 12 displays the responses of the 13 respondents who answered this question. The majority of respondents (69%) indicated that Iowa's intermodal access is not sufficient to meet their needs. Four respondents (31%) believe that Iowa's intermodal access is sufficient.

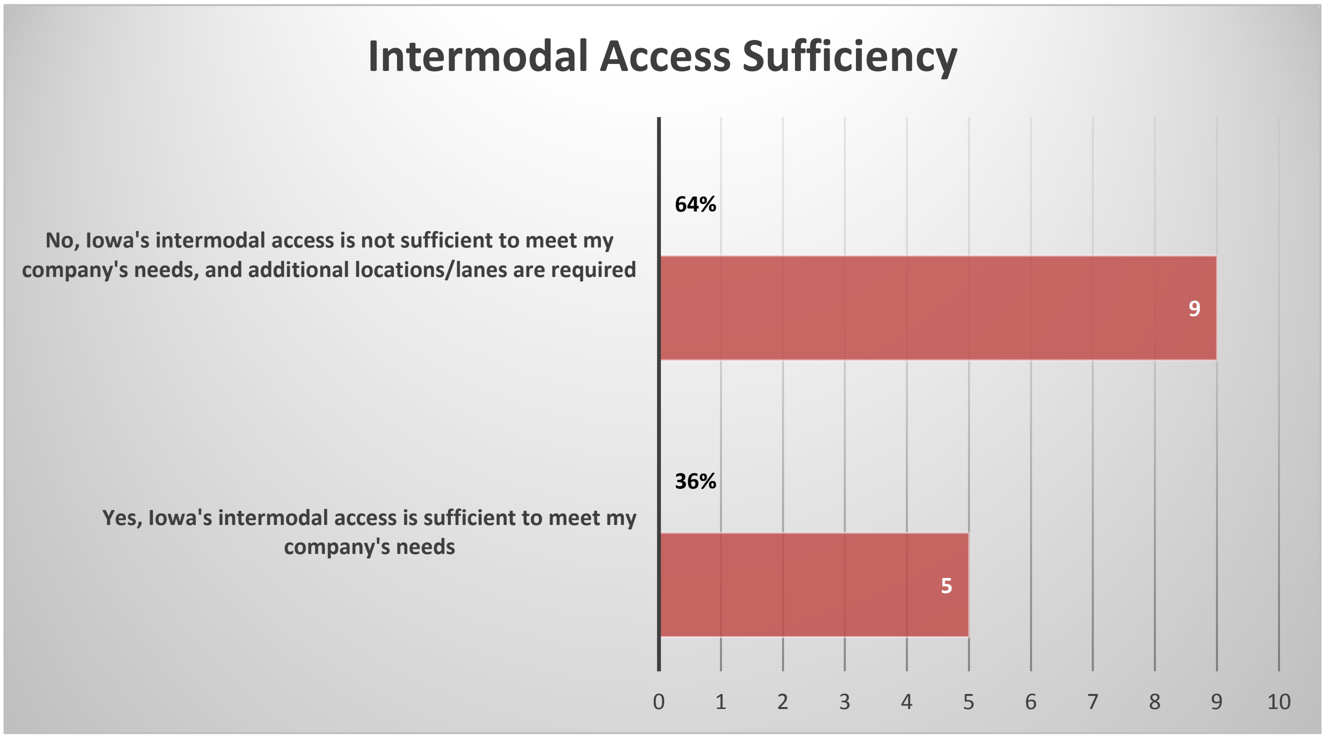

Figure 12: Intermodal access sufficiency

Conclusions: From the respondents' answers, it can be said that Iowa's intermodal access can be improved through infrastructure investment.

What are the barriers to your use of intermodal container service?

Summary: A total of 12 respondents answered this question, selecting all that apply. Respondents could select all of the barriers they felt were applicable. The most indicated barrier with 75% of respondents choosing was "location of intermodal facilities." The next biggest barrier to the use of intermodal container service was "equipment availability" with 50% of respondents indicating it affected their use of intermodal services. Only two respondents indicated that their company does not have any barriers to intermodal container service use.

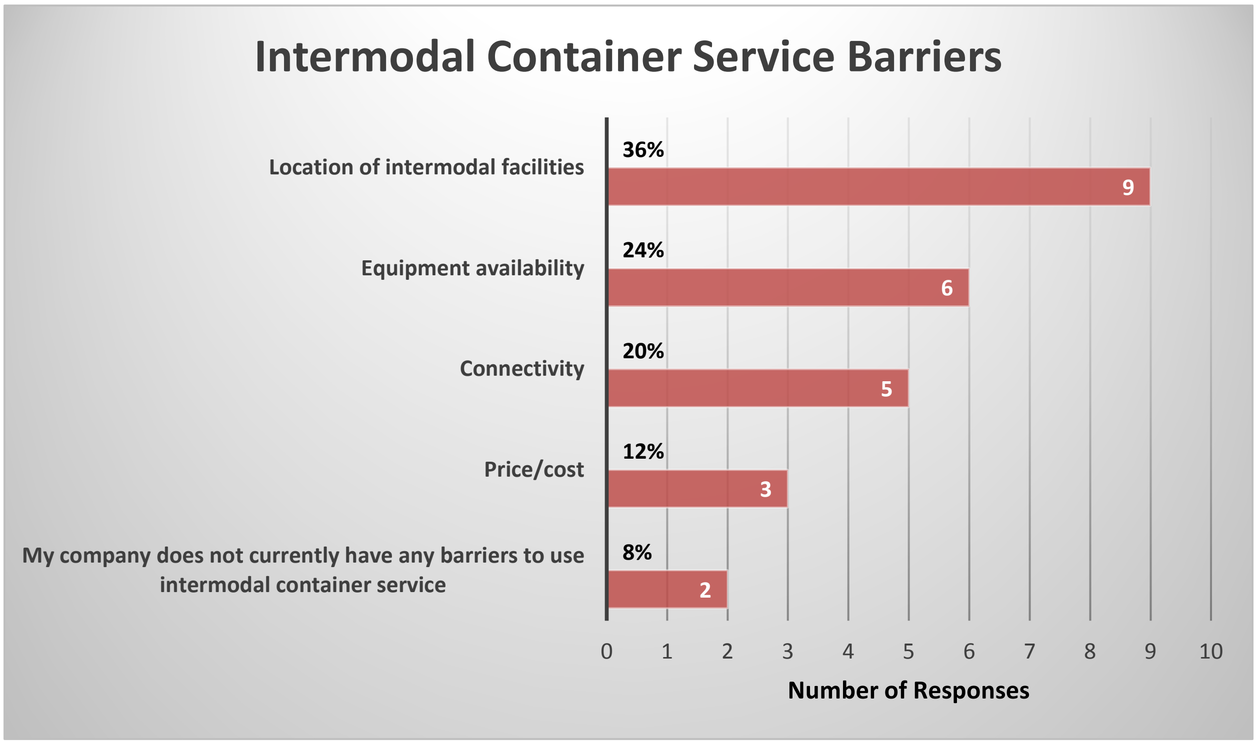

Figure 13: Intermodal container service barriers

Conclusions: The barrier that majority of respondents indicated was location, which means it is even more important to ensure that infrastructure and alternative transportation is available to facilitate reaching these facilities.

Is there sufficient container availability?

Summary: A total of 12 respondents answered this question. The majority of respondents (83%) indicated that there are not enough containers available in Iowa. The other 17% indicated that there are enough containers available, but better utilization is needed.

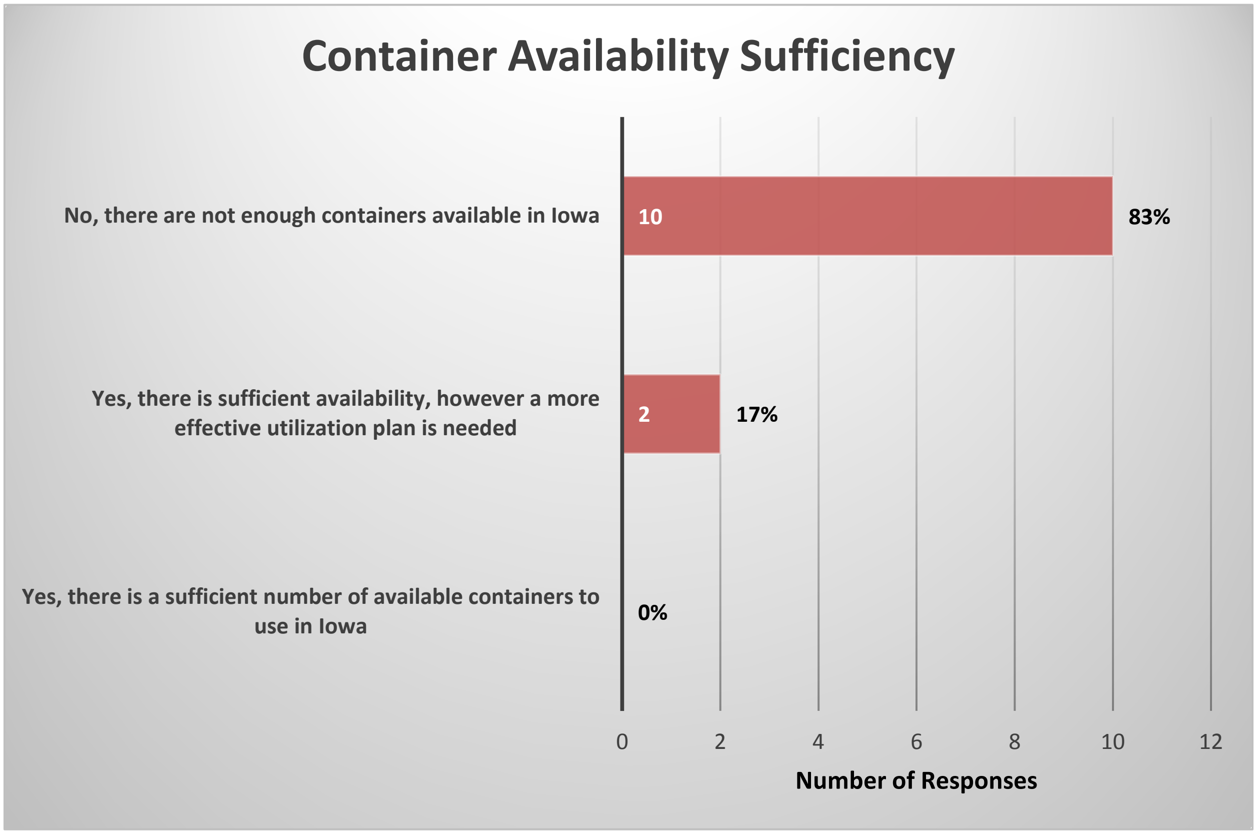

Figure 14: Container availability sufficiency

Conclusions: There is a clear pattern from respondents that there is a shortage of containers available in the State of Iowa.

Do transloading facilities make sense to businesses in Iowa?

Summary: A total of 27 respondents answered this question. Nineteen respondents (70%) indicated support that transloading facilities make sense for Iowa businesses, and that they should be located throughout Iowa. Five respondents think that these kinds of facilities make sense in Iowa, but they are not the highest priority right now. Only three respondents (11%) indicated that transloading facilities do not make sense in Iowa.

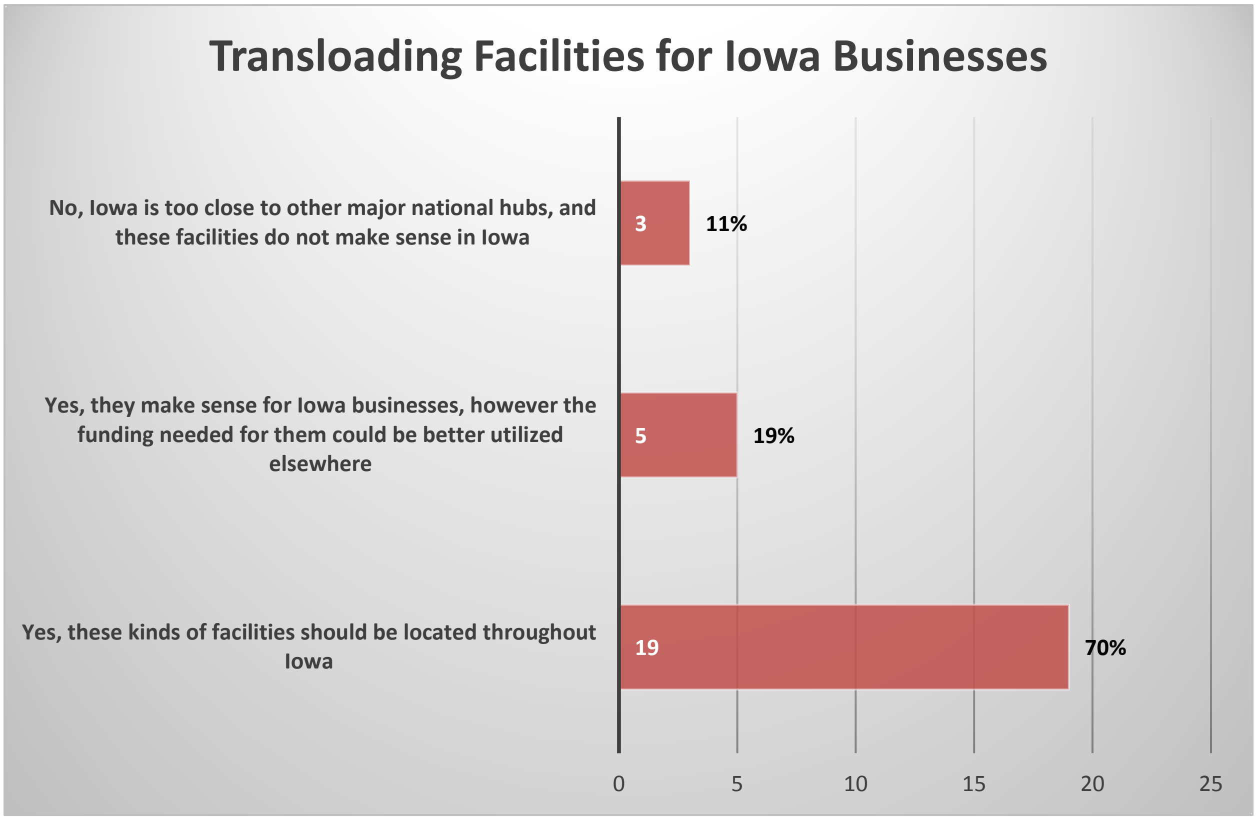

Figure 15: Transloading facilties for Iowa businesss

Conclusions: Respondents agree that having more transloading facilities will make transitioning to different modes much easier. Iowa is an area where many companies are using multimode methods to lower costs in shipping; Transferring loads from trains to trucks, ethanol being one of the main cargos[2].

[2] Ford, George. The Gazette: "*Transloading links trains, trucks moving ethanol, freight*", 4/3/14. http://www.thegazette.com/2011/11/17/transloading-links-trains-trucks-moving-ethanol-freight .

For those who answered "Yes", where should additional transloading facilities be located?

Summary: From the 19 respondents that indicated transloading facilities make sense, 17 responded to where facilities should be located. These respondents could select all areas that were applicable. There was a tie between the top three options – Northeast region, Southeast region, and Central Iowa. The Northwest region received slightly fewer votes with 18% of respondents indicating transloading facilities should be located there, and the Southwest region received the fewest votes.

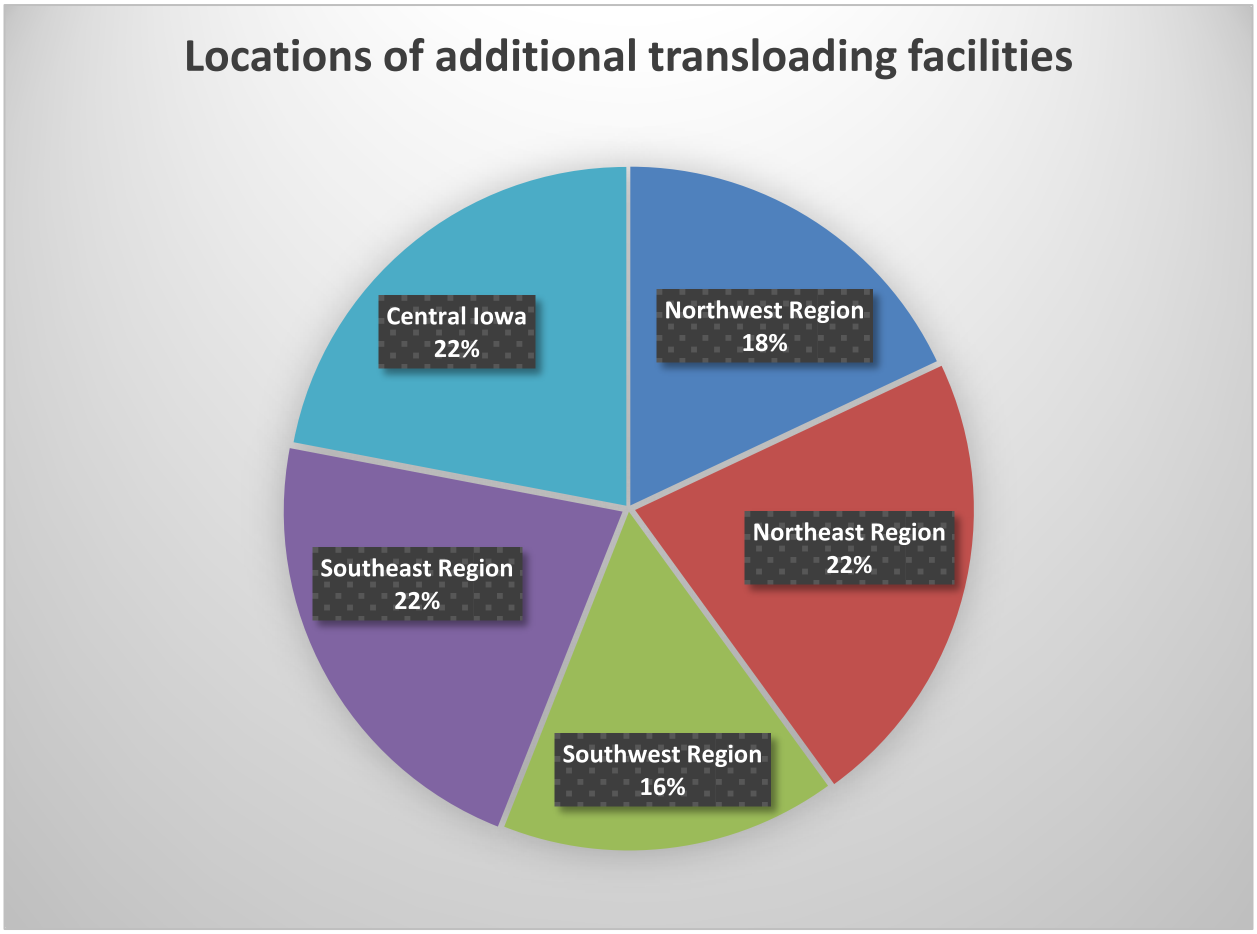

Figure 16: Locations of additional transloading facilities

Conclusions: Respondents are evenly split among where transloading facilities should be located. It looks as if there were efforts to create transloading facilities, they should be located in the Central and Eastern areas of Iowa which are lacking facilities.

Is there enough information available to help assess the costs and benefits of using a transloading/intermodal facility?

Summary: A total of 15 respondents answered this question. The majority of respondents (73%) indicated that there was not enough information available to assess the costs and benefits of using a transloading facility. Three respondents indicated that there was information available but took a long time to find, and only one respondent felt that they could assess whether or not transloading facilities made sense to their business.

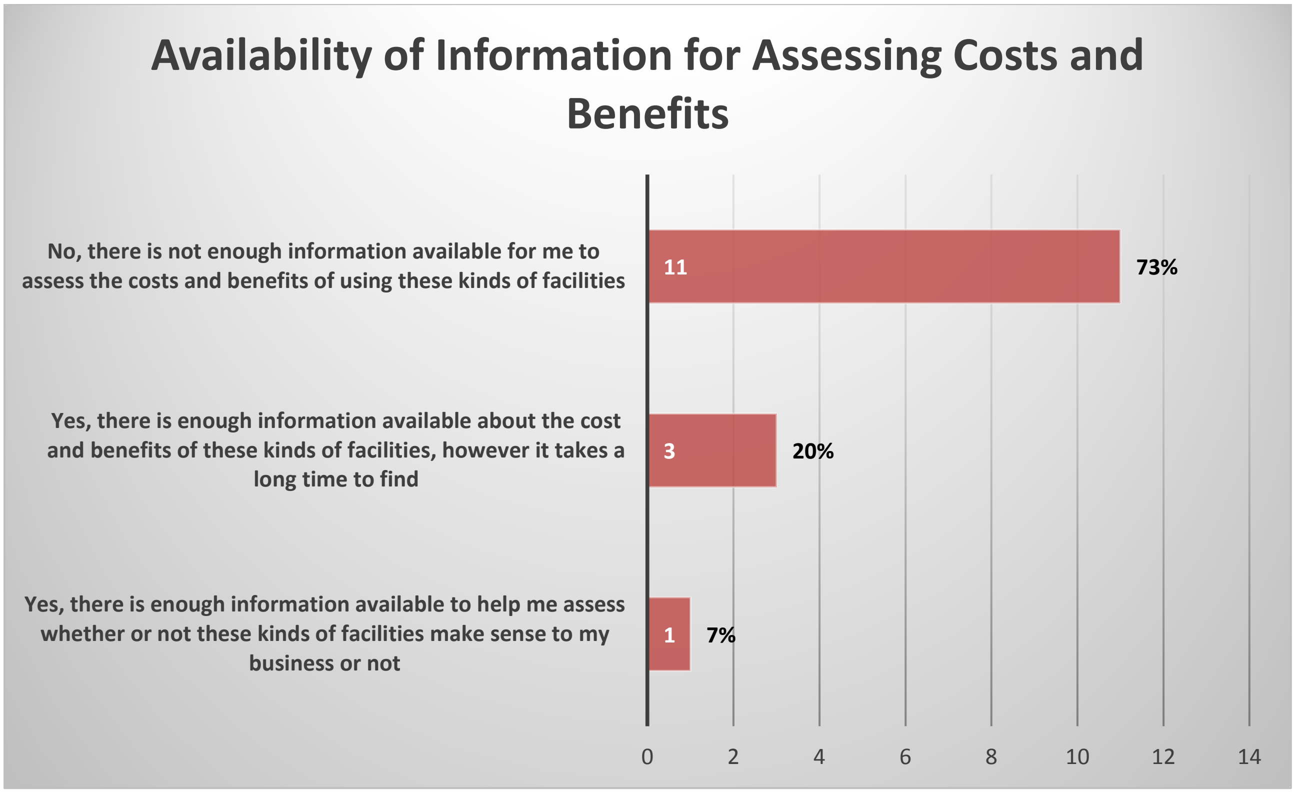

Figure 17: Availability of information for assessing costs and benefits

Conclusions: Respondents indicate that there is a lack of information accessibility to costs and benefits of using a transloading/intermodal facility. This is a gap that can be resolved through education and informative marketing tactics.

Are the intermodal connectors between Iowa's highways, railways, and ports adequate?

Summary: A total of 21 respondents answered this question. The majority of respondents (67%) indicated that intermodal connectors are not adequate. Four respondents (19%) indicated that connectors are adequate and easy to use, while only three respondents (14%) felt that accessibility needed improvement for intermodal connectors.

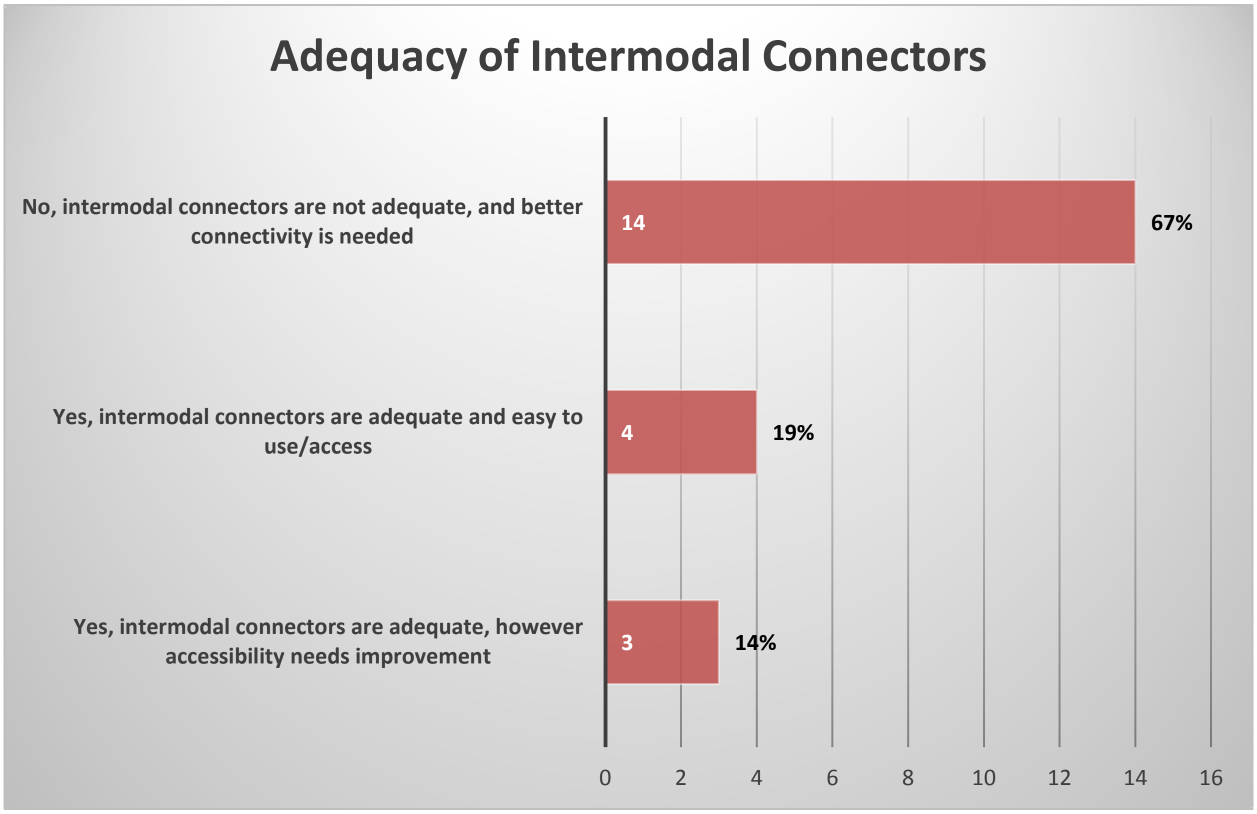

Figure 18: Adequacy of intermodal connectors

Conclusions: Respondents seem to agree that intermodal/transload facilities and connectors do not exist and the ones that currently do are inadequate. It is a clear that an investment in intermodal connectors is wanted by the respondents to have additional facilities and improve current ones.

Passenger Rail

The passenger rail section of the survey focuses on the participants' current perception of the use of rail for passenger travel. Eighty-two participants responded to these questions.

How likely would you use passenger rail in the state of Iowa for business trips?

Summary: A total of 58 respondents answered this question. The results varied; however, 20 respondents (34%) indicated that they would likely use passenger rail for business travel. Combining this with those who indicated "Extremely likely," over half of respondents would most likely utilize rail for business. While nine respondents remained neutral, a total of 17 indicated that utilizing passenger rail for business wasn't very likely for them.

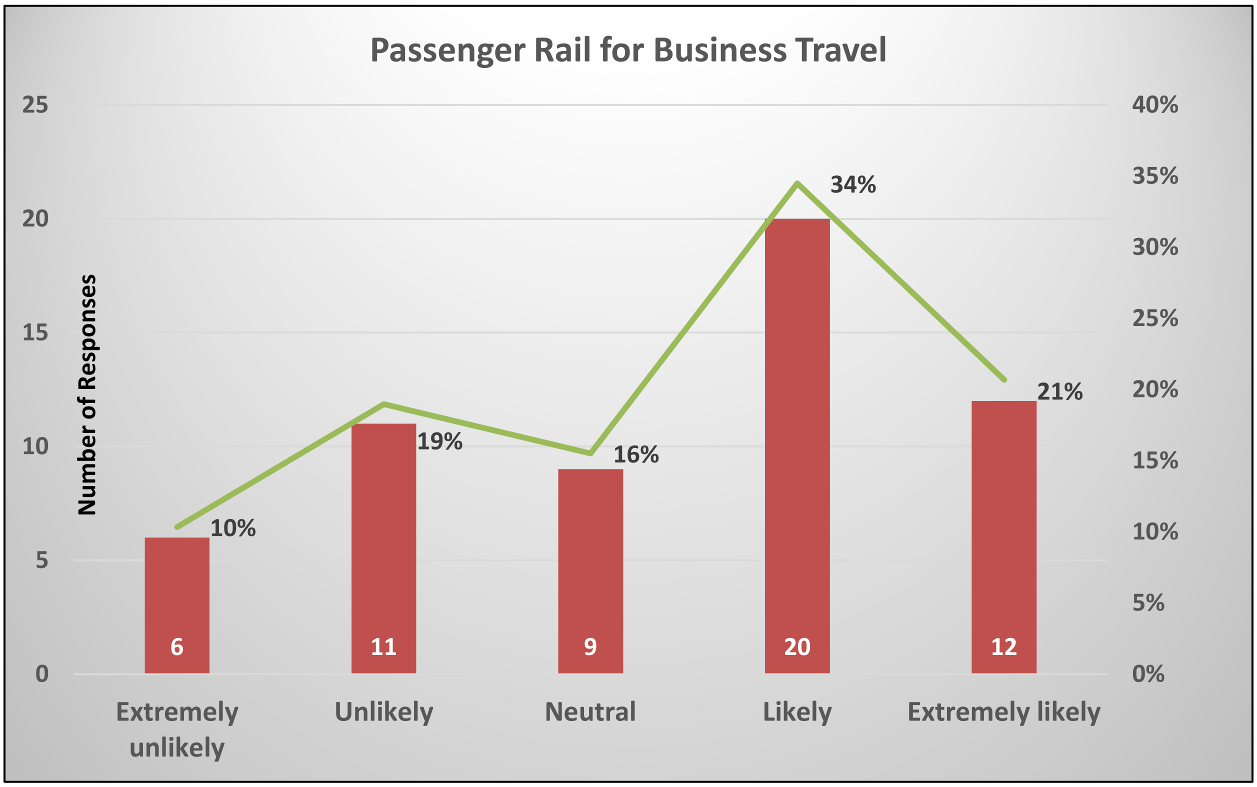

Figure 19: Passenger rail business travel

Conclusions: After reviewing the comments in this section and understanding what numerous connections respondents wanted, the results of asking what the passengers would use the rail system for seems to mirror these desires. The trend of the respondents show in Figure 19 that if more connections to major Midwest hubs were made, more passengers would travel by rail for business.

How likely would you use passenger rail in the state of Iowa for leisure trips?

Summary: A total of 63 respondents answered this question. These responses are much different than the question about passenger rail being utilized for business travel, and a large majority of respondents would utilize passenger rail for leisure trips. Only eight respondents indicated either neutrality on the subject or that they would likely not utilize passenger rail for leisure.

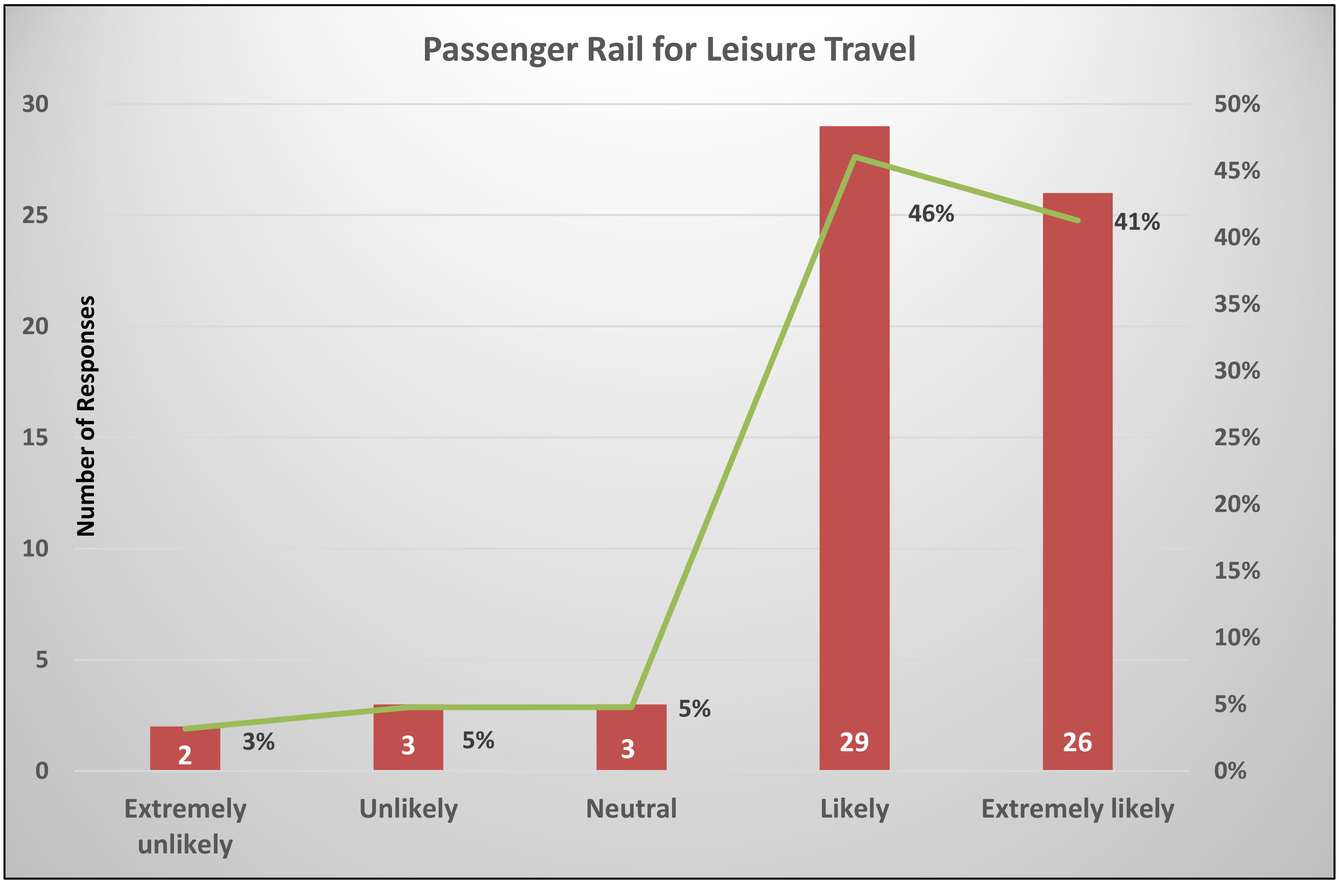

Figure 20: Passenger rail for leisure travel

Conclusions: Respondents are overwhelmingly likely to use rail as a mode of transportation for leisure traveling. From the comments it is mentioned that it is assumed train travel would be cheaper than air and this is one of the main reasons for the popularity of passenger rail.

To what level of investment should Iowa DOT focus on improving passenger rail in the state of Iowa?

Summary: A total of 63 respondents answered this question. The majority of respondents (60%) indicated that passenger rail should be treated equally with other forms of transportation. The next most popular answer was "Small investments, if extra funds" with 15 respondents (24%) indicating this choice. Only one respondent indicated that no investment should be made.

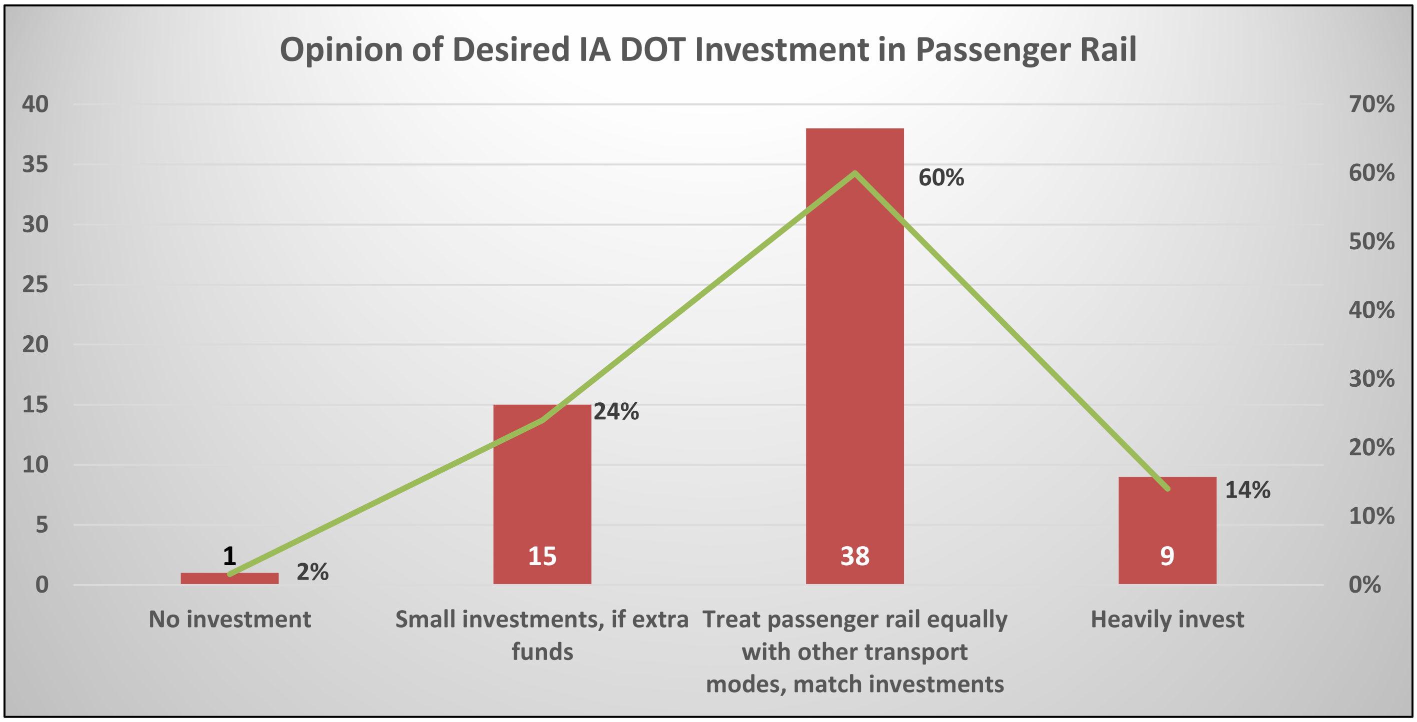

Figure 21: Opinion of desired Iowa DOT investment in passenger rail

Conclusions: Respondents indicate in Figure 21 that an investment in the passenger rail system is highly demanded. With 75% of the respondents wanting an equal to larger investment than other transportation modes, there is a trend of more Iowans wanting to use rail to travel.

If the Iowa DOT continues to focus on improving passenger rail in the state of Iowa, who will be the primary audience to educate on the need for improved service?

Summary: A total of 59 respondents answered this question. Respondents were able to select all that applied, and the most popular answer with 48 votes (23%) was "The general public." The next most popular group that should be educated about passenger rail was indicated as "Collegiate students" with 14%. There were three respondents (1%) that indicated the Iowa DOT should not continue to focus on improving passenger rail.

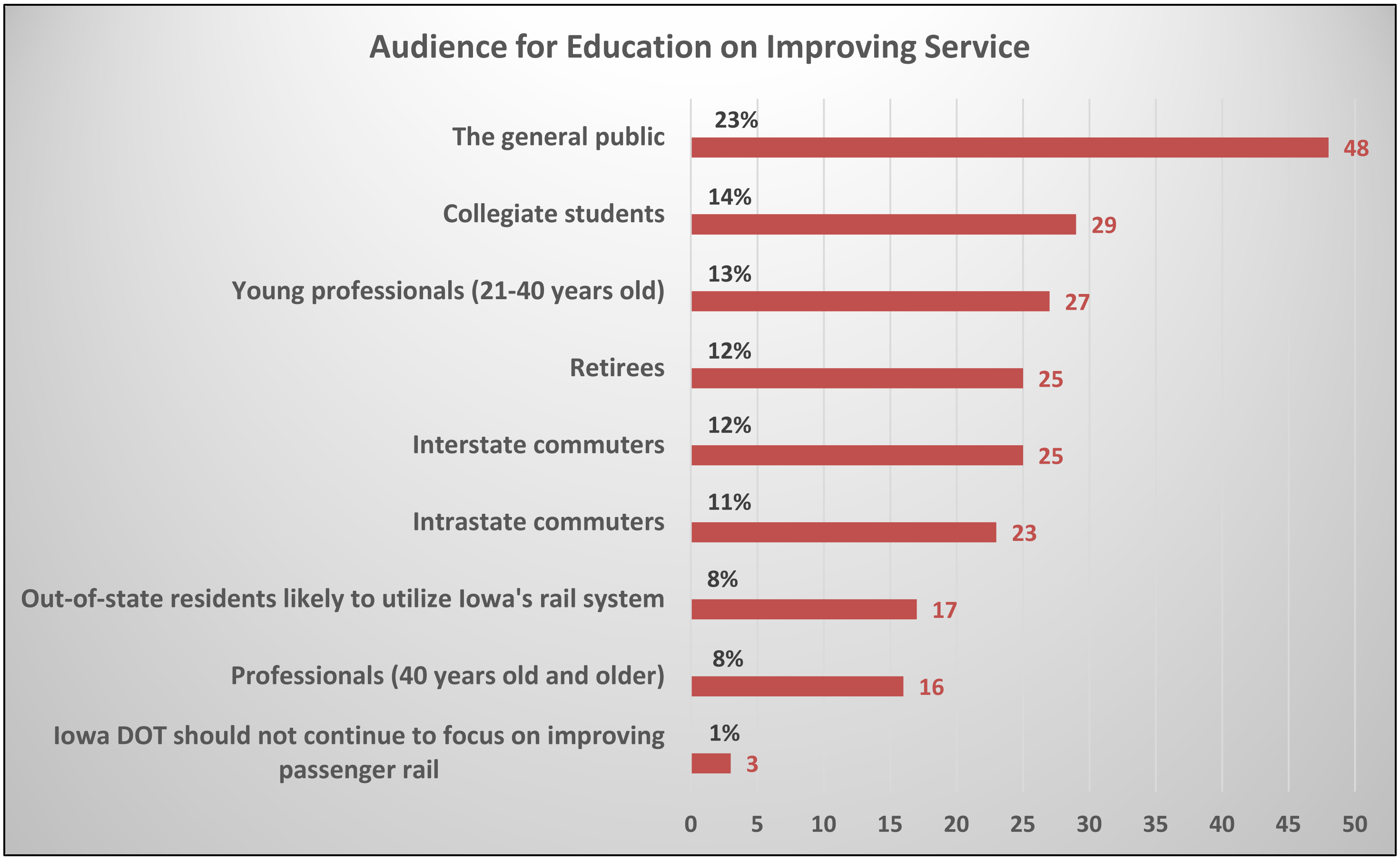

Figure 22: Audience for education on improving service

Conclusions: This question is useful in identifying how the respondents view who the DOT is responsible for educating. There is an overwhelming response that the DOT is committed to the general public, but what is more interesting is the responsibility respondents feel toward students and young professionals. This would be a good result to examine with IADOT's current target audiences and see if they align with what the respondents are portraying.

What should Iowa DOT focus on to improve and maintain the existing passenger rail service through the state of Iowa?

Summary: A total of 58 respondents answered this question. Respondents could select all applicable answers, and "Connection with other cities" received the most answers at 34%. This was followed by "Reliability/timeliness" with 24% of respondents including it in their selection. The lowest category was "Education" with only 12% of respondents including it in their selection.

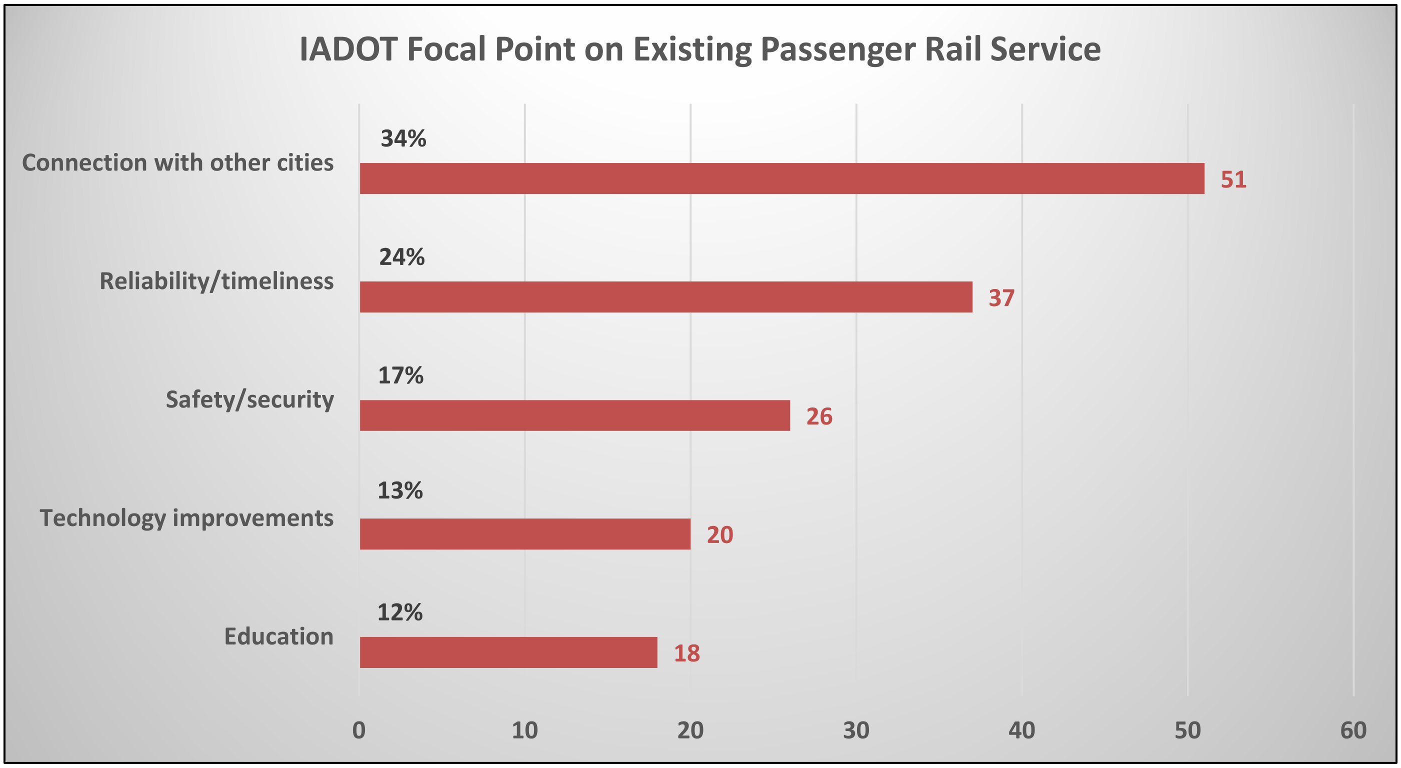

Figure 23: IA DOT focal point on existing passenger rail service

Conclusions: As seen in Figure 23, and in the comments analyzed in this section, respondents are more concerned with the connections that rail has to other cities than any other category. Infrastructure and accessibility is the main concern of respondents.

Safety and Security

The safety and security section of the survey focuses on the participants' current perception of safety concerns, regulations and implementation in all modes of transportation. One hundred and two participants responded to these questions.

I have concerns with the safety of highways in my community because:

Summary: A total of 71 respondents answered this question. Respondents could select all answers that were applicable, and the majority (21%) had "Vehicular accidents" included in their selection. Only eight respondents (15%) indicated that they do not have concerns with the safety of highways in their community.

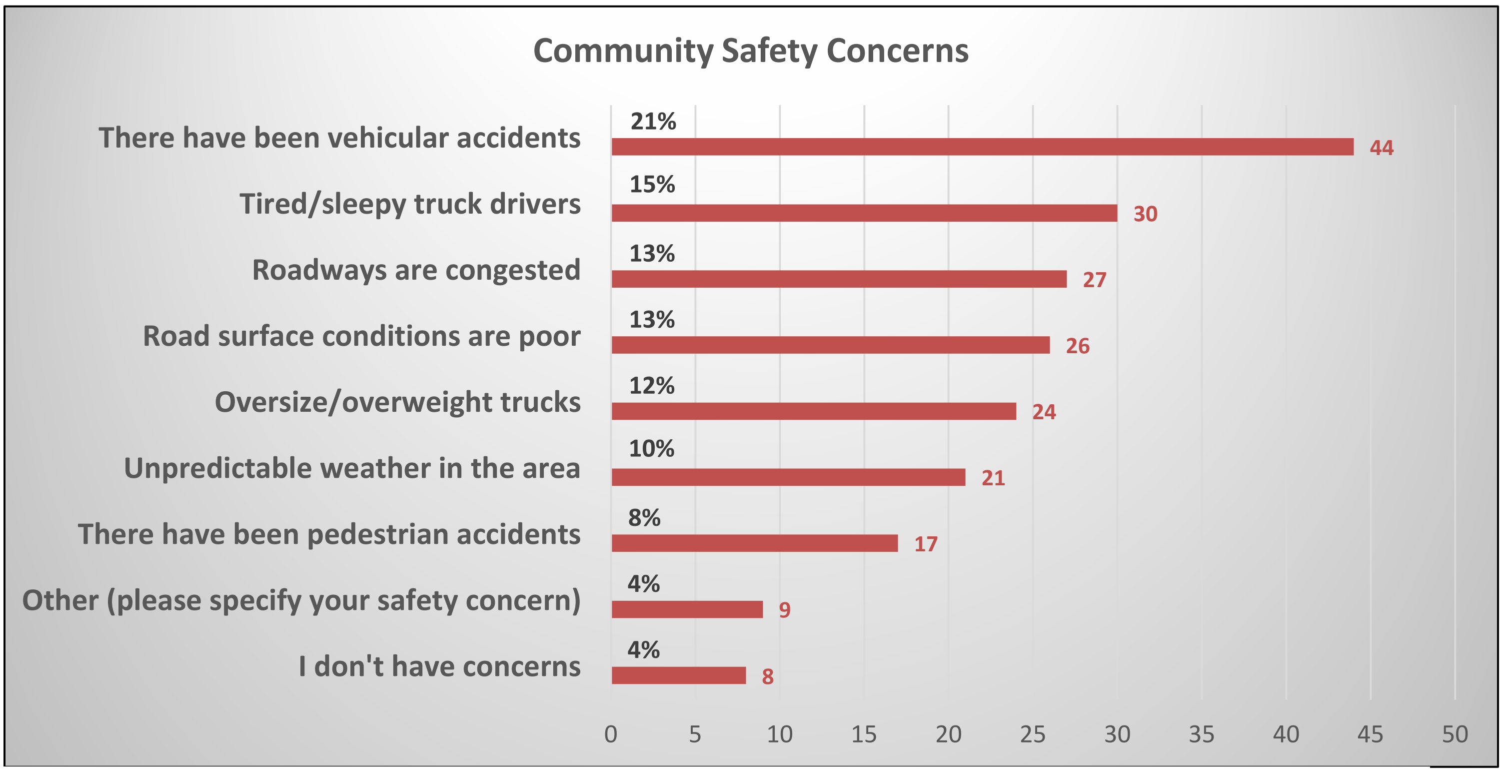

Figure 24: Community safety concerns

Conclusions: Taking the comments and response to safety concerns, traffic and large trucks on the highways are on the minds of the respondents than any other issue. The top five concerns all deal with highways. Boiling down the comments and results from respondents' concerns show a clear pattern that highway infrastructure and flow of traffic is on the minds of the majority.

What would increase safety in your community?

Summary: A total of 72 respondents answered this question. Respondents were able to select all answers that were applicable, and 37% included "Infrastructure improvements" in their selection. This was followed by "Technology improvements" with it being included in 23% of respondent choices.

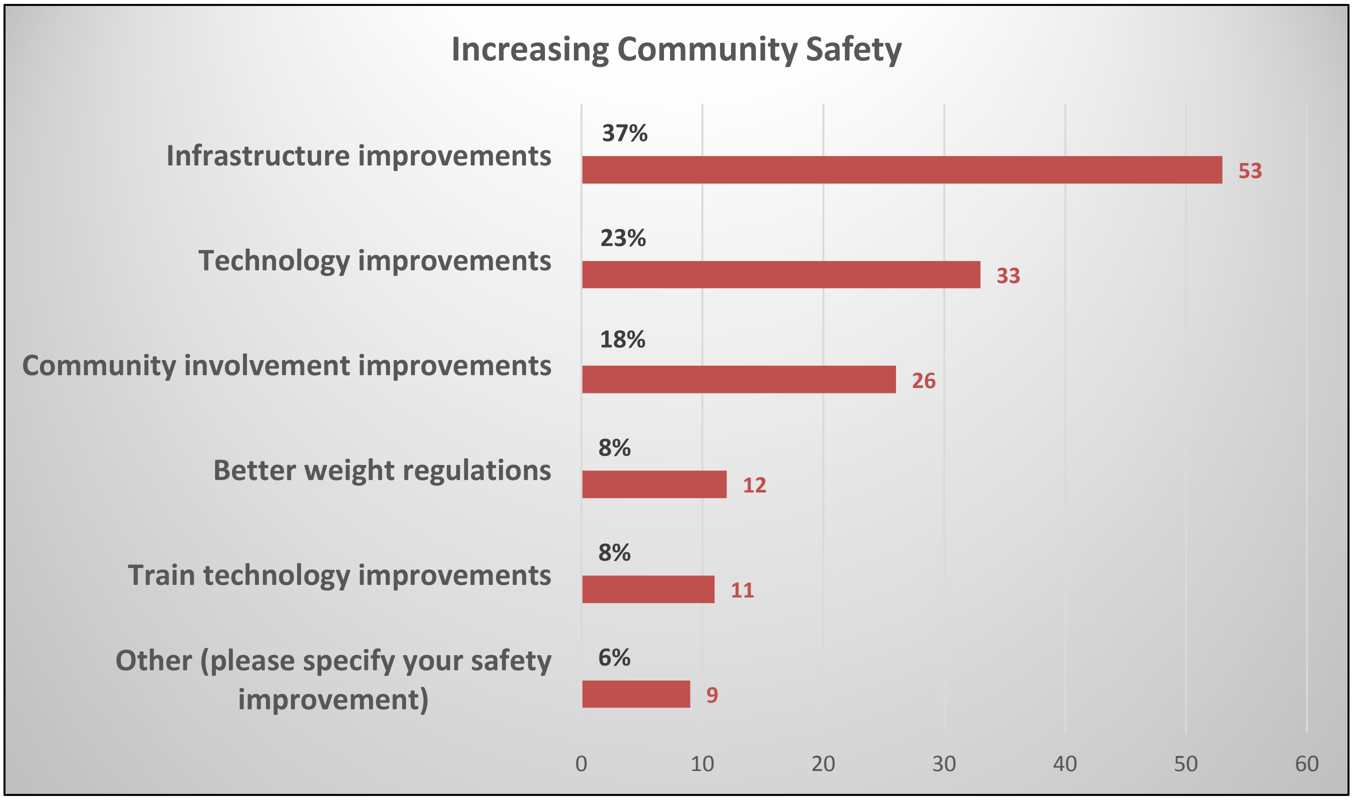

Figure 25: Increasing community safety

Conclusions: A reoccurring theme in this survey show that the respondents are wanting more investment from the state in improving the transportation infrastructure. This trend seems to link into all modes of transportation and categories involving spending and safety.

Those who selected other had mentioned: Rail capacity, quiet zones and education.

How does freight safety affect your business or quality of life?

Summary: A total of 72 respondents answered this question. Many respondents were evenly distributed across the possible answers, although only four respondents indicated freight safety has no effect on their business or quality of life. It appears the two most popular answers tied between "Minor affect" and "Major affect" with both answers receiving 25% of respondent votes.

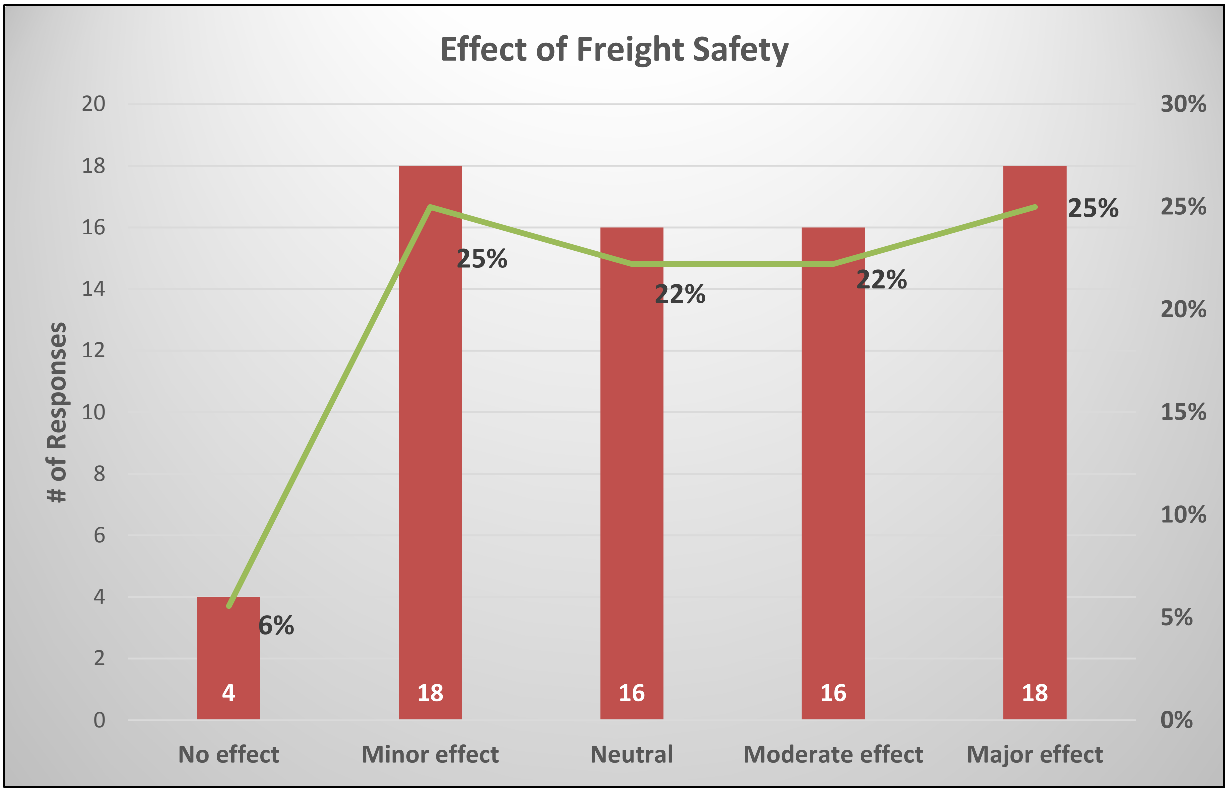

Figure 26: Effect of freight safety

Conclusions: Respondents seem to be split on the effect of freight safety on their business and life quality. This is a tricky question because not all of the respondents has a daily interaction with freight, and may not have experienced a situation in which safety had a major role in saving a life or preventing an accident. Respondents agree that it would have some effect (even it may not be major), but it is a broad spectrum based on their own experiences.

Are highway-railroad grade crossings in your community safe?

Summary: A total of 71 respondents answered this question. The majority of respondents (66%) indicated that highway-railroad grade crossings in their community were safe.

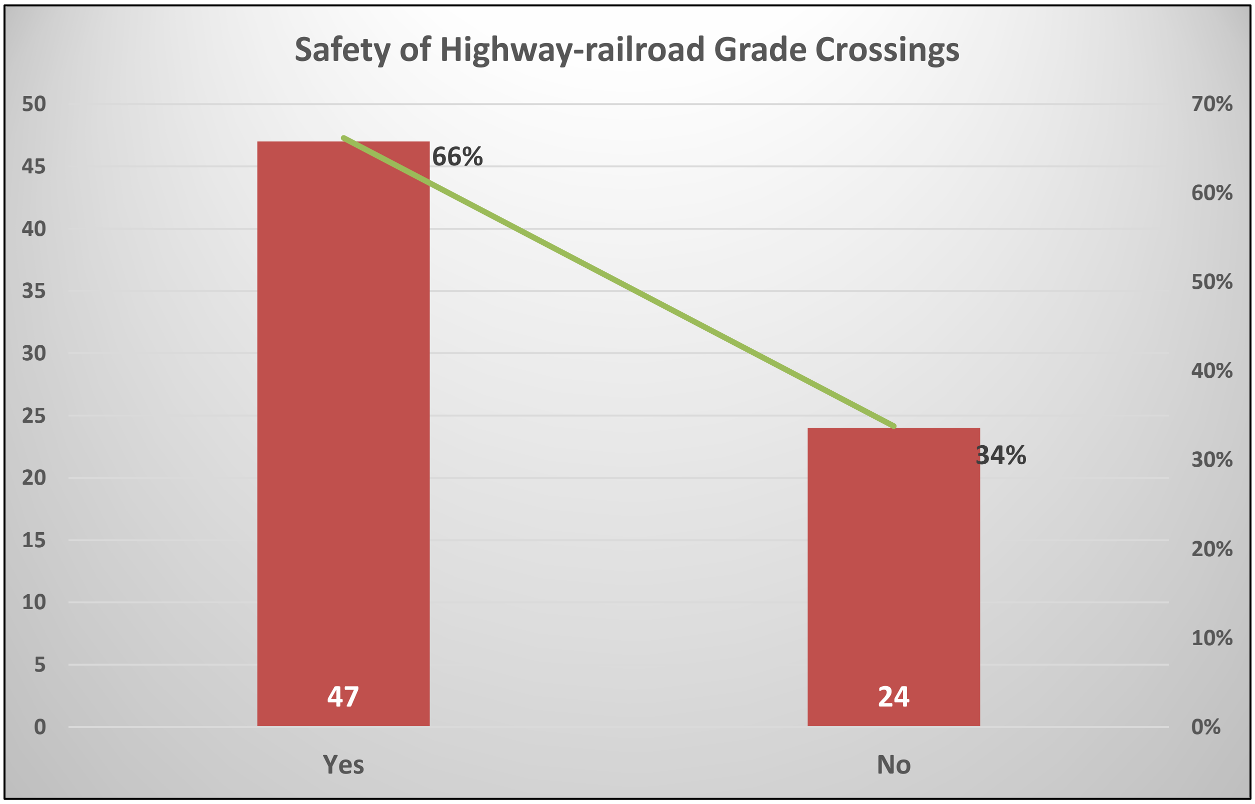

Figure 27: Safety of highway-railroad grad crossings

Conclusions: Almost double the respondents believe that their crossings are safe, and do not need any more improvements.

Question: Does your company ship hazardous materials which require placarding?

Summary: A total of 57 respondents answered this question. The majority of respondents (86%) do not ship hazardous materials that require placarding. Only seven respondents indicated their company did transport hazardous materials – mainly consisting of farm/agricultural products.

Figure 28: Shipping of hazardous materials

Conclusions: Majority of the respondents do not ship hazardous materials, and if they do it would be a farm or agricultural product.

Question: Do you have concerns about rail and/or freight terrorism and how to prevent it?

Summary: A total of 57 respondents answered this question. Most respondents either indicated they had concerns about freight terrorism, or they didn't. The majority (47%) indicated that they had concerns but did not know how to prevent it. Thirty seven percent of respondents indicated that they simply do not have concerns about freight terrorism. A combined total of nine respondents indicated that their company has taken the appropriate steps to address freight terrorism.

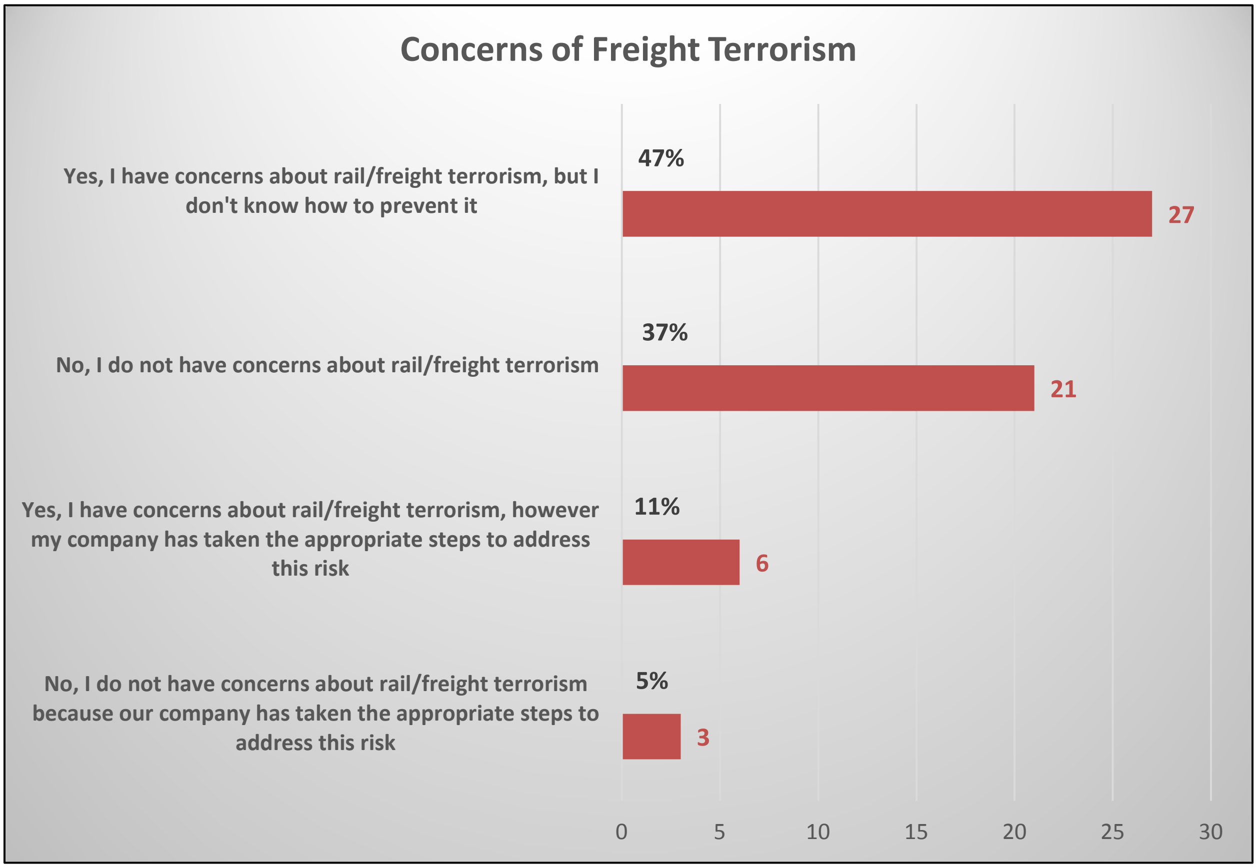

Figure 29: Concerns of freight terrorism

Conclusions: Respondents have mixed reactions to freight terrorism. The slight majority is concerned with it and is not educated on how to prevent terrorism with the second majority has no concerns at all. The population with concerns would appreciate education about freight terrorism, while others who have concern work in the industry and have already taken preventive steps.

Question: How high of a priority should increasing funding for Iowa's highway system be for the state legislature?

Summary: A total of 71 respondents answered this question. The majority (32%) indicated that increasing funding for Iowa's highway system is an "Essential priority" for state legislature. If respondents did not think it was essential, it was indicated as either a "High priority" or "Moderate priority." A combined total of only seven respondents indicated a lower priority status than being neutral.

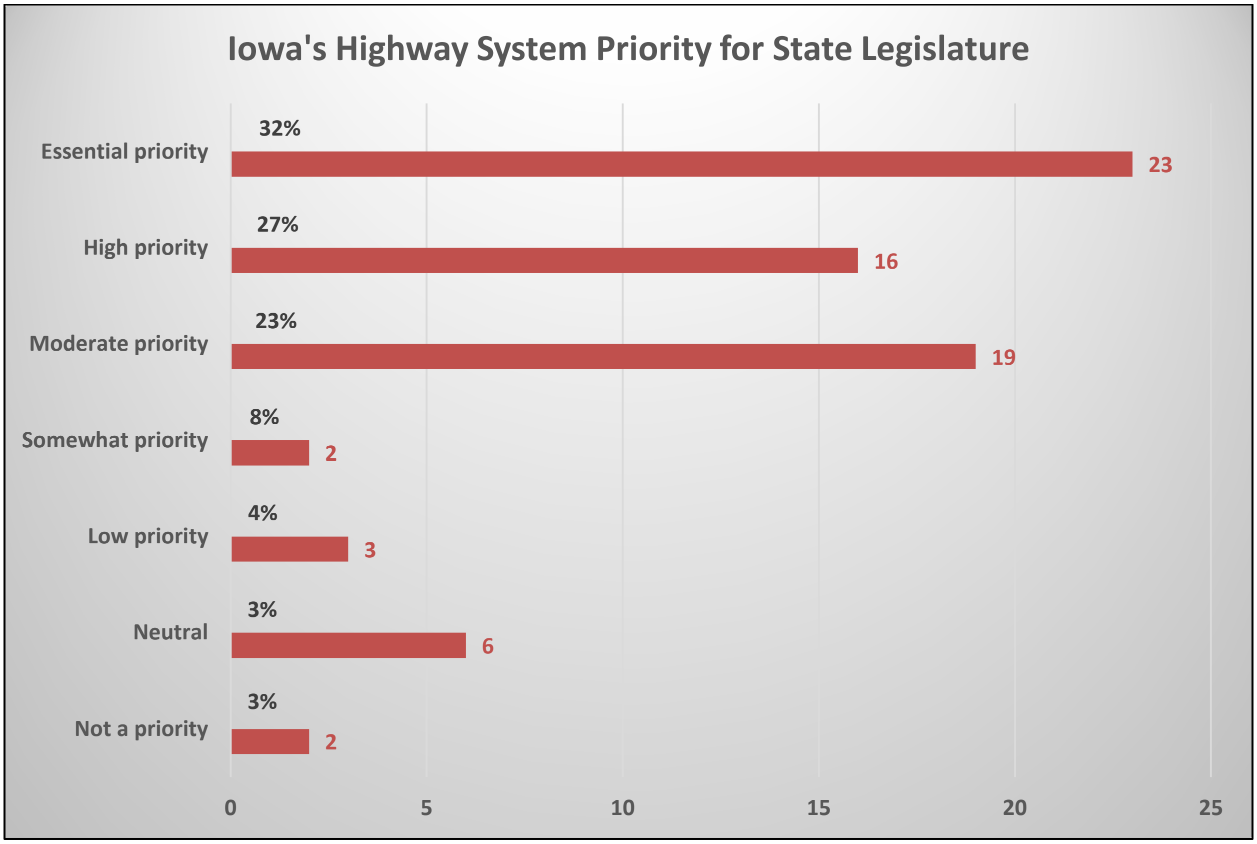

Figure 30: IA's highway system priority for state legislature

Conclusions

Figure 31: Combined comments from entire survey

Conclusions

After reviewing the entirety of the survey, there is a clear trend that respondents are concerned with Iowa's highway infrastructure. Comments, previous questions and dialogs spoken at the Issues-Based Workshop reveal that priority should be given to improving the current highway system in Iowa. Figure 36 is an excellent representation of how respondents are demanding more effort in the upkeep of highways

Figure 31 uses all of the comments respondents gave in the entire survey and identifies what elements were most touched upon. Besides the obvious "Iowa," "Rail," and "State", which don't provide much information, "**infrastructure**," "**funding**," "**access**," and "**value**" are the most mentioned words that confirm the conclusions made from the questions and comments in each section.

Overall, respondents are concerned with the infrastructure for all modalities in Iowa and want more funding to rebuilding highways, creating new rail connections and having easier access to transloading facilities.

Further conclusions were made based on information gathered at the Issues-Based Workshop. Many of the findings in this report are supported by the comments and topics discussed at the workshop. The final section will describe our conclusions based on the comments in this survey compared to what was said during the workshop.

Based on comments from this survey and the Issues-Based Workshop, we have summarized:

1. **Stakeholders want to see improvement in Iowa Freight and Rail infrastructure**
   - Reasons and viewpoints:
     - Economic development- With more access to connecting cities, tourism and business will grow to the connected cities. Traveling costs will be lowered and the systems will be utilized more.
     - Safety- With an up-to-date infrastructure, traffic and car accidents are assumed to decrease.
2. **Respondents want to see the best value for any expenditure made**
   - Carefully evaluate what project would have the biggest impact
   - There is disagreement on what would make the "biggest impact"
     - Different regions of Iowa indicate different priorities
     - Future projects to express overall benefit to Iowa (versus certain areas)
     - Ensures continued support of DOT agendas

3. **Stakeholders want to see an increase in connectivity**
   - Primarily a concern for intermodal and transloading facilities
   - Increased access among current transportation options is important
   - Increasing connections (or the number of connections) for freight transportation
     - Includes increased access to barge and rail facilities

F.5 Shipper Interview

Twelve shipper interviews were completed during October and November 2015. These interviews included large manufacturers, rural agriculture producers, retailers, and Third Party Logistics (3PL) providers.

Shippers interviewed used Class I and Class III (short line) railroads, a trucking company, and logistics service providers, who were asked about nine aspects of freight service and perceptions. The nine areas included three to five questions each, for a total of 39 inquiries. These nine freight and freight rail aspects, and an additional aspect related to passenger rail, are identified below:

- Safety
- Economic and Workforce Development
- Policy and Communications
- Multimodal Intermodal Development
- System Conditions
- Performance Measures
- Industry Trends
- Transportation Solutions and Implementation Strategies
- Project Prioritization
- Passenger Rail

Executive Summary

The vast majority of freight in Iowa moves by truck, and infrastructure is rated at a B-C level on an A-F scale. Performance measures are highly correlated with cost and on-time performance. Users identified that communication in Iowa could be improved with the development of push emails or cell phone Apps and more customized for users. Several users indicated the importance of empty equipment visibility to help reduce repositioning costs and improve equipment availability. This was noted by truck, rail, and intermodal users. Multimodal access is absolutely essential to the freight network. One shipper identified interest in an Iowa-owned rail fleet to facilitate short-haul movement between the Mississippi River and Iowa producers. Priority projects include maintaining the current highway/bridge network and improving rail and freight routes. Increased terminal access and an increase in truck parking was a common theme, and concern over grade crossing safety was noted in some areas. Cost benefit analysis and public private partnership development seemed to be the best way to prioritize projects. Concern over driver shortages, industry regulation, and overall transportation funding levels were mentioned.

Survey Summary

SAFETY

The Iowa freight system is considered very safe. Several respondents included that they have hazardous material certified drivers and a safety team in place with regular safety training and certification.

The areas of highest safety concern include:

- Congestion, limited truck parking, farm implements on rural roads at dusk, worker safety, bridge condition, flood routes, many freight routes in rural Iowa go through downtown areas, more bypasses should be built, infrastructure is tired, and weather and winter mobility issues represent transportation risk.
- Recommended public actions include: expanded rest stops, grade crossing safety, infrastructure upgrades (bridges),and professional transportation education. In rural areas it is often difficult to maneuver large trucks, and there are few designated truck routes. Infrastructure in rural areas was not designed for today's trucks, and many routes are tired and need updates.
- Iowa infrastructure grades
- Rail — concern over abandonment, rail responsiveness, container and rail capacity
- Highway — attention needed on bridge condition
- Pipeline — little knowledge of state's network

- Waterway — needs for lock/dam upgrades and replacement on the Mississippi River
- Multimodal — Significant interest for increased access
- Air Cargo — almost no direct flights to anywhere from Iowa

ECONOMIC AND WORKFORCE DEVELOPMENT

The vast majority of Iowa's freight moves by truck and this network is essential to Iowa's economy.

Access to a multimodal network was rated absolutely essential; however, many multimodal terminals for rail and air cargo are not located within the state.

Availability of qualified transportation workers is a critical factor followed by education and resources to support workforce development. Access to funding programs ranked least important of these three factors.

One respondent indicated that more access to rail is essential. One facility is served by rail and the other is not. Container users feel that Iowa is not cost competitive with other states. Rail and river connectors are not efficient and coordination between the two networks is difficult.

POLICY AND COMMUNICATIONS

Most companies and service providers did not have a frame of reference to compare Iowa programs and policies with other states. In general, Iowa DOT policies are considered business friendly.

Several noted that Iowa could improve communication with the use of a selective push email system. They requested messages on a need-to-know basis. Several indicated that they rely on information from Chambers of Commerce and County Economic Development organizations at the local level. An Iowa DOT cell phone App was recommended for specific alerts (weather, congestion, construction). One shipper noted a need for a public load board to monitor the location of empty trucks. Another indicated that rail car visibility could be improved. Concern about a national driver shortage and the ability to get trucks was mentioned often. Another shipper noted that it was hard to identify the availably of rail cars in the region (across multiple railroads) and that public access to rail car availability was needed. A container user mentioned that container availability in the state should be improved. It is hard to identify empty containers for reload and thatdraying from distant markets is not cost effective.

Weather conditions, communication about congestion, and planned construction were the most used Iowa DOT communication channels; however, many larger organizations rely on their own weather monitoring networks. Severe storms and winter driving hazardous were most commonly noted as reasons to visit the Iowa DOT website.

MULTIMODAL INTERMODAL DEVELOPMENT

Multimodal users most commonly cited the use of Chicago for intermodal container movements. Several mentioned that Chicago intermodal facilities have gotten too big and service levels are declining. For air cargo shipments, many freight forwarders truck time sensitive freight to Chicago or Minneapolis, while a few use Iowa airports at Des Moines and Cedar Rapids. Cedar Falls airport was also mentioned.

Due to the lack of intermodal freight networks in Iowa, comments about assuring that intermodal corridors connecting to Chicago, Minneapolis, Omaha, and Kansas City operate at highest levels of performance were made. For long drays it is essential to ensure multimodal freight makes it to distant terminals on time.

Multimodal terminal development is needed as Chicago is getting larger, which has resulted in chassis shortages and congestion. Intermodal terminal development at Rochelle, Illinois (west of Chicago) and in Iowa could relieve pressure on Chicago intermodal operations.

Expanded multimodal development and terminals would result in lower costs and a more competitive business environment. Highway conditions impact service, cash flow, and inventory levels. Intermodal is viewed as a lower cost option and an important consideration as logistics costs continue to increase.

SYSTEM CONDITIONS

Freight system users generally ranked Iowa's highway system as good, and better than the state's railroads. Waterway systems were rated the worst. Few were able to comment on the condition of pipelines. Air cargo systems were considered less than adequate in the state for frequent users due to lack of direct flights.

Rail and highway system conditions are critical for the movement of Iowa's freight. Concern over rail line abandonments and service reduction was noted. Chicago was noted as the economic capital of the Midwest and connections to Chicago are essential to commerce.

Most felt that deficient systems should be funded by federal sources, Iowa fuel tax, and several mentioned tolls and user fees. Private investment is also needed for larger projects.

Few regulatory burdens were noted; however, hours of service rules have made the truck driver shortage worse. There is concern about increased regulation in the future.

PERFORMANCE MEASURES

Key performance measures included on-time and within budget. A few noted damaged free shipping.

Travel time reliability ranked most important with capacity issues named second most important. Velocity was not a critical factor.

Most freight system users felt Iowa's multimodal freight system was "good."

The most popular low-cost system improvements named included: additional truck parking, added turning lanes, and shoulder improvements. Several noted rail and marine connector improvements were needed due to difficulty in coordinating river, rail, and truck transfers. Grade crossing upgrades were noted.

River users mentioned that coordination between rail and waterway shipments was often difficult to manage. Some river terminals have limited parking, creating congestion at ports.

INDUSTRY TRENDS

The Panama Canal expansion is anticipated to reduce reliance on the West Coast ports and to help keep transportation costs competitive.

An increase in truck size and weight was universally popular and was mentioned as a way to reduce transportation costs; however, due to the multistate distribution systems, an increase in truck size and weight would need to be adopted on a nationwide basis for maximum effectiveness.

Every respondent identified that a truck driver shortage would have a significant impact on their business.

Surprisingly few shippers were aware of potential business impacts from the implementation of Positive Train Control on the state's rail network. Several were skeptical of actual improvements to be realized by PTC.

Top industry issues include:

- Truck driver shortage
- Panama Canal expansion
- Industry regulation
- West Coast intermodal disruption
- Access to intermodal networks
- Anti-dumping

- Commodity costs
- Weather
- Railroads are not responsive
- Total transportation costs are increasing

TRANSPORTATION SOLUTIONS AND IMPLEMENTATION STRATEGIES
Most shippers felt that project improvements should be prioritized by cost-benefit analysis or return-on-investment calculations.

Most felt that transportation improvements should be paid for through federal and state taxes and Public-Private Partnerships (PPPs) if feasible.

PPPs were considered as a positive method of increasing infrastructure development. It seemed that more information is needed to help support this option.

PROJECT PRIORITIZATION
Benefit-cost measures were considered to be the fairest way to prioritize projects in the state. Several said that projects should be prioritized in areas of highest demand.

There was no statistically valid rating of the most important improvement. Essentially everyone wanted every improvement in an unconstrained cost environment. Several mentioned intermodal and more rail access projects should be prioritized to gain access to lower cost shipping modes. Bridges and more railheads were noted as important since highway transportation is the most often used mode. Multimodal transfer stations are needed to reduce multi-state drayage costs and provide access to more transportation capacity, especially if a truck driver shortage worsens.

Others mentioned the high reliance of the trucking industry on the maintenance of current roads and bridges, and that those should be the highest priority.

PASSENGER RAIL
Passenger rail is not viewed as an option to benefit business travel. Several noted the passenger rail system is impractical in Iowa.

Passenger rail was not considered an important investment for the state. Respondents felt that passenger rail should pay for itself.

F.6 Meeting Comments

25650 Email Comment from J Parliment

Date: 6/8/2016 **Type:** Comment **Status:** Open

Summary: Amanda, I submitted a comment, but wanted to be sure something was changed. Concerning the notes for Table 2.1 … note a.The BNSF has no trackage rights on the SD State owned rail line between Elk Point, SD and Canton, SD which is solely operated by the D & I Railroad (DAIR).

Participants

Person Attendee

Jack Parliament	D & I Railroad Co. (DAIR)
jdparliament@lgeverist.com	(605) 330-6588

25833 Web Comment from C Litwiller

Date: 6/29/2016 **Type:** Website Comment **Status:** Open

Summary: Due to being unable to attend the public meeting that was scheduled, I appreciate being able to access information online. Thanks!

Participants

Person Attendee

Cindy Litwiller	Iowa Falls Area Development Corporation
director@iowafallsdevelopment.com	(641) 373-3455

26857 Comments from Norfolk Southern

Date: 7/1/2016 **Type:** Comment **Status:** Open

Summary: - NS and CP do not interchange at Ottumwa. I saw it referenced on pages 2-5, A-21, and A-28.- The main gateway to NS's network from its BNSF Des Moines haulage rights is St. Louis, not Hannibal. I saw this referenced on page A-29, both in the first paragraph and on the map.- Table 8 (page A-30): In the mileage column, Tracy – Hamilton should be 16 miles, while Swan – Des Moines should be 11 miles.- 2015 Iowa State Railroad Map: The legend refers to NS as Norfolk and Southern. There actually is no "and" in our name.

Participants

Person Attendee

Gregory Pope	Norfolk Southern
Gregory.Pope@nscorp.com	

26904 Web Comment from S Kossayian

Date: 7/12/2016 **Type:** Website Comment **Status:** Open

Summary: No comment given, added to mailing list only

Participants

Person Attendee

Stephen Kossayian

skossayian@msn.com

27961 BNSF Comments on Rail Plan

Date: 7/22/2016 **Type:** Comment **Status:** Open

Summary: Page 2-4 Definition of a Class 1 is revenue in excess of $289.4m. The items listed in the document are other characteristics.Page 2-35 AARA = ARRAPage 2-44 Section 2.1.6.5 makes it sound like the deadline was missed. Recommend combining last paragraph in section with second paragraph.Page 2-56In the Inbound Tonnage Origin section, where it states "movements originating out-of-state are transported to the following", I believe it should say "movements originating out-of-state are transported from the following". Page 2-69 (Table 2.26)• Remove the capacity column from this table• For BNSF subdivisions, Creston and Ottumwa, change capacity constraint to “No”• Note that the Estimated Trains per day is the same for both Creston and Ottumwa, despite one being single track and the other double.• Also note that the estimated trains per day for Ottumwa is already higher than the practical capacity, calling the model into question• Recommend removing the table entirely

Participants

Person Attendee

Sarod Dhuru BNSF Railway

sarod.dhuru@bnsf.com

27962 UPRR Comments on Rail Plan

Date: 7/22/2016 **Type:** Comment **Status:** Open

Summary: I wanted to quickly give you some feedback to the Iowa State Rail Plan draft that is currently online and open for comment. Union Pacific does not support the conclusions reached in Table 2.26: Major Iowa Rail Line Capacity Evaluation. Our concern is the methodology used to determine the line capacity and constraints (columns 7 and 8) uses data that not valid anymore and can be used out of context. As a result, we don't support the conclusions outlined on pages 2-69 and 2-70.

Participants

Person Attendee

Kelli O'Brien Union Pacific Railroad

kobrien@up.com (402) 544-4749

State Freight Plan

25648 Web Comment - J Parliament (D and I RR Co)

Date: 6/8/2016 **Type:** Website Comment **Status:** Open

Summary: Concerning the notes for Table 2.1,the first note a: The entire statement is FALSE. The BNSF has no trackage rights over the SD State owned rail between Elk Point, SD and Canton, SD which is solely operated by the DAIR.

Participants

Person Attendee

Jack Parliament	D & I Railroad Co. (DAIR)
jdparliament@lgeverist.com	(605) 330-6588

State Rail Plan

25811 Comment on Rail Plan - IAIS

Date: 6/27/2016 **Type:** Comment **Status:** Open

Summary: Dear Ms. Martin:Below please find our comments for items contained in the Draft Iowa State Rail Plan. We are impressed with this comprehensive document that required a significant effort by all those involved.ITEMS FOR FACTUAL UPDATES OR CORRECTIONSChapter 2, Table 2.1 and Note (c) thereto In October 2016, CIC will again be operating its Iowa City to Hills segment with the lease expiration.Chapter 2, Section 2.1.1.1.2 parenthetical description of IAIS1. WS still has trackage rights over Metra to Blue Island.2. The line segment from Hancock Jct. to Oakland was mostly abandoned in 2014; less than a mile of stub track remains.3. In the 2°d paragraph to avoid confusion, please place the word "previously" in front of"leased from Lincoln & Southern ... "4. We do not have trackage rights over the CIC to go from the Yocum Connection to Cedar Rapids; this is only a marketing agreement with CIC.5. In October 2016, CIC will again be operating its Iowa City to Hills segment with the lease expiration.6. Please also note that IAIS connects with all Class 1 carriers.Chapter 31. Table 3 .1 notes the initiation of passenger service in 2015 between Chicago and the Quad Cities and extension to Iowa City in 2017. You may wish to revise the timeline.2. Section 3 .3 .1.1, last paragraph. Please know that, in discussions with the Illinois DOT, BNSF has steadfastly stated that its capacity would not allow for more than the two trains in each direction envisioned in the Chicago-Wyanet segment.3. Section 3.3.1.2.5 - First line of the first paragraph has a typo with an isolated "i" that should be deleted before the word "infrastructure".4. Section 3.3.1.5 should possibly be revised for consistency with the extension being sought for completion of the study in 2017, not 2016.5. In Section 3.4.1, it is WS, not IANR, which provides the operations of the Hawkeye Express. IANR leases its equipment to the University of Iowa. IAIS does the actual work on its lines.6. In table 5.2, in the Short-Range Passenger Rail Projects section, we are unaware of any local sources to fund Phase 1 of passenger service from Chicago to the Quad Cities.7. Regarding references to IAIS in appendix A,a. Changes may be needed for earlier comments.b. We are unsure of what the references to "Rigg" and "Peter" are in the line heritage section for Council Bluffs on page A-49.ITEMS FOR CLARIFICATIONChapter 31. Section 3 .3 .1.2.6 Ridership, Revenue, and Costs. We would highly suggest adding cautionary language to the effect that the amounts are only preliminary estimates, given the history of actual matters. We further note that IAIS has not been consulted with respect to the ongoing costs of hosting passenger service andwe offer no opinion and no support for any statements made with respect to such costs.2. Regarding Proposed Commuter Rail Services in Section 3.3 and elsewhere, IAIS has not been consulted as to any of the items affecting any of our lines and, accordingly, we reaffirm ourpreviously written and oral communications that, with respect to any project as follows:a. Freight service and train capacity on the IAIS will not deteriorate, or its future growth be limited, due to passenger service,b. All costs involved to both build and/or maintain track above our current Class 3 track standards will be paid for by the party or parties seeking to have passenger service on ourrail lines, and c. Any additional construction or ongoing costs including, but not limited to, positive train control, road crossing protection upgrades, liability and other items for safety, operating needs, and/or to comply with other parties' concerns or regulations in providing rail passenger service will be borne by those parties.3. IAIS does not support additional passenger excursions over its rail lines beyond that to which we are a current party with the Iowa DOT. Specifically, IAIS does not support and will not allow any tourist rail excursions or other similar trains ope

Participants

Person Attendee

Jerome Lipka	Iowa Interstate Railroad

IOWA IAIS INTERSTATE

June 22, 2016

Ms. Amanda Martin
Freight and Passenger Policy Coordinator
Iowa Department of Transportation
Office of Rail Transportation
800 Lincoln Way
Ames, IA 50010

Re: Draft Iowa State Rail Plan

Dear Ms. Martin:

Below please find our comments for items contained in the Draft Iowa State Rail Plan. We are impressed with this comprehensive document that required a significant effort by all those involved.

ITEMS FOR FACTUAL UPDATES OR CORRECTIONS

Chapter 2, Table 2.1 and Note (c) thereto
In October 2016, CIC will again be operating its Iowa City to Hills segment with the lease expiration.

Chapter 2, Section 2.1.1.1.2 parenthetical description of IAIS

1. IAIS still has trackage rights over Metra to Blue Island.
2. The line segment from Hancock Jct. to Oakland was mostly abandoned in 2014; less than a mile of stub track remains.
3. In the 2nd paragraph to avoid confusion, please place the word "previously" in front of "leased from Lincoln & Southern…"
4. We do not have trackage rights over the CIC to go from the Yocum Connection to Cedar Rapids; this is only a marketing agreement with CIC.
5. In October 2016, CIC will again be operating its Iowa City to Hills segment with the lease expiration.
6. Please also note that IAIS connects with all Class 1 carriers.

Chapter 3

1. Table 3.1 notes the initiation of passenger service in 2015 between Chicago and the Quad Cities and extension to Iowa City in 2017. You may wish to revise the timeline.
2. Section 3.3.1.1, last paragraph. Please know that, in discussions with the Illinois DOT, BNSF has steadfastly stated that its capacity would not allow for more than the two trains in each direction envisioned in the Chicago-Wyanet segment.
3. Section 3.3.1.2.5 – First line of the first paragraph has a typo with an isolated "i" that should be deleted before the word "infrastructure".
4. Section 3.3.1.5 should possibly be revised for consistency with the extension being sought for completion of the study in 2017, not 2016.
5. In Section 3.4.1, it is IAIS, not IANR, which provides the operations of the *Hawkeye Express*. IANR leases its equipment to the University of Iowa. IAIS does the actual work on its lines.

6. In table 5.2, in the Short-Range Passenger Rail Projects section, we are unaware of any local sources to fund Phase 1 of passenger service from Chicago to the Quad Cities.
7. Regarding references to IAIS in appendix A,
    a. Changes may be needed for earlier comments.
    b. We are unsure of what the references to "Rigg" and "Peter" are in the line heritage section for Council Bluffs on page A-49.

ITEMS FOR CLARIFICATION

Chapter 3

1. Section 3.3.1.2.6 Ridership, Revenue, and Costs. We would highly suggest adding cautionary language to the effect that the amounts are only preliminary estimates, given the history of actual matters. We further note that IAIS has not been consulted with respect to the ongoing costs of hosting passenger service and we offer no opinion and no support for any statements made with respect to such costs.
2. Regarding Proposed Commuter Rail Services in Section 3.3 and elsewhere, IAIS has not been consulted as to any of the items affecting any of our lines and, accordingly, we reaffirm our previously written and oral communications that, with respect to any project as follows:
    a. Freight service and train capacity on the IAIS will not deteriorate, or its future growth be limited, due to passenger service,
    b. All costs involved to both build and/or maintain track above our current Class 3 track standards will be paid for by the party or parties seeking to have passenger service on our rail lines, and
    c. Any additional construction or ongoing costs including, but not limited to, positive train control, road crossing protection upgrades, liability and other items for safety, operating needs, and/or to comply with other parties' concerns or regulations in providing rail passenger service will be borne by those parties.
3. IAIS does not support additional passenger excursions over its rail lines beyond that to which we are a current party with the Iowa DOT. Specifically, IAIS does not support and will not allow any tourist rail excursions or other similar trains operated by third parties on its lines.

Chapter 5

IAIS has not been consulted with respect to any of the cited costs on its rail lines for passenger service and, accordingly, we express no opinion or support regarding the amounts.

Sincerely,

Jerome P. Lipka

Jerome P. Lipka
President and CEO

Cc: Mr. Paul Trombino
Ms. Diane McCauley

5900 6th Street S.W. • Cedar Rapids, IA 52404 • main ph: 319.298.5400
customer service: 800.247.8570 • administrative fax: 319.298.5456 • human resources fax: 319.298.5458

F.7 Outreach Elements and Comments

Outreach Elements

The Iowa Department of Transportation (Iowa DOT) used the following public engagement outreach techniques throughout development of both plans.

- *Website*
- *Email*
- *Phone calls*
- *Yammer*
- *Iowa DOT internal blog*
- *Media advisory*

Table 1 summarizes the outreach efforts for each meeting.

Table 1: Outreach Efforts by Meeting

Meeting	Meeting Date	Type of Outreach					
		Website	Email	Phone calls	Yammer	Iowa DOT internal blog	Media advisory
Issues-based Workshop	9/24/2015		x			x	
High Leverage Stakeholder Committee Meeting #1	11/18/2015		x	x			
High Leverage Stakeholder Committee Meeting #2	2/25/2016		x	x			
Public Meeting/ High Leverage Stakeholder Committee Meeting #3	5/8/2016	x	x		x		x

Issues-based Workshop Outreach

Multiple email notifications were sent to a database of 188 stakeholders. An email invitation letter was distributed on August 31 and September 2, 2015; a reminder invitation email was distributed on September 11, 2015; an extension invitation email was sent on September 18, 2015; and a follow-up email invitation was sent on September 23, 2015 (Appendix B, Example Workshop Invitations). Table 2 summarizes the outreach efforts for this meeting

Table 2: Issues-based Workshop Outreach

Outreach	Date

Outreach	Date
Save the Date email	8/31
Save the Date email	9/2
Invitation email	9/11
RSVP Deadline email	9/18
Agenda email	9/23

High Leverage Stakeholder Committee Meeting #1

Invitations and several emails were distributed to 40 stakeholders. Table 3 summarizes the outreach efforts for this meeting. See Appendix A: Meeting Invitation. The Iowa DOT followed up with invitees through phone calls.

Table 3: High Leverage Stakeholder Committee Meeting #1 Outreach

Outreach	Date	Number of Emails Distributed
Agenda Email	11/13/2015	40

High Leverage Stakeholder Committee Meeting #2

Invitations were distributed to 41 recipients via email. Table 4 summarizes the outreach efforts for this meeting. The consultant team followed up with invitees through phone calls.

Table 4. High Leverage Stakeholder Committee Meeting #2 Outreach

Outreach	Date	Number of Emails Distributed/Phone Calls
HLSC #2 invitation email	1/8/2016	41
HLSC #2 reminder invitation email	2/12/2016	41
HLSC #2 agenda email	2/19/2016	41
HLSC #2 follow-up phone calls	2/22/2016	6

Public Meeting/High Leverage Stakeholder Committee Meeting #3

Invitations were distributed to 1,968 recipients via email. Table 5 summarizes the outreach efforts for this meeting. See Appendix A: Meeting Invitation for the invitation content.

Table 5. Public Meeting/High Leverage Stakeholder Committee Meeting #3 Outreach

Outreach	Date	Number of Emails Distributed
Public meeting email invitation	5/19/2016	1,968
Public meeting email invitation for HLSC members	5/19/2016	42
Public meeting email reminder	6/6/2016	1,839 *
Public meeting email reminder for	6/6/2016	42

Outreach	Date	Number of Emails Distributed
HLSC members		
Yammer outreach	5/2016 - 6/2016	n/a
Media advisory	5/2016 - 6/2016	n/a

* This number accounts for opt-outs, bounces, etc.

IOWA DOT