# Draft Iowa State Rail Plan

Chapter 5

*Iowa's Rail Service and Investment Program*

IOWA DOT

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# 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<br>• Continue grade crossing safety improvement actions<br>• Provide public education programs<br>• Continue to build upon coordination with and between railroads<br>• Reduce track-caused accidents<br>• Monitor crude oil and ethanol routes for safety | • Improve highway-rail crossing safety<br>  ° Repair and upgrade existing crossing passive warning devices and active traffic control systems<br>  ° Rehabilitate existing crossing surfaces<br>  ° Encourage crossing closures<br>  ° Build new grade separations and rehabilitate existing systems<br>• Monitor rail track, equipment and security operations<br>  ° Continue the track inspection program<br>  ° Analyze and monitor the movement of hazardous materials<br>• Promote rail safety<br>  ° Support and promote Operation Lifesaver activities and programs<br>  ° Provide education and marketing information for rail safety issues<br>  ° 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<br>• Upgrade passenger stations to comply with ADA requirements and ensure a state of good repair<br>• Leverage public-private partnerships for funding rail improvements | • Improve the physical infrastructure of the rail system in partnership with Iowa's shippers and railroads<br>  ° Rehabilitate branch lines<br>  ° Build or improve spur tracks<br>  ° Build or improve rail transfer facilities<br>  ° Build or improve rail yards, terminals, sidings, connections, and passing tracks<br>  ° Serve as an information/advocacy role for federal programs that benefit rail transportation (passenger and freight)<br>  ° Initiate rail station improvement activities<br>  ° Rehabilitate bridges<br>• Preserve rail service<br>  ° Promote economic development that is served by rail transportation<br>  ° Acquire rail rights-of-way for future rail use<br>  ° Advise communities/shippers of options when rail service is at risk |
| Provide Access and Connectivity | • Passenger rail<br>  ° Improve access to existing station facilities<br>  ° Encourage multimodal integration with transit, air, and highway travel<br>  ° Continue to study the implementation on enhanced passenger rail service and new service on intercity corridors<br>  ° Support a federal funding program for passenger rail initiatives<br>• Freight rail<br>  ° Continue to promote the research opportunities for intermodal and transload facilities<br>  ° Continue to promote rail shipping options for new and existing customers<br>  ° Improve access to the national rail network via new or enhanced industrial leads and spurs | • Promote the importance of passenger rail transportation<br>  ° Continue outreach with stakeholders<br>  ° Provide information on our website and social media outlets<br>• Promote the importance of freight rail transportation<br>  ° Coordinate activities with the rail users and providers<br>  ° Take a leadership role in regional and national coalitions<br>  ° Develop and present education and marketing information<br>  ▪ Provide tools that assist shippers in using railroads (e.g., Rail Toolkit)<br>  ▪ 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<br>• Promote yard and interchanges improvements | • Maintain safe, secure rail infrastructure<br>• Promote opportunities for railroads to attract new business<br>• 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<br>• Continue to support efforts that attract and sustain business in Iowa<br>• Encourage economic development in Iowa through investment in rail system | • Promote rail as a possible transportation option<br>• Communicate information about using the rail system |
| Sustain the Environment | • Reduce transportation-related congestion and air pollution through investments in rail infrastructure<br>  ° Provide assistance for rail infrastructure<br>  ° Promote the environmental benefits of rail transportation (passenger and freight)<br>  ° Promote use of emission reduction technologies | • Encourage shippers to use more environmentally supportive modes whenever practical to do so<br>• 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.

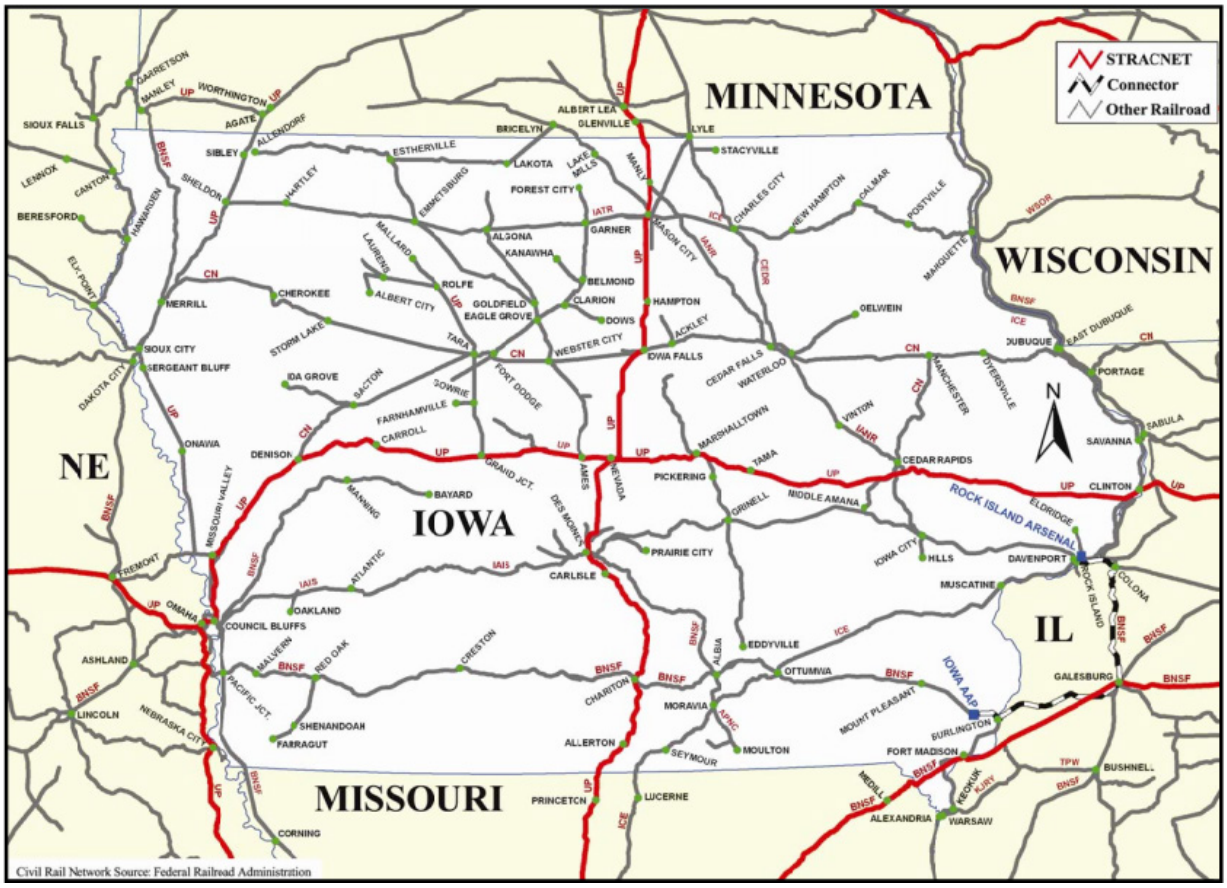
The 2008 Passenger Rail Investment and Improvement Act (PRIIA) directed FRA to develop a Preliminary National Rail Plan to address the rail needs of the U.S. The preliminary plan, published in October 2009, provided objectives for rail as a means of improving the performance of the nation's transportation 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 2016 to 2019) and for the long-range (21 years, from 2020 to 2040). 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 travelled, 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 (2016 to 2019); and long-range projects and studies, that is, those that will be considered between Years 5 and 21 (2020 to 2040).

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.

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; 2016-2019)** | | | | |
| 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 |
| Iowa City-North Liberty Commuter Rail Study | Study the potential for a first phase implementation of commuter rail service on the CRANDIC Corridor, between Iowa City and North Liberty. | Study alternative passenger transportation options; corresponding project noted in the passenger rail projects section above. | $50,000 | State and local sources |
| North Liberty-Cedar Rapids Commuter Rail Study | Study the potential for extension of a commuter rail service on the CRANDIC Corridor between Iowa City and Cedar Rapids. | Study alternative passenger transportation options; corresponding project noted in the passenger rail projects section above. | $100,000 | 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: | | | $5,450,000 | |
| 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. | $192,800,000 Note: Approximately $192.8 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); note that FRA jointly awarded $230 Million in HSIPR funds to Illinois and Iowa in 2010 for Chicago-Iowa City implementation, of which $53 Million was committed to Iowa in 2011 for the Quad Cities-Iowa City implementation phase. The State of Iowa is presently conducting a Tier II Environmental Impact Study / Service Development Plan / Preliminary Engineering for the Quad Cities-Iowa City corridor segment. | Federal, state, and local sources |
| Subtotal: | | | $192,850,000 | |

| 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 stregthen the network of intermodal connectors; guidebook for rail users and local developers showing rail served facilities (incluing 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<br>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 |

| | | | | |
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| 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 |
| Sioux City Transload Facility Study | Conduct a study to develop of a transload facility near the Southbridge Rail Yard in Sioux City. | Enhance multimodal capacity, availability of intermodal services, and rail system access. | $120,000 | State and local sources |
| Subtotal: | | | $1,595,000 | |
| SHORT-RANGE FREIGHT RAIL PROJECTS | | | | |
| 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 straighen the curve so that multiple cars can transit the spur. | Enhance operating safety, efficiency, and capacity. | $207,000<br>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<br>Note: Total capital cost TBD; $1.7 million in RRLG funding awarded to the Des Moines Rail Port in 2015. | State and local sources |
| Expand Transload Facility on IAIS at Council Bluffs | Develop an expanded transload facility on IAIS at Council Bluffs to include new track for direct rail-to-truck and truck-to-rail transloads. | Enhance capacity, availability of transloading services, and rail system access. | $1,400,000<br>Note: Total capital cost $1.4 Million; $500,000 LIFTS grant awarded to IAIS in 2016. | State and local sources |
| Iowa Traction Transload Improvements | Development of an expanded transload facility on IATR at Mason City through installation of three switches, construction of 950 feet of new track, and a new bumping post. | Enhance capacity, availability of transloading services, and rail system access. | $119,306<br>Note: Total capital cost of $119,306; $95,445 in RRLG loan and grant awards provided to IATR in 2016. | State and local sources |
| 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 |
| Relocate and Expand the Present CIC Team track and Transload Facility at Cedar Rapids to the Eastern Iowa Logistics Park in Cedar Rapids | Develop an expanded team track and transload facility that will offer weather-protected and bulk transload options near Edgewood Road and US Highway 30 on the CIC in southwest Cedar Rapids. | Enhance capacity, availability of transloading services, and rail system access. | $4,200,000<br>Note: Total capital cost $4.2 Million; CIC awarded $500,000 LIFTS grant in 2016; CIC revising scope in 2016 to advance project. | State and local sources |
| 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 |
| Iowa Traction Railway Propane Terminal in Mason City Area | Project to install infrastructure to store and transfer propane between rail and truck modes on the IATR in the Mason City Area. | Enhance capacity, availability of transloading services, and rail system access. | $1,100,000<br>Note: Total capital cost $1.1 Million; IATR awarded $544,000 LIFTS grant in 2016. | 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<br>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 |

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| 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<br>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 |
| Construct an Intermodal Facility at Cedar Rapids on CIC | Develop a new intermodal facility at the Eastern Iowa Logistics Park on the CIC in Cedar Rapids. | Enhance multimodal capacity, availability of transloading and intermodal services, and rail system access. | TBD | Federal, state, and local sources |
| 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 |
| 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<br>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 accomodate 286K railcars. | Enhance rail system access, capacity, and safety; segment of BSV will be upgraded to handle 286K railcars. | $736,050<br>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 |
| Kermin 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 |
| 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 |
| 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 |
| Track Upgrade on IAIS in Des Moines and West Des Moines | Rehabilitation of existing track structure with new 115 lb. rail, tie replacement, ballast placement, surfacing, and new turnouts in Des Moines and West Des Moines (4.34 miles). Improved track conditions will allow train speeds to increase from 10 mph to 25 mph, and will reduce wait times, traffic congestion, and emissions at 19 at-grade crossings in Polk County. | Enhance safety, efficiency, and capacity of rail operations and reduce highway congestion and emissions. | $2,987,574 | 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<br>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 |

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| Construct Bypass Track on CIC at Cedar Rapids | Rail traffic currently noves 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 |
| Develop Conceptual Design for Grade Separation at Merrill | Develop a concept for grade separation of US Highway 75 and the BNSF Marshall Subdivision in Merrill. | Improve safety and efficiency and reduce highway congestion. | TBD<br>Note: $100,000 for conceptual design | State and local sources |
| Construct the OR Bypass on CIC in Cedar Rapids | Project would construct a bypass track on CIC in Cedar Rapids to better accommodate interchange between CIC and IANR and to provide additional capacity for CIC switching operations. | Increase operating capacity, efficiency, and safety. | TBD | 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. | $22,800,000<br>Note: Approximately $5.7 Million per year on average, based upon current program funding. For years 1-4 inclusive funding would be approximately $22.8 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<br>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 maintenanece 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<br>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 |
| Subtotal: | | | $60,019,644 | |
| **Short-Range Rail Studies and Projects:** | | | **$259,914,644** | |
| **LONG-RANGE STUDIES AND PROJECTS (YEARS 5-21; 2020-2040)** | | | | |
| 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 |

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| 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 |

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| 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 |
| Creston Amtrak Station Improvements | Move from existing Amtrak station to the repurposed historic station at Creston, served by the daily *California Zephyr*. | Provides updated facilities and amenities and improved access and intermodal efficiency. | 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 | | | | |
| 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<br>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 |

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| 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 |
| Enhancements to Manly Terminal / IANR Transload Facilities and Services at Manly | Construct the following enhancements to the Manly Terminal / IANR transload facilities at Manly: A 500,000 gallon methanol storage tank, infrastructure for a formaldehyde transload site, a dried peas transload conveyor, and infrastructure to support the manufacture and transloading of urea solution. | Enhance capacity, availability of transloading services, and rail system access. | TBD | State and local sources |
| Upgrades to Main Track and Industry Track at La Porte City on IANR | Upgrade existing main and industrial track at La Porte City on the IANR Cedar Rapids Subdivision. | Increase operating capacity, efficiency, and safety. | $750,000 | 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 | Rehabilitate or 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. | TBD | 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<br>Note: Total capital cost TBD; $75,000 for a project feasibility study | Federal, state, and local sources |

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| 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 |
| Expand Capacity to Address Bottleneck between 26th Street and Edgewood Road in Cedar Rapids on CIC | Ease congestion and enhance capacity on CIC in the Cedar Rapids Area by double-tracking the segment between 26th Street and Edgewood Road. | 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 |
| 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 between 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 |

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| 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, Des Moines, West Des Moines, 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 329.1), Des Moines (Council Bluffs Subdivision MP 360.9), West Des Moines (Council Bluffs Subdivision MP 373.0), Van Meter (Council Bluffs Subdivision MP 378.1), and De Soto (Council Bluffs Subdivision MP 380.4). | 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 |

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| 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<br>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<br>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<br>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 |
| Subtotal: | | | $126,550,000 | |
| Long-Range Rail Studies and Projects: | | | $807,750,000 | |
| **Rail Program Total:** | | | **$1,067,664,644** | |

*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 $259.9 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 $30.8 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.

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