Part I. Iowa railroad investment plan

This part of the *2009 Iowa Railroad System Plan* identifies the key issues facing Iowa's railroad system today. These issues impact Iowa's economic well-being and the safety of Iowa's citizens. This portion also documents the plan's purpose and goals, and provides a detailed investment action plan for addressing the identified key issues, a vision of the future system and costs needed to implement that system, and a comparison of the cost and revenues. The plan also includes performance measures that can be used to determine how well railroads are meeting citizen expectations in providing rail infrastructure and services.

Purpose

The *2009 Iowa Railroad System Plan* details the state's role in providing and preserving adequate, safe and efficient rail transportation services to Iowans. The plan is intended to serve as a guide for decision makers and provides a basis for future Iowa DOT policy, funding priorities and programming decisions that affect rail transportation service in Iowa.

The primary purpose of the *2009 Iowa Railroad System Plan* is to guide the Iowa DOT in pursuing actions that maintain and improve railroad transportation in Iowa. The plan is a component of the *Iowa Statewide Transportation Plan* known as "Iowa in Motion." This plan considers railroads from an intermodal perspective. Many commodities that move by rail also move by other modes (principally trucks) during part of their journey from origin to destination. The same is true of persons who use rail passenger service to make trips and who must also rely on other modes to access rail service. Therefore, railroads are part of larger intermodal freight and passenger transportation systems.

Railroads are a vital part of Iowa's overall transportation system, helping to move both freight and passengers safely and efficiently. Railroads are absolutely critical for some Iowa freight commodities, including corn, soybeans, chemicals, motor vehicles and other equipment, wood and paper products, minerals and ores, coal, and biofuels.

Passenger rail can play a critical role in helping to address the ongoing challenges of unstable energy prices, higher levels of greenhouse gas emissions and the growing mobility needs of Iowans. Without efficient railroad transportation, Iowa's economy would suffer. Maintaining and improving railroad service in Iowa requires a proactive partnership between a number of organizations, including private rail carriers, rail shippers, passengers, the Iowa DOT, other state and federal agencies, and local governments.

Key issues for Iowa's railroad system today and tomorrow

An important part of this plan involves the identification of current and emerging rail issues. The issue identification process is important because it allows the Iowa DOT and other railroad stakeholders to focus their efforts and partnerships on critical issues impacting the future of Iowa's railroad system. This process included obtaining issues from metropolitan planning organizations (MPOs), regional planning affiliations (RPAs), railroads, and through focus group meetings discussed in the public participation section of this plan.

A number of issues have been determined by Iowa railroad stakeholders as critical. These issues will need to be addressed cooperatively by the public and private sectors over the next decade to continue to make railroad transportation effective in meeting Iowa's transportation needs. While these are not the only issues important to consider, they are the ones that likely have a large impact on the goals of safety, efficiency and quality of life. These goals are consistent with the State Transportation Plan goals as outlined on page 10. The plan also identifies specific railroad investment actions needed to address these issues. These issues include, but are not limited to, the following.

Key issues

Both freight and passenger

- Improving the security of the Iowa rail network
- Increasing funding availability from state, federal and private sources
- Increasing safety at highway-railroad crossings

Freight

- Increasing rail capacity to meet current and future demand
- Increasing rail access to accommodate business and industries considering locating or expanding in Iowa
- Upgrading branch lines to handle increasingly heavier rail cars

Passenger

- Sustaining current passenger rail service on Amtrak long-distance service
- Expanding intercity passenger rail service to serve Iowa's population centers

Both freight and passenger

Improving the security of the Iowa rail network

Like other portions of the United States' transportation system, the railroad system is extensive and largely open in terms of access. Following the terrorist attacks of Sept. 11, 2001, it became obvious that not only was the transportation system vulnerable to attacks, but the system could be used as a weapon in attacks. Improved security of key assets in the railroad transportation system is a high priority. (This issue concerns safety.)

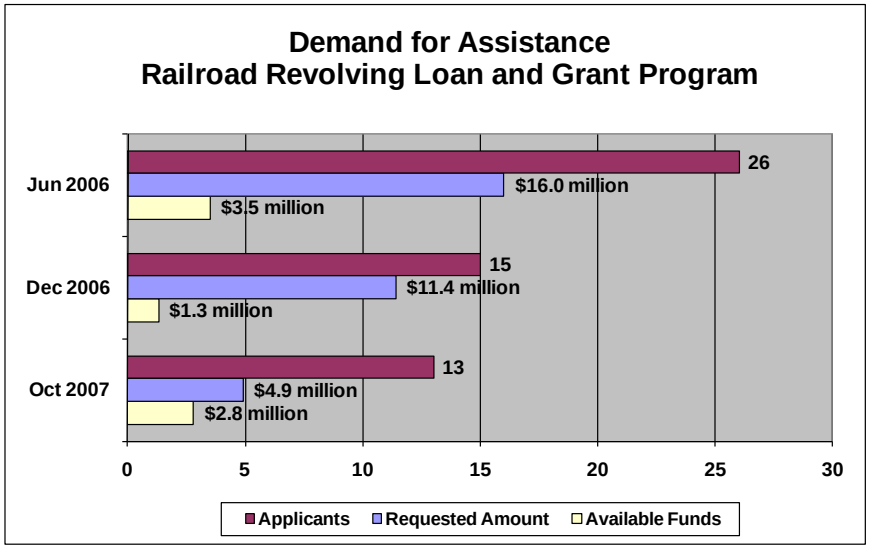
Increasing funding availability

*Iowa busines*ses and communities will benefit from the economic advantages that rail transportation can provide. Access to rail lines can lower costs and open new markets for business, as well as promote new growth and economic development. Railroads invest in improving the basic rail infrastructure to attract new customers, increase revenues and increase the capacity of Iowa's rail system.

A public-private partnership is needed to fill the rail infrastructure needs now and in the future. The investment needed to build rail infrastructure is capital intensive with a mile of new rail line costing between $1 and $3 million. Over the years, the investment made

by the railroads has been supported in various ways by the public sector. Continuing that partnership today will build on the past to create a vibrant future for rail transportation in Iowa.

Increased public and private funding for both freight and passenger rail will be needed to keep Iowa competitive in the national and global marketplace. The demand for rail investment financial assistance continues to grow as shown by the following combined charts outlining the requests for funding through the state's Rail Revolving Loan and Grant program and American Reinvestment and Recovery Act (Recovery Act) of 2009.



Source: Iowa DOT

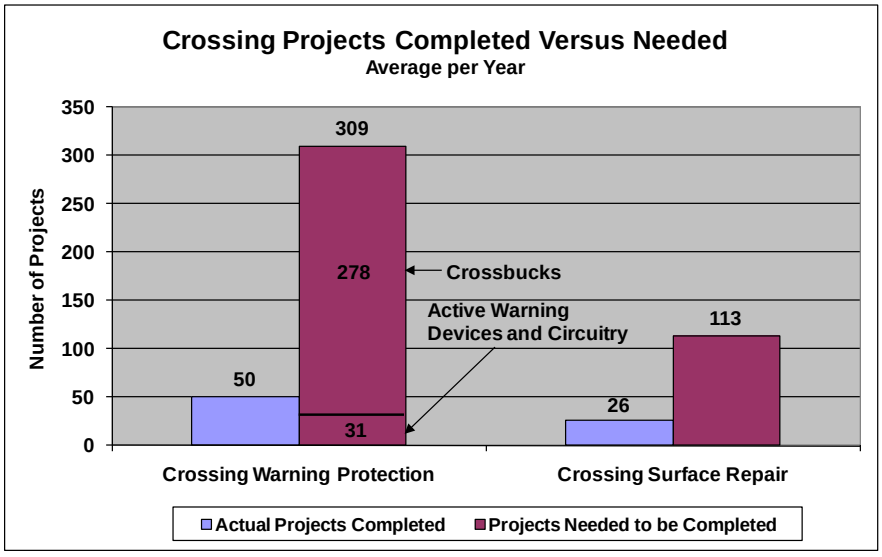
Demand for 2009 Recovery Act funding*

Type of project	Number of applications	Application amount	Total rail project cost
Economic development	5	$13,102,375	$21,102,375
Rail line rehabilitation	25	$29,148,181	$40,942,001
Both	3	$5,800,465	$7,781,465
Total	33	$48,051,021	$69,825,841

* $5 million available from Recovery Act funding provided to Iowa through the Federal Highway Administration was programmed by the Iowa Transportation Commission for use on freight rail projects.

Increasing safety at highway-rail crossings

Highway-rail crossing safety has been dramatically improved in Iowa over the past two decades. Likewise, the number of railroad derailments has decreased steadily. These are very positive trends, but more can be done to improve safety at crossings and on the rail system in general. An emerging concern involves increased trespassing on railroad rights of way and associated train-pedestrian incidents. (This issue concerns safety.)



Source: Iowa DOT

Some Iowa rail lines, particularly the east-west main lines, have experienced dramatic increases in freight traffic in recent years. For the communities these lines pass through, this has meant increases in railroad-related impacts, such as traffic congestion, blocked crossings, noise, air pollution emissions, and delays in emergency response. As a result, local demand for railroad quiet zones, stationary automated train horns and expensive grade separations has been on the rise. (This issue concerns quality of life.)

Freight

Increasing rail capacity to meet current and future demand

Freight traffic moving east and west through Iowa is growing in all modes of transport. The rail-related increase is mainly a result of growing coal traffic and increasing amounts of container freight moving from west coast ports through Iowa to Chicago and beyond. Truck traffic on Interstate 80 is growing at a rate that will require a $1 billion or more investment in highway capacity over the next 20 years. Similarly, the UP's east-west main line from Clinton to Council Bluffs, and BNSF's lines in Iowa are operating at or near capacity in terms of trains per day. These railroad corridors run parallel to the I-80 corridor. Increased capacity is needed soon at the 100-year-old UP Clinton/Fulton bridge crossing, and along parts of the BNSF's and UP's main lines. Investment in rail could relieve congestion on I-80 and other major freight-carrying highways in Iowa. (This issue concerns efficiency and quality of life goals.)

As the price of petroleum has risen, coal has taken on an increasingly vital role in meeting energy needs in Iowa and elsewhere. As a result, coal freight traffic continues to increase dramatically. This is especially true of high-quality, low-sulfur coal that comes from the coal fields in the western United States. There are several large coal-fired power plants that are scheduled to come online in Iowa over the next five years, and others have been planned or proposed in the region. This will inevitably lead to growth in coal traffic through Iowa. Selected rail lines will need to be upgraded to serve the new coal-fired electric generating facilities and resulting coal train traffic. (This issue concerns efficiency and safety.)

Freight traffic is increasingly international in nature. Although the Iowa DOT's main focus should be and must be promoting and improving the rail system within Iowa, access to and from Canada, Mexico and deep-water ports, such as Los Angeles and Long Beach in Southern California, is increasingly important to Iowa's economy as trade with China and the rest of Asia expands. Additional deep-water ports are being constructed on the west coast of Canada and Mexico to serve trade demand, and Iowa needs to be in a good position to access these facilities. (This issue concerns efficiency.)

Increasing rail access to accommodate business and industries considering locating or expanding in Iowa

Ethanol, biodiesel and other types of value-added industries are changing the nature of freight flow in Iowa. Plants for ethanol and biodiesel processing have been built rapidly in Iowa, and the state is quickly developing a large bioeconomy. About one-fifth of Iowa's 2006 corn harvest was used to make ethanol, and experts think this could grow to 40 percent within 10 years.

Soy biodiesel production is ramping up a bit more slowly. Outbound raw grain will decline as a result, both by rail and water. Also, short hauls of grain by rail are increasing. Outbound rail products will increasingly include liquid biobased fuels, as well as other products of value-added agriculture, such as food products, animal feed products, and chemicals. Many of these products, particularly biobased fuels and residual chemicals, will still move by rail. However, the freight will be carried in trains made up of tank cars rather than in trains made up of covered hopper cars. Some byproducts, such as animal feed, will be moved shorter distances in trucks.

Manufacturers of other commodities, including wind turbines, are also looking to locate along a rail line in Iowa. These developments may result in major changes to freight traffic in some parts of Iowa and may lead to changes in the infrastructure needed. (This issue concerns efficiency.)

Upgrading branch lines to handle increasingly heavier rail cars

Iowa has hundreds of miles of rail lines, mainly lighter-density branch lines and some lesser-used main lines that are unable to carry the size and weight of railroad equipment that have recently become standard in the industry. This makes it difficult for railroads to operate efficiently. Strategic investments in select low-capacity rail lines are needed to ensure that Iowa's rail system can continue to move freight safely and efficiently. These investments will likely be made through partnerships between Iowa's rail carriers, shippers, communities, and the public sector. (This issue concerns efficiency and safety.)

Passenger

Sustaining current passenger rail service on Amtrak long-distance service

The key challenges facing Iowa's long-distance rail passenger service today are the amount and quality of service on the national routes. Iowa's current long-distance service is infrequent, with only one train per day in each direction across the state, and the service suffers from on-time performance issues. The key issues can be summarized as follows.

National system

- Maintaining Iowa's connection to Amtrak's national passenger rail system
- Sustainable funding at the federal level for the national system
- On-time performance improvements
- Low frequencies
- Providing transportation connections between the long-distance service and populated areas of Iowa
  (These issues concern efficiency and quality of life.)

Expanding intercity passenger rail service to serve Iowa's population centers
Recent increases in energy costs have revived interest in developing a regional network of fast, reliable passenger service in Iowa connecting to Chicago and other regional hubs in the Midwest. Corridor passenger trains are the most efficient type of passenger rail service that could be developed, and such services could be competitive with both air service and use of personal vehicles. This is a current focus issue for Iowa and a number of nearby states. Regional cooperation and public support is necessary to develop an effective high-speed passenger rail service. The key issues can be summarized as follows.

Intercity service

- Expanding passenger rail service in Iowa to include regional service to the Midwest
- Sustainable funding at the state and federal levels for operating support and capital needs
- Acceptance that passenger rail will need operating subsidies and capital funding
- Providing service competitive in time with personal vehicle travel
- Cultural change in how people view passenger rail
- Providing transportation connections between rail and transit and air
- Capacity on shared tracks with freight railroads must be maintained

Commuter service

- Sustainable funding at the local and state levels for operating support and capital needs
- Acceptance that passenger rail will need operating subsidies and capital funding
- Providing service competitive in time with personal vehicle travel
- Providing transportation connections between rail and transit
  (These issues concern efficiency and quality of life.)

Goals

Development of the State Transportation Plan for all modes is centered on three transportation goals: (1) safety, making Iowa a safer place to travel; (2) efficiency, making the best use of resources; and (3) quality of life, making Iowa a better place to live, work and travel through transportation actions and investments.

Safety: Transportation safety and security continue to be a primary concern and an integral element in the planning and programming processes. Increased transportation safety through the reduction of crashes is the foremost element in an effective and efficient transportation system.

Efficiency: Transportation efficiency is a system-wide theme, which at its core implies best use of available funding, including a reduction in overall costs.

Quality of life: One of Iowa's greatest resources is the quality of life that exists within its borders. Transportation services do support Iowans with many quality of life benefits. Iowans value the ability to move and travel with ease. Mobility can be defined in many ways as it will vary with each person's needs. It can be an elderly person having access to rural transit services or for another citizen it can be access to a passenger rail station.

These goals serve as the pillars upon which the investment actions are based. They are the foundation for transportation decisions and will guide the development of Iowa's future freight and passenger rail system.

The achievement of these three goals will support economic development and job growth while being sensitive to the environment.

Action plan for addressing Iowa's railroad issues

The investment actions were developed from the public input received through the Iowa DOT's extensive public outreach efforts, as well as Iowa DOT planning studies, reports and plans; and an analysis of Iowa's demographic trends, movement of people and goods, and condition of the transportation system. These actions build upon those identified in the state's transportation plan and support the goals.

Rail freight investment actions

Goals	Actions
Safety	1. Improve highway-rail crossing safety a. Repair and upgrade existing crossing passive warning devices and active traffic-control systems b. Rehabilitate existing crossing surfaces i. Continue the primary surface repair program ii. Continue assistance to railroads and local jurisdictions for surface repairs c. Encourage crossing closures d. Build new grade separations and rehabilitate existing separations
	2. Monitor rail track, equipment and security conditions a. Continue the track inspection program b. Analyze and monitor the movement of hazardous materials c. Serve as a liaison between railroads and Iowa Homeland Security/Emergency Management d. Identify and define Iowa DOT's role in security, especially with shortline railroads
	3. Promote rail safety a. Support and promote Operation Lifesaver activities b. Provide education and marketing information for issues i. Train horns – quiet zones ii. Trespassing c. Work more closely with law enforcement to promote active enforcement of traffic laws relating to crossings and private property rights related to trespassing
Efficiency	1. Improve the physical infrastructure of the rail system in partnership with Iowa's shippers and railroads

	a. Rehabilitate branch lines b. Build or improve spur tracks c. Build or improve rail transfer facilities d. Build or improve rail yards, terminals, sidings, connections, and passing tracks e. Serve as an information/advocacy role for federal programs that benefit rail transportation
	2. Preserve rail service a. Promote economic development that is served by rail transportation b. Acquire rail rights of way for future rail use
	3. Promote the importance of rail transportation a. Coordinate activities with the rail users and providers b. Take a leadership role in regional and national coalitions c. Develop and present education and marketing information i. Conduct rail economic impact studies on the impact of lost rail lines on highways and economic benefit of rail to the state economy
	4. Take an active role in rail regulatory issues a. Represent Iowa's interest in mergers, acquisitions and abandonments b. Propose new regulations and/or work to eliminate existing federal and state regulations that are no longer needed
	5. Participate in freight planning activities for Iowa a. Develop best practices and guidelines for MPOs and RPAs b. Develop a freight advisory group c. Conduct tradeoff analyses d. Review other state practices
Quality of life	1. Reduce transportation-related congestion and air pollution a. Provide assistance for rail infrastructure improvements b. Promote the environmental benefits of rail transportation
	2. Serve as an information and conflict resolution clearinghouse (liaison with railroads, FRA, cities, counties, and citizens) for items such as: a. Blocked crossings. b. Rough crossings. c. Quiet zones. d. Noise near rail yards. e. Fencing along rail lines. f. Vegetation along rail lines. g. Bridges over/under roadways.
	3. Preserve historic/cultural rail facilities using transportation enhancement funds a. Depots b. Museums

Passenger rail investment actions

Goals	Actions
Safety	1. Improve passenger rail terminal platforms 2. Continue the track inspection program 3. Support rail and railroad crossing infrastructure improvements to safely accommodate passenger rail service
Efficiency	1. Preserve rail service a. Provide financial support for passenger rail service
	2. Promote the importance of rail transportation a. Conduct rail economic impact studies, such as feasibility studies for expanded passenger rail service and economic benefit of rail to the state economy b. Expand intercity passenger rail and commuter services through active involvement with the Passenger Rail Advisory Committee and community coalitions
	3. Participate in passenger planning for Iowa a. Develop best practices and guidelines for MPOs and RPAs b. Continue efforts with the statewide Passenger Rail Advisory Committee c. Review other states practices
Quality of life	1. Reduce transportation-related congestion and air pollution a. Provide assistance for rail infrastructure improvements b. Promote the environmental benefits of rail transportation
	2. Support passenger rail services a. Upgrade rail passenger stations b. Support the continuation of Amtrak's national rail passenger services on existing lines c. Partner with other states to implement the Midwest Regional Rail Initiative d. Study the need for additional intercity and commuter passenger rail service e. Support feasible rail-transit and rail-recreational opportunities f. Continue to seek statewide passenger rail funding from the state legislature

Iowa's future rail system

Action results

Implementing these actions to improve safety, efficiency, and quality of life will result in:

- Lower transportation costs.
- Increased transportation competition.
- More transportation choices.
- New economic development.
- Additional jobs creation.
- Improved economic vitality.
- Increased net income for Iowa businesses and agricultural industry.

Iowa's rail freight vision

National, regional and local rail freight services are an integral part of Iowa's intermodal transportation system. The rail freight vision and mission for Iowa are as follows.

Vision

A rail freight network that connects Iowa to local, regional, national, and international markets, and makes Iowa more competitive in the global economic marketplace.

Mission

Promote a safe rail freight network that addresses users' needs, and maximizes economic, social and environmental benefits for Iowa.

Iowa's rail freight network will provide viable transportation options for Iowa businesses. This rail network will:

- Connect industries in Iowa to each other, as well as to regional trade centers outside of Iowa.
- Maintain cross-country, long-distance freight routes served by major Class I carriers.
- Provide a well-maintained and updated rail network that meets the needs of Iowa shippers and receivers.
- Provide transportation options to hauling goods by truck or barge.
- Serve diverse industries in Iowa.
- Provide intermodal connections to truck and barge transportation.

Future system

If funds are available to invest in rail freight service as outlined above, accomplishments achieved with this investment would include:

- Rail lines will be upgraded to handle the heavier rail cars and locomotives.
- Spur tracks will be built to accommodate new and expanding industries to support industrial development.
- Highway-rail crossings will be maintained and upgraded to improve safety.
- Viable rail service to Iowa will be provided by a mix of Class I, II and III railroads.

Iowa's passenger rail vision

Intercity and commuter passenger rail service are an integral part of Iowa's intermodal transportation system. The passenger rail vision and mission for Iowa are as follows.

Vision

Develop a passenger rail network that connects Iowans to each other and the country, and makes Iowa a more attractive place to live, work and visit.

Mission

Promote a safe passenger rail network that addresses users' needs, and maximizes economic, social and environmental benefits for Iowa.

Iowa's passenger rail network will provide viable transportation options for business, tourism and personal travel for the citizens of Iowa. This passenger rail network will:

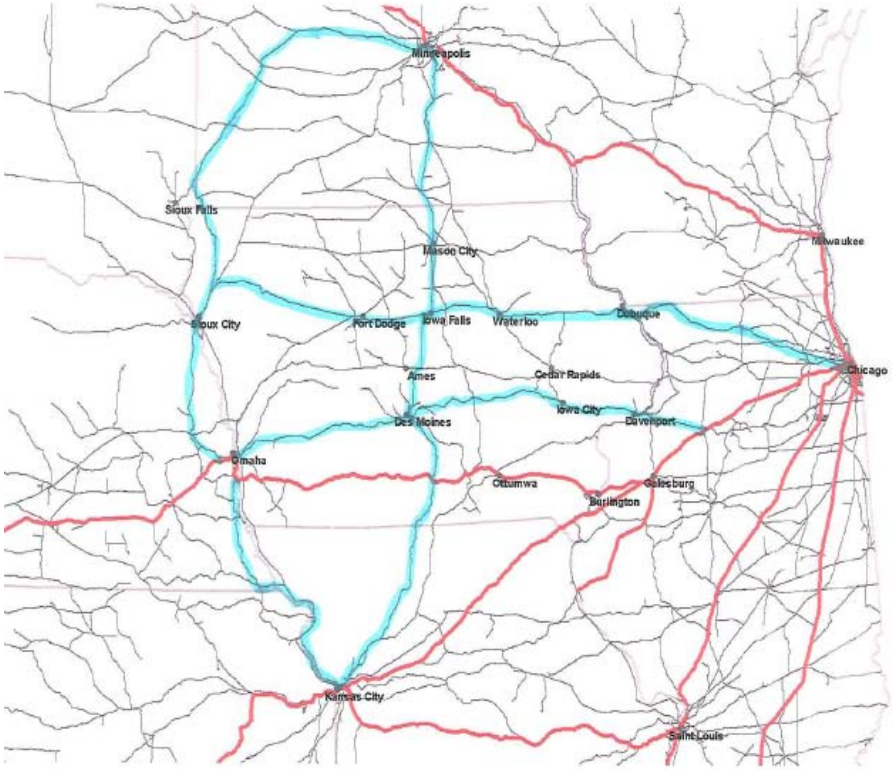
- Connect major cities in Iowa to each other, as well as to regional trade centers outside of Iowa.
- Maintain national long-distance routes served by Amtrak.
- Link Iowa to other passenger rail corridors.
- Provide transportation options to driving or flying for passengers in Iowa.
- Serve major metropolitan areas.
- Serve diverse constituency groups and their needs (universities, elderly, business travel, recreational travel).
- Provide intermodal connections to transit, airports, bicycling, and walking.
- Provide an opportunity for commuter rail service in Iowa's major metro

Future system

A future passenger rail system in Iowa could consist of a 1,230-mile intercity network, plus commuter rail service as shown in the map below. The future system adds to the existing national passenger rail network by adding five additional routes, as well as possible commuter passenger rail service opportunities in Iowa's nine MPO areas.

Initially, passenger rail service would be provided at 79 mph. As capital improvements are made and ridership demands are established, the concept and incremental costs of increasing speeds to 110 mph will be evaluated.

Future passenger rail system



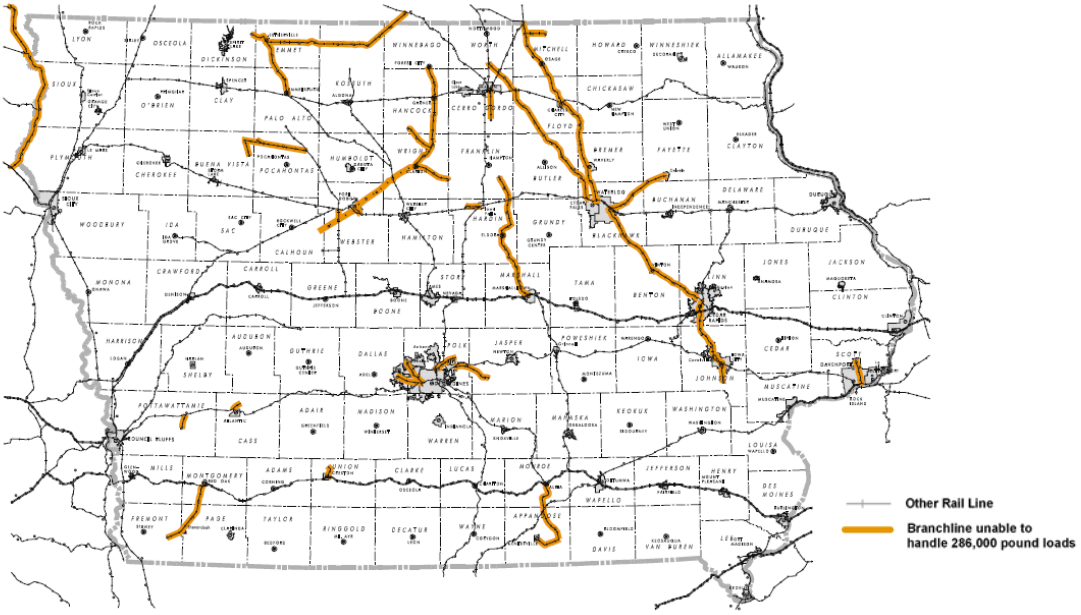
Current long-distance national routes
Future intercity routes

Potential rail projects

Rail freight projects

1. **Construct/Rehabilitate rail lines**
   Project description
   Iowa has rail lines that are unable to carry the sizes and weights of railroad equipment that have recently become standard in the industry. This makes it difficult for railroads to operate efficiently. Strategic investments in select low-capacity rail lines are needed to ensure that Iowa's rail system can continue to move freight safely and efficiently. Currently, there are 710 miles in Iowa that are not able to handle 286,000-pound cars on a regular basis. These miles are shown in the following map.

Rail lines not able to handle heavy cars



Source: Iowa DOT, 2004 Heavy Axle Load Survey

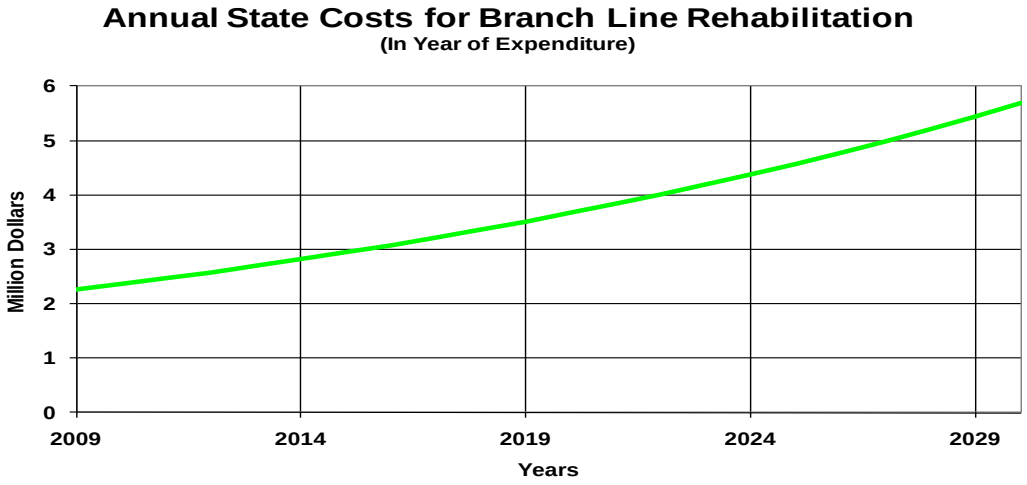
Project benefits

Investment in Iowa's rail lines to handle 286,000-pound cars may save some lines from abandonment. Loss of rail service diverts rail traffic onto local roads for movement to an alternative rail location or a local market. The added trucking results in increased transportation costs to the shippers, lower shipper income, increased highway maintenance and rehabilitation costs, and reduced opportunities for economic development. Additional trucks could have an adverse effect on highway safety and road maintenance costs. A report prepared by the State of Kansas assessed the impacts from loss of shortline rail service in the western two-thirds of Kansas. The data indicated that abandonment of shortline rail service would cause a large diversion of rail traffic to county roads and state highways, with an increase in road damage costs of $49.5 million annually. This translates into an average damage cost of approximately $0.17 per truck mile for the additional truck traffic.

If 10 percent of the originating and terminating rail traffic on the lines not capable of 286,000-pound loadings was shifted to truck due to abandonment, there would be an additional 147,000 trucks on Iowa's roadways annually, enough to pack I-80 with over six lanes of trucks, bumper to bumper across the state.

Project costs

The total cost to improve the 710 miles of rail lines would average $11.2 million per year from 2009 to 2030. Iowa's share would be $3.7 million per year assuming the state contributes one-third of the cost, ranging from $2 million in 2009 to $5.7 million in 2030. This assumes the local railroad and/or shippers would provide two-thirds of the funding. Costs are assumed to increase at a rate of 4.5 percent per year.



2. Build spur tracks

Project description

Iowa has hundreds of rail lines that provide an opportunity for industries to ship by rail. However, the lack of adequate spur tracks prevents new companies from locating in Iowa or existing firms from expanding their operations requiring rail service. Investments in spur tracks are needed. These investments can assist an industry in constructing a new rail spur or siding, or rehabilitate an existing siding or spur for increased or renewed industrial rail use. These investments will likely be made through partnerships between Iowa's rail carriers, shippers, communities, and the public sector.

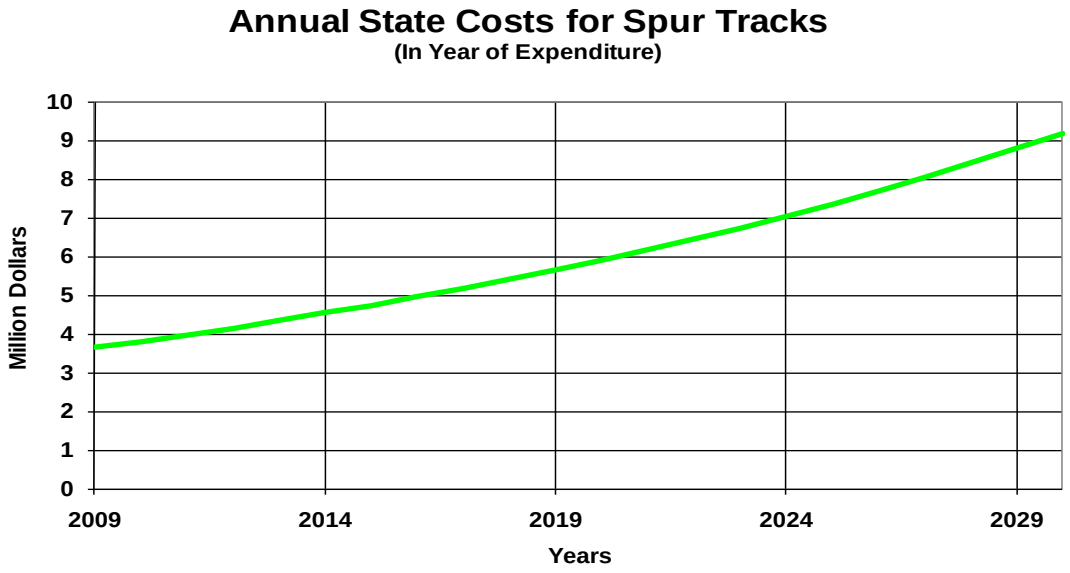
The proposed needs for spur track construction were estimated based on historical trends, and it assumed that spur track development would average five per year from 2009 to 2030, totaling 110 spurs. On average, the assumption was that each spur would cost about $2.2 million.

Project benefits

Investment in Iowa's spur tracks will assist in the development and improvement of rail facilities that support economic development and job growth that otherwise might be lost to the state. Rail improvements are expected to move freight by rail that would have been shipped on Iowa's highways. The rail spur option would decrease transportation costs to the shippers, increase shipper income, decrease highway maintenance and rehabilitation costs, and add opportunities for economic development.

The 110 rail spur projects are estimated to support the creation of nearly 5,200 jobs and leverage more than $6 billion in new capital investment in Iowa. These numbers are based on the awarded projects since June 2006. The average awarded project assisted in the creation of 47 jobs and $56 million in private capital investment.

Project costs
The total cost to improve spur tracks is estimated to be $396.4 million from 2009 to 2030, with an average of $18 million per year. Assuming the state contributes one-third of the cost, Iowa's share would equal $6 million per year on average, ranging from $3.6 million in 2009 to $9.2 million in 2030. Costs would increase at a rate of 4.5 percent per year.

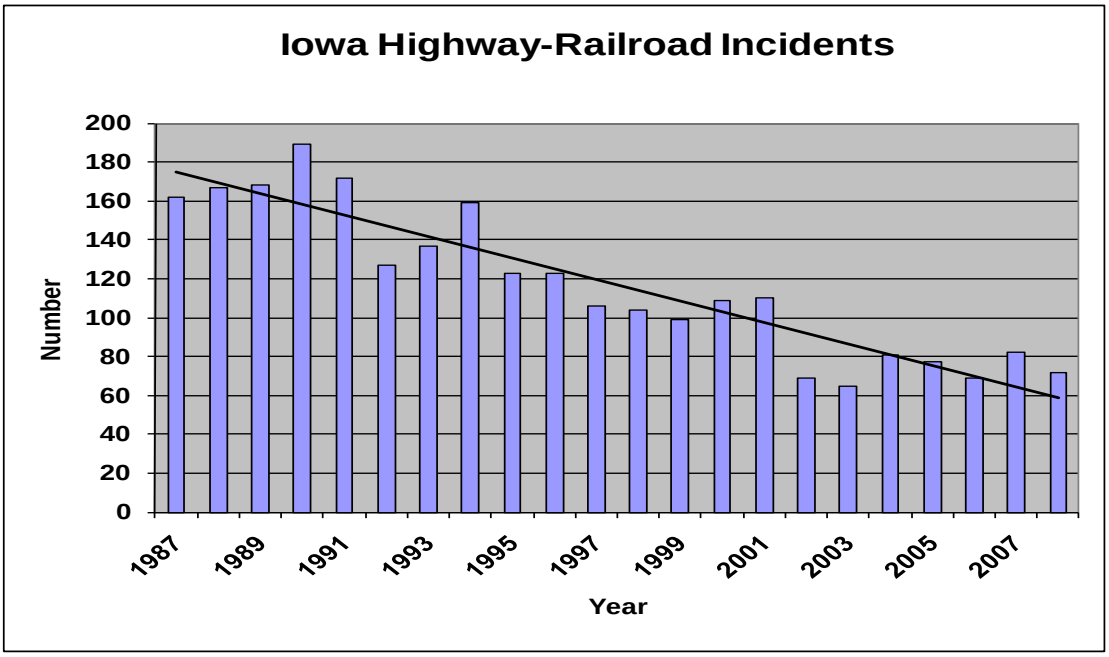


3. Improve highway-rail crossings

Project description
According to FRA's safety data, Iowa currently has 4,404 public highway-rail crossings. The number of highway-rail crossings in Iowa has declined by 17 percent since 1994 due to the decrease in operating mileage, coupled with some crossing closures on active rail lines. Currently, Iowa's crossings have better warning devices and active traffic control systems than in the past because of investments made by railroads, local jurisdictions and the state to improve crossing safety. Currently, 40 percent of at-grade crossings have signals or signals and gates. This compares to only 31 percent in 1994.

Although there are fewer miles of track and highway-rail crossings, the number of rail car-miles (one rail car traveling one mile) and the amount of freight they carry has increased dramatically. The number of rail car-miles traveled on Iowa's rail transportation system has increased by 78 percent since 1994. Similarly, the amount of freight transported, expressed in gross ton-miles, has increased by 78 percent since 1994. The rail system is not alone in experiencing an increase in traffic. Iowa's highway system traffic has increased 21 percent in the same period.

While highway-rail incidents have declined in Iowa since 1987, investments in highway-rail crossing safety continues to be a priority due to the increases in highway and rail traffic.



Source: FRA's Office of Safety Analysis

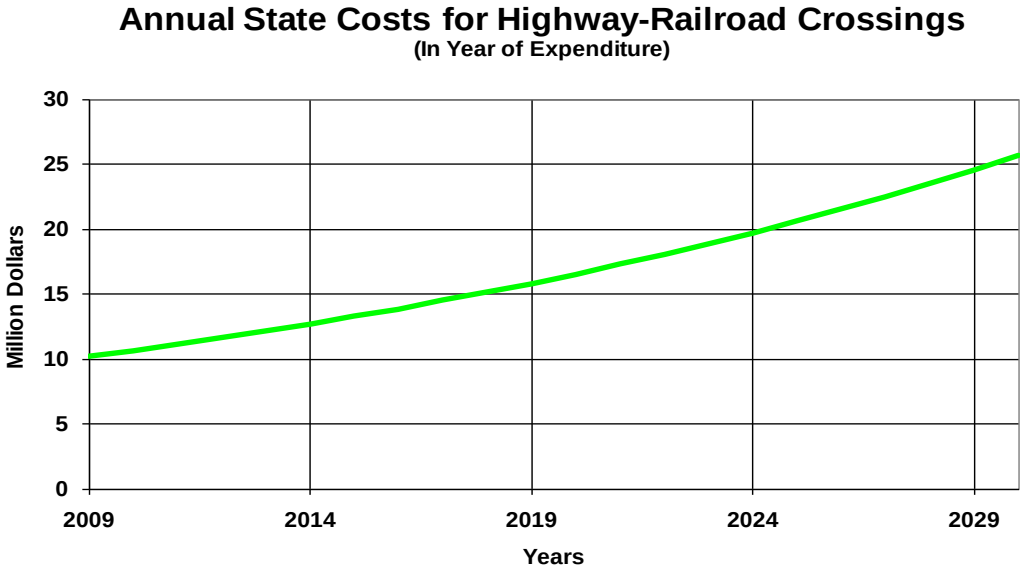
These crossing investments include installation of active traffic-control systems, circuitry upgrades to existing active traffic-control systems, low-cost improvements (raised medians, increased lens sizes, closures, illumination, etc.), passive sign replacement, and surface repairs. The cost estimates were based on adding active traffic-control systems to 20 crossings per year, upgrading circuitry on 21 crossings per year, replacing each passive sign twice from until 2030, and repairing each crossing surface once from now until 2030.

Project benefits

Highway-rail at-grade crossings continue to be a major national issue concerning public safety, capital and maintenance costs, and liability for both railroads and public jurisdictions. Due to increasing highway and rail traffic, the highway-rail at-grade crossing safety issue has become and will continue to be a focal point for the Iowa DOT. Emphasis will continue to be placed on crossing improvements and/or eliminating at-grade crossings where feasible. Crossing improvements will benefit Iowans by reducing the exposures for accidents at existing at-grade crossings.

Project costs

The total cost to improve highway-rail crossings is estimated to average $36.2 million per year. Assuming the state contributes 60 percent of the cost of surface repairs and 90 percent of the cost of warning devices, Iowa's share would equal $16.8 million per year on average, ranging from $10.2 million in 2009 to $25.7 million in 2030, assuming that costs would increase at a rate of 4.5 percent per year.



4. Address capacity constraints

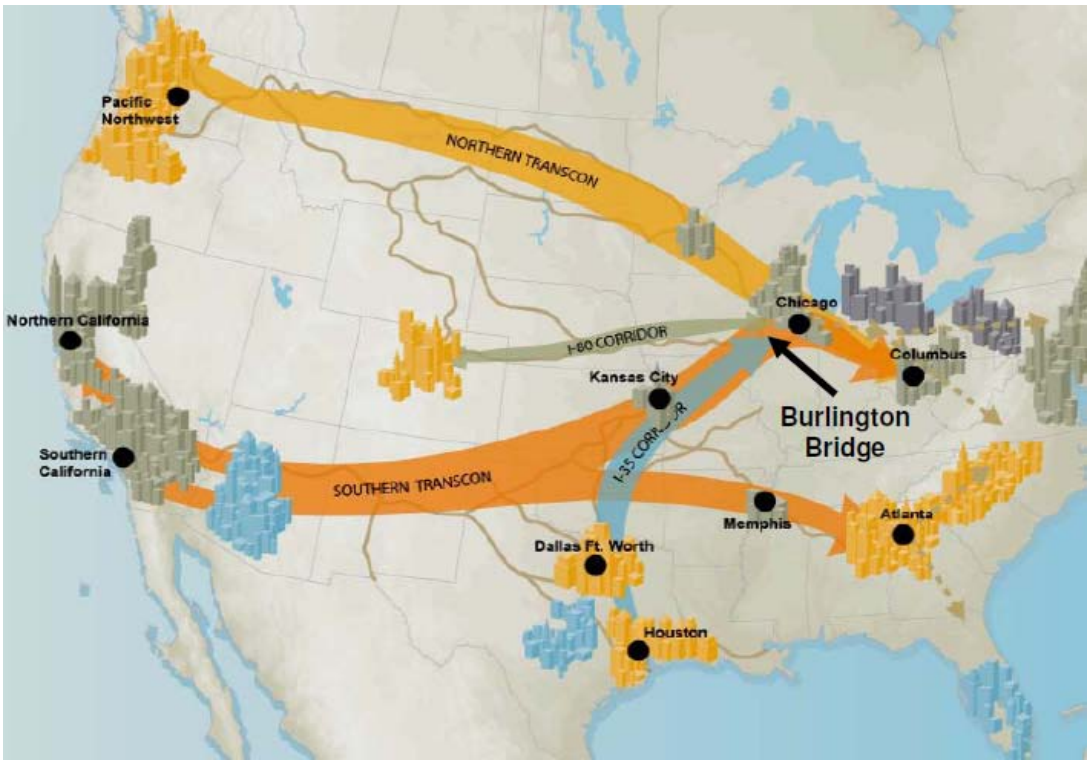
With current estimates indicating an increase in the amount of freight carried on the rail in Iowa, it is clear that steps must be taken to improve the efficiency of the rail freight network. Bottlenecks also account for long delays that result directly in additional expenditures for shippers, carriers and for the public. This in turn is contributing to the decline of Iowa's and the nation's transportation cost advantage. The following projects are proposed to address some of the rail bottlenecks in Iowa.

4.1 BNSF's Burlington River bridge

Project description

The BNSF is proposing to replace the approach spans on the Burlington River bridge spanning the Mississippi River and connecting the cities of Burlington, Iowa, and Gulf Port, Ill. The project proposes replacement of the 1891-era approach spans of a major Mississippi River bridge with new structures. The current bridge has been renovated multiple times and requires frequent maintenance periods to maintain its capacity to handle growing rail volumes. The original bridge was built to standards of the 19th century, designed to carry much lower cyclical loadings attributable to fewer and shorter trains. It is currently under speed and usage restrictions to extend its useful life.

BNSF's Burlington River bridge



Project benefits

The Burlington River bridge is a key resource to the nation's economy, and supports efficient rail transportation service of high-priority intermodal, industrial goods, low-sulfur coal, and Amtrak. The Burlington River bridge currently serves approximately 29 trains per day, transporting a variety of cargo from coal to high-priority intermodal trains connecting Chicago with Denver, to industrial products and agricultural commodities. The bridge is part of a major coal traffic artery that brings low-sulfur Powder River Basin coal from Wyoming to the east that accounts for the electrical generation output for 9 million homes. Amtrak's California Zephyr also utilizes this route, providing daily service from Chicago to San Francisco. In addition, the bridge is on the U.S. Military's Strategic Rail Corridor Network (STRACNET) because it as important infrastructure for the movement of important military equipment between bases and ports in times of defense emergencies.

The BNSF now reduces the speed of trains transiting the bridge to 10 mph. The BNSF plans to further reduce the bridge utility by implementing operating rules that allow only one train to utilize the bridge at any one time, which would reduce maximum loads, as well as the bridge's overall capacity.

Future train volumes are expected to exceed the operational capacity of the Burlington River bridge leading to increased staging of trains east and west of the Mississippi River crossing, as well as eventual train diversions to more circuitous routes around the bridge. The resulting additional staging of freight

and passenger trains and the diversion over lengthier routes averaging 130 additional miles would cost the public more than $18.7 million in increased environmental costs, $500,000 in inventory costs, $89.4 million in transportation costs, and $28.8 million in vehicle costs at-grade crossings.

Construction of the new Burlington River bridge approach spans would enable rail traffic to utilize both main line tracks concurrently at higher speeds. This would facilitate rail movement flexibility both east and west to best support rail traffic meets and passes, greatly improving the bridge's overall rail capacity. The replacement of the approach spans would also eliminate the need for future biannual, five-day maintenance blitzes where the bridge must be closed for in-depth inspection and repair. The new approach spans would also reduce the probability of train delay and structural impacts caused by potential barge collisions, based on more structurally robust planned pier replacements.

Projects costs
This project proposes a $124 million, phased reconstruction program consisting of new bridge support pier foundations, concrete substructure and 250-foot steel truss ballast deck superstructure constructed to current design standards, including the E-80 load factors. The proposed project is designed to maximize bridge utility, while limiting environmental impact both during and after construction.

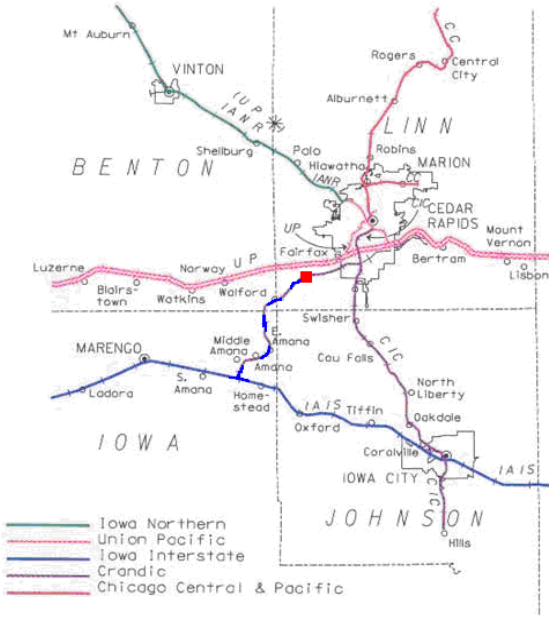
In September 2009, the BNSF submitted a Transportation Investment Generating Economic Recovery (TIGER) application under the American Recovery and Reinvestment Act of 2009 for $25 million. No state funding was requested. BNSF has committed to provide the balance of the funding required to complete bridge construction by February 2012.

4.2 Cedar Rapids and Iowa City Railway Co.'s (CRANDIC) yard

Project description
CRANDIC is proposing to build a new interchange yard that would provide for the quick and efficient movement of cars between the CRANDIC and Iowa Interstate Railroad (IAIS) southwest of Cedar Rapids. The interchange yard will include two nearly 10,000-foot tracks accommodating a full, 135-car unit train in preparation for the Archer Daniels Midland expansion.

The proposed project site is clear of any crossings and has few residential properties nearby. In addition to serving the current large-scale business expansion under construction, the site also has the potential for future economic development immediately adjacent to the railroad property.

CRANDIC's service territory
(The red dot is proposed site of interchange tracks between CRANDIC and IAIS.)



Project benefits
CRANDIC's interchange project will create a more robust local rail transportation network with the effect of preserving and improving the existing railroad system. Additionally, existing rail yards will realize a longer, useful life by reducing the amount of traffic over switches on tracks that are too short for efficient interchange. Significant collateral benefits include avoiding truck traffic increases on the nation's highways and subsequent road damage.

Forecasts for increased traffic volumes range from 20,000 to 40,000 cars per year. Transporting corn and ethanol by rail will keep hundreds of thousands of trucks off the highways resulting in substantially less congestion, emissions, damage, and upkeep to the national highway system. If the entire incremental productivity from known industry expansions shipped via truck, the impact of the 300 to 400 trucks per day would take a heavy toll on local road conditions, as well as local air quality.

By encouraging the use of rail and avoiding an estimated addition of more than 100,000 trucks from the roadway system each year, the result will be less congestion and potential for highway accidents or fatalities. Using an average round trip per truck of 200 miles, truck miles per year on public highways and interstates will be reduced by 20 million miles. This reduction in traffic will increase the life of the roadways by avoiding increased wear and tear.

The yard will eliminate the final system constraint by eliminating the use of tracks too short for receipt and delivery of unit trains. This will lead to less fuel wasted during engine idling time, less labor time wasted and reduced blockage of local roads by trains during interchange. In short, CRANDIC spends as much

as four hours per day sorting interchange cars in and out of the existing interchange yard, and the IAIS also spends as much as four hours per day delivering and receiving trains. Having a dedicated receiving track and separate, dedicated outbound track reduces the time required to prepare the trains. Interchange time will also be reduced by two to three hours per railroad, per occurrence.

Emission reductions will be realized through the improvements resulting from CRANDIC's interchange project. Significantly more efficient operations will reduce labor costs, interchange time and wasted fuel leading to an efficient and "greener" railroad. Elimination of unnecessary idling can save fuel, prolong engine life and reduce emissions. It can also help reduce the noise levels.

Construction will require several contractors for groundwork and track installation. Approximately 30 to 50 contract employees are expected to support the project's implementation. The efficiency gained by the project will not only benefit two railroads, but it will also benefit rail-served customers who have announced the addition of nearly 110 jobs.

Project costs
The new interchange yard is expected to cost $7.035 million. In September 2009, CRANDIC submitted a TIGER application. No state funding was requested.

4.3 Iowa Northern Railroad Co.'s (IANR) track and bridge rehabilitation

Project description
The project scope is designed to rehabilitate a vital regional railroad infrastructure by renovating both bridge and track structures that are at least 80 years old. This project will result in designating IANR's infrastructure between Cedar Rapids and Manly as 286,000-pound capable, which will allow IANR to interchange with all of its connecting railroads. In addition, the work will provide major dimensional clearance improvements to handle higher and wider loads, which is very important to grow manufacturing, distribution of wind turbine and electric transmission components and equipment, and renewable biofuels.

The scope of the work for the track rehabilitation project includes taking up worn, light-jointed rail and replacing it with continuous, welded rail to address and remedy the rail deficiencies on the portion of the main line located between Waterloo and Manly (the "Manly subdivision"). The bridge rehabilitation portion of the project addresses structural deficiencies, clearance and capacity issues at 24 bridges within this main line section.

Project benefits
By overcoming these challenges through the TIGER project, IANR will be able to better serve the rural areas where it operates and develop more opportunities for those communities. This project will have a dramatic, positive impact on shippers using IANR, and most particularly the grain, biomass, ethanol, and wind industries that are an essential key to Iowa's economic growth.

The proposed repair and rehabilitation of bridges and track infrastructure will lead to the elimination of most derailment causes and other operating incidents.

Additionally, by increasing bridge safety in rural areas, the project's bridge rehabilitation portion will reduce the possibility of a catastrophic failure that may endanger the health and well-being of rural residents living near the IANR's tracks.

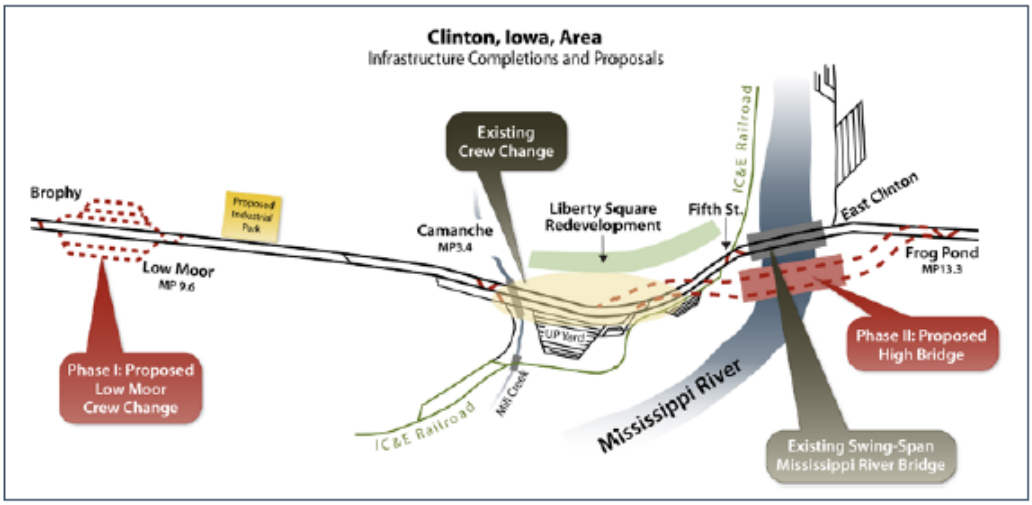
Once investments are made, the lifecycle of the entire IANR's rail system will be extended for decades, and ongoing maintenance costs and capital spending requirements will diminish considerably. As the railroad bridges are repaired or replaced, the improvements will ensure that trains operating to and from the structures are on safe, sound track, and reduce the fuel penalties involved with slowing down for bridge structures and acceleration after the train passes each bridge.

Project costs
The corridor improvement plan is expected to cost $24.4 million, $16 million for track rehabilitation and $8.4 million for bridge repair. In September 2009, IANR submitted a TIGER application for $19.9 million, with the remaining $4.5 million from IANR. No state funding was requested.

4.4 UP's Clinton bridge

Project description
The UP is proposing to replace the existing swing-span bridge at Clinton with a new, higher elevation, clear-span bridge. The existing Mississippi River bridge at Clinton, built in 1909, is a movable bridge — it opens and closes to enable river traffic to pass an average of nine times every day, and 14 times per day during peak river shipping season. For a cumulative five hours of every 24, the bridge is open for river traffic, during which time trains must stop. The U. S. Coast Guard has designated the Clinton bridge a hazard to navigation and recognizes it is a significant impediment to both marine and train traffic. UP plans to replace the existing movable bridge with a high-level bridge under which river traffic can freely pass and over which rail traffic can freely move. The new bridge would be funded by a combination of private and public funds provided under the Truman-Hobbs Act.

As the first step, UP's Phase 1 consists of the relocation of an existing rail yard west of Clinton to remove it from the footprint of a proposed high-level rail bridge across the Mississippi River that is to be constructed in Phase II.



Project benefits
The new bridge will replace a 100-year-old bridge that is a persistent hazard to navigation and causes significant loss of national economic competitiveness due to delays it creates, as well as capacity limits on train and river barge traffic.

The UP's Mississippi River bridge at Clinton carries transcontinental rail traffic, including agricultural products, motor vehicles, manufactured goods, building products, and coal. The UP's rail line across the bridge, known as the Overland Route, is one of only four principal transcontinental rail routes across the United States. There are no economic or practical rail route alternatives available that can accept the traffic volume the bridge carries, which averaged 63 trains per day until the recent economic downturn. Currently, an average of 51 trains per day use the bridge, carrying more than 40 million tons per year. There is also no economic or practical alternative to ceasing river traffic on the Upper Mississippi River, which carried 29 million tons of commodities, primarily grain, in 2007.

The new bridge will:

- Increase train capacity across the Mississippi River by 50 percent.
- Eliminate diversion of freight to longer routes that are more costly to shippers and the public.
- Eliminate diversion of freight to trucks, which increases public costs due to pavement damage, emissions, highway congestion, and highway crashes.
- Eliminate barge collisions, restrictions on river traffic and navigation hazards caused by the existing bridge; and reduce fuel use, emissions and costs of river transportation.
- Improve the competitiveness of agricultural producers and freight shippers in Iowa and throughout the United States.
- Create jobs.

During Phase 1, an estimated 614 construction and construction-related jobs will be created or preserved.

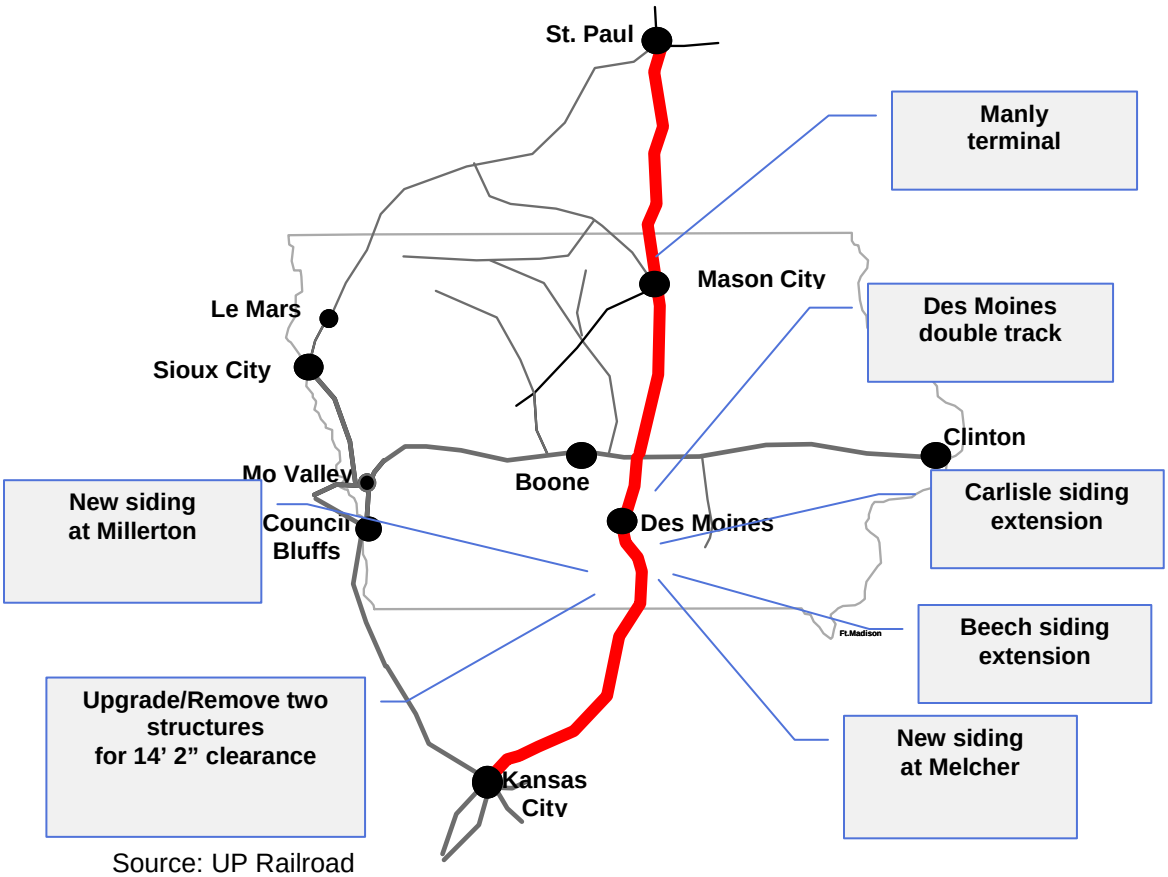
Projects costs

The Phase I project consists of construction of a new rail yard near Low Moor to change train crews on through trains. In September 2009, the UP submitted a TIGER application for $33 million. The total crew change project is estimated to cost $66 million. No state funding was requested.

4.5 UP's Trenton subdivision improvements

Project description

The project consists of a series of improvements to the UP's Trenton subdivision. The project includes two siding extensions, two new sidings, double-tracking through Des Moines, and the upgrading or removal of two structural obstructions.



Source: UP Railroad

Project benefits

The removal of a wooden roadway bridge at Beech, Iowa, and expansion of a truss bridge at Mill Grove, Mo., would remove obstructions that currently prevent shipping most wind energy components on the Trenton subdivision south of Des Moines. Wind energy is expanding rapidly in Iowa with a major wind distribution center at Manly. The obstructions on the Trenton subdivision south of Des Moines require the routing of wind components on less efficient, more circuitous routes. This limits rail service to most wind component manufacturers who might wish to locate south of Des Moines.

The extension and addition of sidings and double-tracking through Des Moines create efficiency for moving freight on this single-track route.

Currently, there are 30-mile stretches of track where trains cannot meet. Freight service cannot be efficiently expanded on this route without the addition and expansion of sidings. The current situation limits the opportunity for economic development along this route for both existing and new business.

In addition to the economic development improvements, other public benefits, such as tax savings and air quality improvement, would be gained from the expansion of freight capacity on the only north-south rail line that provides a direct alternative to I-35.

Project costs
The corridor improvement plan is expected to cost $38.5 million as summarized below. In September 2009, the UP submitted a TIGER application for 50 percent of the project cost. The remaining 50 percent will come from the UP. No state funding was requested.

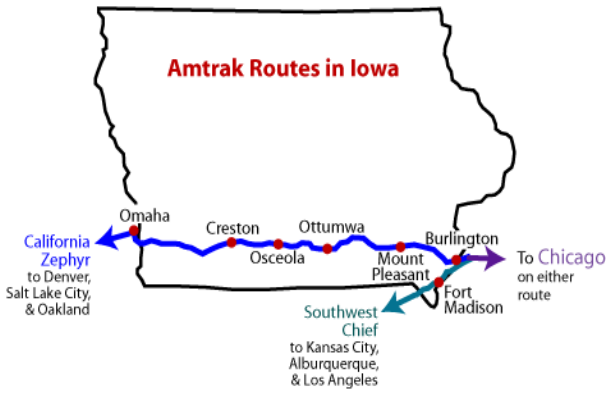
Capital cost summary: UP Trenton subdivision

Project	Cost (in millions)
New siding at Millerton	$ 10.0
New Siding at Melcher	$ 10.0
Beech siding extension	$ 6.0
Carlisle siding extension	$ 6.0
Upgrade/Remove two structures for clearance	$ 1.0
Des Moines main line expansion	$ 5.5
Total	$ 38.5

Source: UP Railroad

Passenger rail projects
The following passenger rail project cost estimates are meant to provide a general estimate. Before any projects are implemented, the cost estimates will need to be reevaluated with more detailed site-specific information. In addition, operating and trackage rights agreements will need to be finalized with Amtrak and freight railroads.

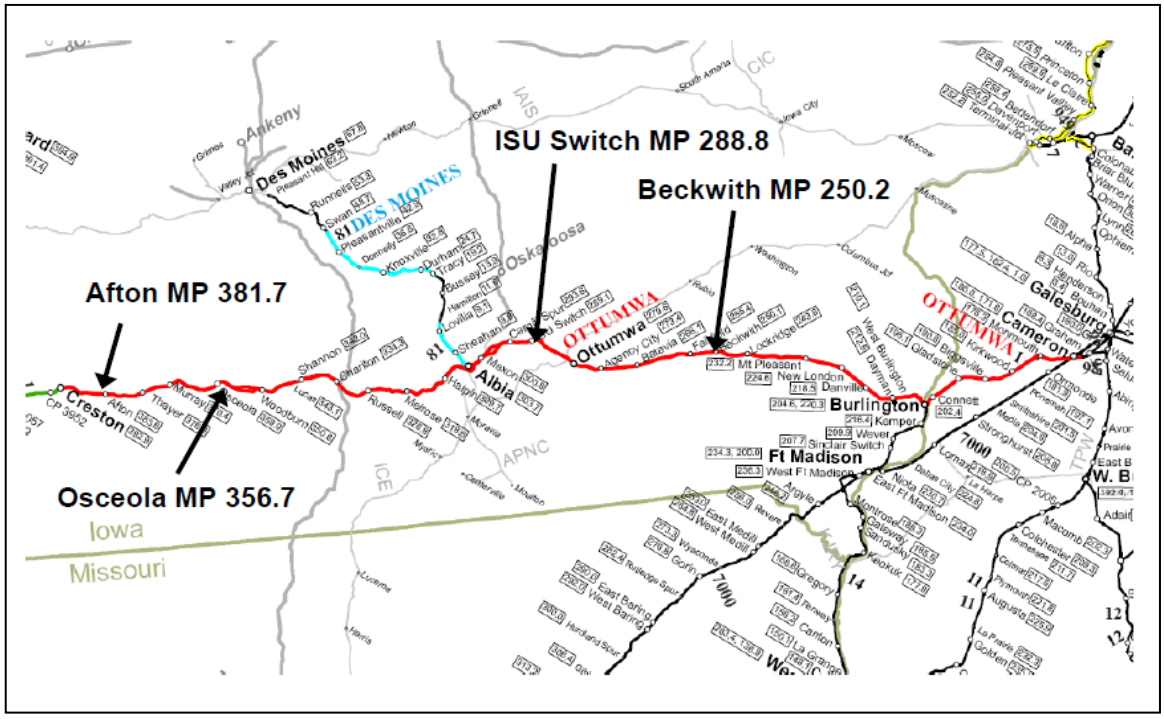
1. BNSF's crossovers, tie and station renewal
Project description
Iowa is currently served by two lines of the National Railroad Passenger Corporation's (more commonly known as Amtrak) rail system. The two Amtrak routes serving Iowa are the California Zephyr and the Southwest Chief. The California Zephyr operates across Iowa as it runs from Chicago to Oakland, Calif., and serves five stops in Iowa along the BNSF's rail line in the southern portion of the state: Burlington, Mount Pleasant, Ottumwa, Osceola, and Creston. The Southwest Chief line runs from Chicago to Los



Angeles, crossing the southeast tip of Iowa with one stop in Fort Madison.

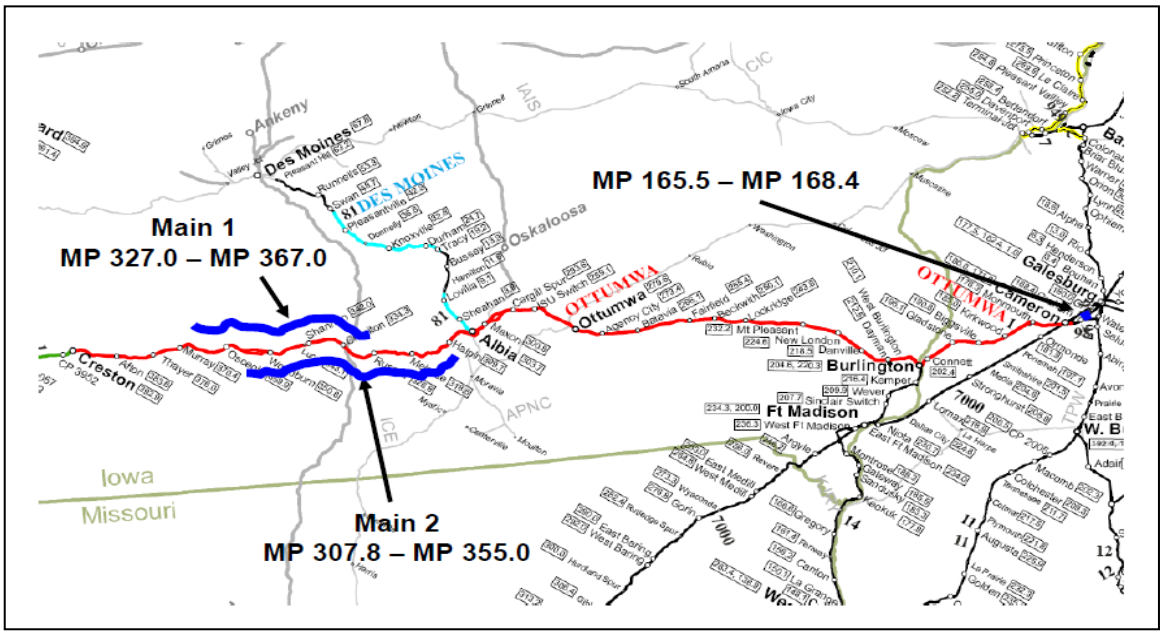
Performance data was reviewed, and delay causes and action steps identified to reduce delays to the California Zephyr Trains 5 and 6 with an objective to improve overall on-time performance. Project work along the California Zephyr route includes the installation of four powered crossovers, replacement of approximately 85,000 ties, undercutting of about 17 miles of track, and improving the depot facilities and amenities in Iowa at Burlington, Fort Madison, Mount Pleasant, Ottumwa, Osceola, and Creston.

Crossover locations



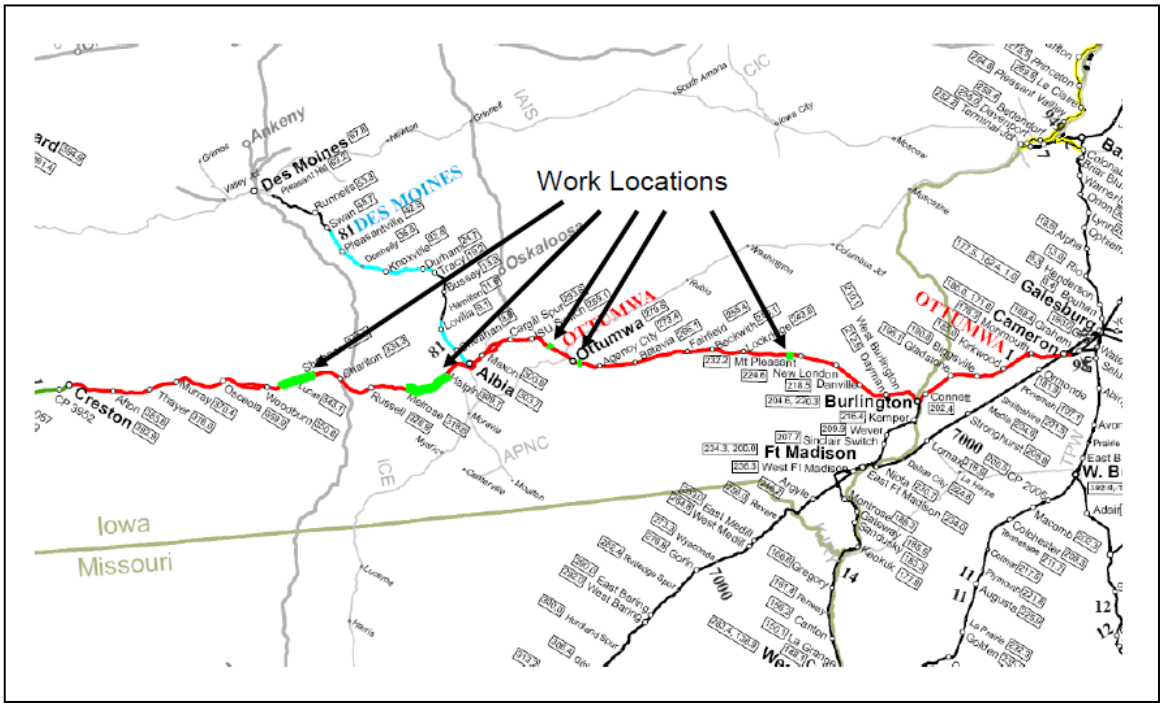
Source: BNSF

Tie replacement



Source: BNSF

Ballast undercutting locations



Source: BNSF

Project benefits
The project will help improve efficiency by allowing trains to meet and pass at the specified locations without having to stop for the crew to manually operate turnouts or reduce speed for slow orders. This will allow for better fuel usage and reduce greenhouse gases by minimizing the acceleration, deceleration and idling of trains. It will also provide for more efficient movement of goods and passengers.

It is estimated that the crossover capital improvement project will improve overall California Zephyr Trains 5 and 6 on-time performances between Chicago and Oakland by 12 percent over current operations, saving about 30 minutes of train delay per trip. This represents a 40 percent improvement in the on-time performance of the California Zephyr. In addition, the track capital maintenance project will result in an average savings of 26 minutes per one-way trip.

Project costs
The corridor improvement plan is expected to cost $52.7 million as summarized below. For everything except the stations, the Iowa DOT submitted two applications totaling $44 million for the High-Speed Intercity Passenger Rail Program. At this time, no state funding is needed.

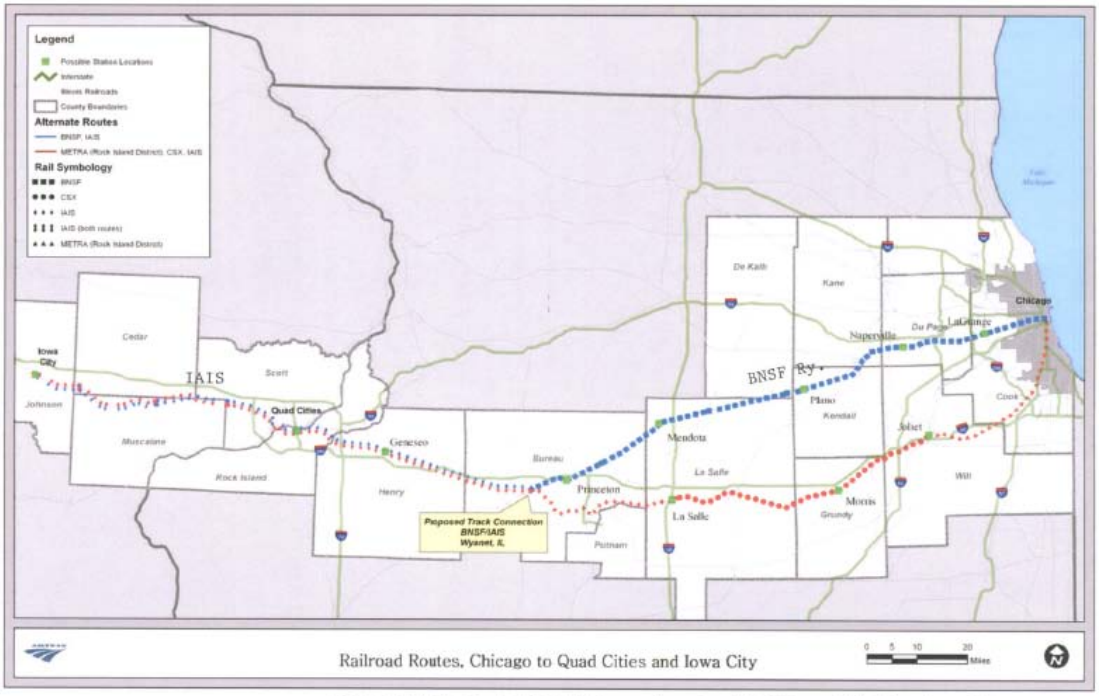
Capital cost summary: BNSF's Ottumwa subdivision

Project	Cost (in millions)
Four powered crossovers	$ 17.3
Tie renewal, ballast undercutting, additional capital maintenance	$ 26.7
Stations	$ 8.7
Total	$ 52.7

Source: BNSF and Iowa Amtrak Community Coalition

2. Chicago to Iowa City
Project description
On Feb. 20, 2007, the Illinois DOT requested Amtrak to do a feasibility study regarding possible service between Chicago and the Quad Cities. On April 3, 2007, the Iowa DOT requested Amtrak extend the study to Iowa City. Completion of the study is an important first step for establishing service on this route and in incremental development of the MWRRI. The feasibility study to the Quad Cities was released Dec. 5, 2007, and the addendum to Iowa City on April 18, 2008. In October 2009, the Iowa DOT submitted a High-Speed Intercity Passenger Rail (HSIPR) Program Application for capital assistance.

Between Chicago and the Quad Cities, the preferred route would use BNSF's track from Chicago to Wyanet, Ill., and then connect to the IAIS to Iowa City. The mileage on this route totals 217.9 miles with maximum authorized timetable speeds of 79 mph. Service would require two train sets, each consisting of one locomotive, one non-powered-control unit or a second locomotive, three coaches, and a food service car. A locomotive, one non-powered-control unit, one coach, and a food service car would be needed as spares.



Source: Amtrak

Train service is based on two daily round-trip frequencies with nine stations. Proposed stations include Chicago, La Grange Road, Naperville, Plano, Mendota, Princeton, Geneseo, and Moline in Illinois; and Iowa City, Iowa. Annual ridership on the full route is estimated at 187,000 passengers per year. A proposed schedule and route summary is shown in the following tables.

Proposed Chicago to Iowa City schedule
Chicago – Princeton – Quad Cities – Iowa City

Westbound								Eastbound	
Morning	Evening							Morning	Evening
Daily	Daily							Daily	Daily
Read down	Read down	Mile						Read up	Read up
9:30 a.m.	6:30 p.m.	0.00	↓	Dp	Chicago, Ill., - CT	Ar	↑	12:00 p.m.	10:00 p.m.
9:47 a.m.	6:47 p.m.		↓	Dp	La Grange Road, Ill.	Dp	↑	11:32 a.m.	9:32 p.m.
10:04 a.m.	7:04 p.m.		↓	Dp	Naperville, Ill.	Dp	↑	11:17 a.m.	9:17 p.m.
10:29 a.m.	7:29 p.m.		↓	Dp	Plano, Ill.	Dp	↑	10:53 a.m.	8:53 p.m.
10:57 a.m.	7:57 p.m.		↓	Dp	Mendota, Ill.	Dp	↑	10:25 a.m.	8:25 p.m.
11:19 a.m.	8:19 p.m.		↓	Dp	Princeton, Ill.	Dp	↑	10:05 a.m.	8:05 p.m.
12:14 p.m.	9:14 p.m.		↓	Dp	Geneseo, Ill.	Dp	↑	9:12 a.m.	7:12 p.m.
12:52 p.m.	9:52 p.m.	158.6	↓	Dp	Moline, Ill.	Dp	↑	8:40 a.m.	6:40 p.m.
2:28 p.m.	11:28 p.m.	217.9	↓	Ar	Iowa City, Iowa	Dp	↑	7:02 a.m.	5:02 p.m.

Source: Amtrak's Feasibility Study on Proposed Amtrak Service from Chicago to Iowa City via Quad Cities

Route summary: Chicago to Iowa City

	Chicago to Quad Cities segment	Quad Cities to Iowa City segment	Total Chicago to Iowa City route
Number of round trips	2	2	2
Route miles	158.6	59.3	217.9
Running time	3 hr 20 min	1 hr 38 min	4 hr 58 min
Maximum timetable speed	79 mph	79 mph	79 mph
Ridership	110,800	76,100	186,900

Source: Amtrak's Feasibility Study on Proposed Amtrak Service from Chicago to Iowa City via Quad Cities

Project benefits

Implementation of passenger rail service can improve mobility, economic competitiveness, and community revitalization; and reduce fuel use and emissions. Passenger rail service will improve access between Iowa and Illinois communities. The BNSF/IAIS route is enhanced by taking advantage of existing Amtrak service on the BNSF portion, as well as the stations at Princeton, Mendota and Naperville. This access supports existing industries, fosters growth in new business and expands the job base. Based on the Midwest Regional Rail System study, service to Iowa City could create more than 600 new permanent jobs in Iowa.

The Quad Cities is a major visitor attraction area. Among the attractions are its scenic Mississippi River frontage, river boating, riverboat casinos, the Rock Island Arsenal, several museums, and other cultural attractions.

The Iowa City area is nationally recognized for the University of Iowa (UI) and its hospitals and clinics. More than 20 percent of the UI's student population of about 30,000 students is from adjoining states, mostly Illinois.

Service to Iowa City would provide a good alternative to auto and air travel that promotes potential environmental benefits, including reduced air pollutant emissions, less land, and fewer habitat and water resource impacts compared to expanding existing highways and airports. Passenger rail service from the Quad Cities to Iowa City would carry 76,100 rides per year – taking 17 million passenger miles off the roadway system. This would equate to 38,050 cars removed from the road system, 120,400 fewer gallons of fuel consumed and 600 fewer tons of greenhouse gases emitted per year.

The State of Illinois and State of Iowa are committed to implementing passenger rail service between Iowa City and Chicago that expands on the green and sustainable environmental benefits discussed above. Examples include the use of hybrid and biofuel-powered locomotives; recycled materials for the construction of rail cars, rail lines and stations; energy-efficient design and construction of stations; and connections to public transit, intercity bus, bicycle, and pedestrian networks. Both states are committed to utilizing new and existing initiatives and programs to support this effort.

Project costs

Based on the proposed schedule, stops and route, the HSIPR application estimated the annual ridership, revenues and operating costs. The operating information is presented in the following table. The annual operating revenues are estimated to cover between 35 percent and 55 percent of the operating expenses. Iowa's share of the operating subsidy would be 27 percent.

Operating cost summary: Chicago to Iowa City
(In year of expenditure)

	2015	2020	2025
Passenger trips	187,000	200,000	220,000
Annual operating revenues	$ 5.0 million	$ 8.5 million	$ 12.1 million
Annual operating expenses	$ 14.3 million	$ 17.8 million	$ 22.2 million
Annual operating subsidy	$ 9.3 million	$ 9.3 million	$ 10.1 million
Cost recover ratio*	0.35	0.48	0.55
Average fare per passenger	$ 26.74	$ 42.50	$ 55.00
Operating subsidy per passenger	$ 49.73	$ 46.50	$ 45.91

*Operating revenues divided by operating expenses.
Source: Chicago to Iowa City HSIPR Program Application

With upgrading to allow train speeds of 79 mph, it is recommended that the remaining jointed rail be replaced, and additional tie replacement and surfacing work be performed on the line. If Amtrak service were to terminate at Iowa City, an overnight storage track of sufficient length with ample parking and certain other improvements would be required. In addition to the track work, there are a number of upfront expenses that would be incurred to initiate service on this route, including stations, support facilities, site work, communications, signaling, locomotives and passenger cars, and professional services (i.e., service development plans, service environmental work, preliminary engineering, and design). These capital costs are summarized in the following table.

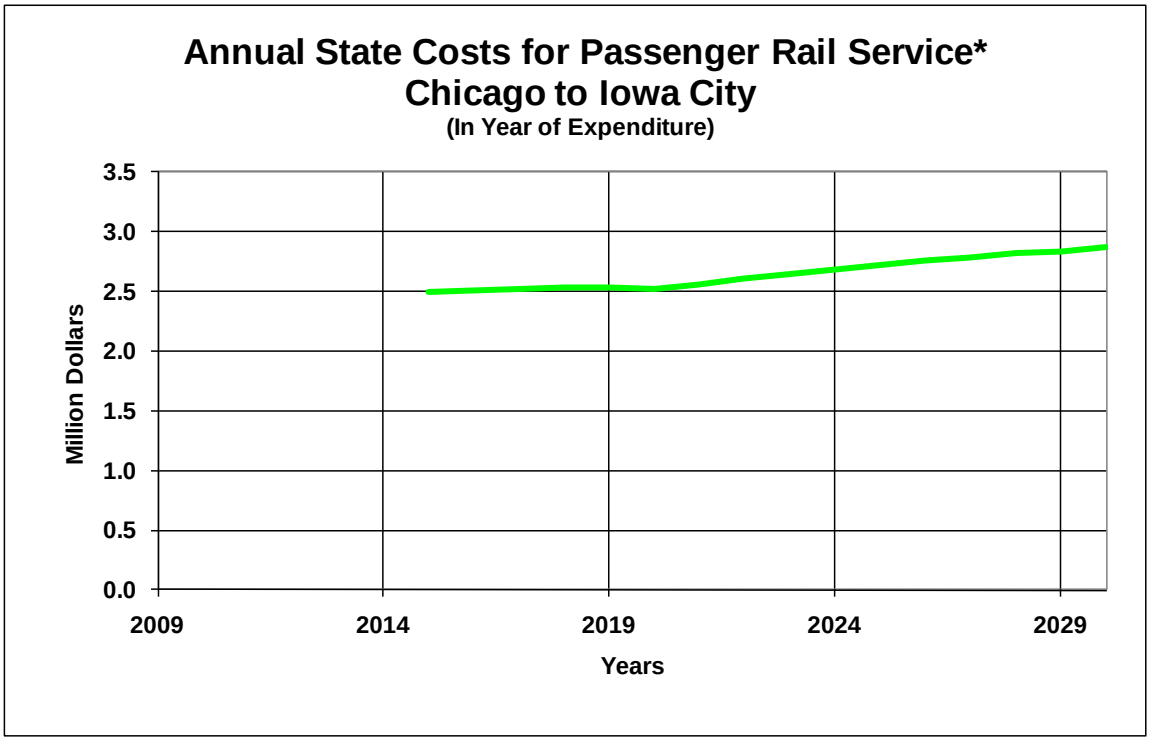
Capital cost summary: Chicago to Iowa City
(In 2010 dollars)

Category	Cost (in millions)
Track structures and track	$ 46.8
Stations, terminals, intermodal	$ 4.5
Support facilities	$ 4.7
Site work, right of way, land, existing improvements	$ 7.8
Communications and signaling	$ 80.4
Vehicles	$ 56.6
Professional services	$ 21.2
Contingency	$ 11.1
Total capital cost	$ 233.1

Source: Chicago to Iowa City HSIPR Program Application

Construction to implement service is expected to begin in 2011 with operation beginning in late 2014, with 2015 being the first full year of operation. The Iowa DOT, along with the Illinois DOT, has submitted a HPIPR Program Application that would cover 100 percent of the capital costs. If the application is approved, Iowa and Illinois

would need to cover the annual operating subsidy. Iowa's share would be 27 percent. As a result, Iowa's share would average $2.7 million per year (from $2.5 million in 2015 to $2.9 million in 2030). Costs would increase at a rate of 4.5 percent per year.



* Includes just operating subsidy.

3. Chicago to Dubuque

Project description

On Aug. 11, 2006, Illinois DOT requested Amtrak prepare a feasibility study regarding the possible service between Chicago-Rockford-Galena in Illinois, and Dubuque, Iowa. The report was released by Amtrak May 16, 2007. The proposed route would use Amtrak's trackage from Chicago Union Station to 21st Street with subsequent routing via the CN to Dubuque. Mileage on this route totals 182.2. Maximum authorized timetable speeds range from 10 mph to 60 mph with the majority of the route at 49 mph. In October 2009, Illinois DOT submitted a HSIPR application for capital assistance.

Proposed service on this route would be coach-only, with no food service. The train would consist of one locomotive and one non-powered-control unit or a second locomotive and two coaches, plus spares.

Source: Amtrak

Train service is based on a single daily round-trip frequency with eight stations. Proposed stations include Chicago, West Elgin, Genoa, Alpine Road, Rockford, Freeport, and Galena in Illinois; and Dubuque, Iowa. Annual ridership on the full route is estimated at about 74,500 passengers with 12,900 riders at Dubuque.

A proposed schedule and route summary is shown in the following tables. The schedule is consistent with the maximum timetable speeds authorized on the route and would not require significant track work, except as described in the track capital costs.

Proposed Chicago – Rockford – Dubuque schedule

Westbound Daily							Eastbound Daily
Read down	Mile						Read Up
6:15 p.m.	0.00	↓	Dp	Chicago, Ill., - Union Station	Ar	↑	10:10 a.m.
7:28 p.m.		↓	Dp	West Elgin, Ill.	Dp	↑	8:38 a.m.
7:54 p.m.		↓	Dp	Genoa, Ill.	Dp	↑	8:12 a.m.
8:22 p.m.		↓	Dp	Alpine Road, Ill.	Dp	↑	7:46 a.m.
8:32 p.m.		↓	Dp	Rockford, Ill.	Dp	↑	7:36 a.m.
9:11 p.m.		↓	Dp	Freeport, Ill.	Dp	↑	6:57 a.m.
10:30 p.m.		↓	Dp	Galena, Ill.	Dp	↑	5:38 a.m.
11:25 p.m.	182.2	↓	Ar	Dubuque, Iowa	Dp	↑	5:00 a.m.

Source: Amtrak's Feasibility Report on Proposed Amtrak Service Chicago-Rockford-Galena-Dubuque

Route summary: Chicago to Dubuque

Number of round trips	1
Route miles	182.2
Running time	5 hr 10 min
Maximum timetable speed	60 mph
Ridership	74,500

Source: Amtrak's Feasibility Report on Proposed Amtrak Service Chicago-Rockford-Galena-Dubuque

Project benefits

Implementation of passenger rail service can improve mobility, economic competitiveness, and community revitalization, and reduce fuel use and emissions. Passenger rail service will improve access between Iowa and Illinois communities. This access supports existing industries, fosters growth of new business and expands the job base.

Dubuque is aggressively redeveloping the downtown property along the Mississippi River. Recent developments have included the construction of a river walk, establishment of a large convention center and hotel complex, construction of a Mississippi River National Riverways Aquarium, and a floating casino.

Service to Dubuque would provide a good alternative to auto and air travel, which promotes potential environmental benefits, including reduced air pollutant emissions, use of less land, and fewer habitat and water resource impacts compared to expanding existing highways and airports. Estimated passenger rail ridership at Dubuque would equal 12,900 rides per year, taking 2.3 million passenger miles off the roadway system. This would equate to 6,450 cars removed from the road system, 14,100 fewer gallons of fuel consumed and 54 fewer tons of greenhouse gases emitted per year.

Project costs

Based on the proposed schedule, stops and the route, the HSIPR application estimated the annual ridership, revenues and operating costs. The operating information is presented in the following table. The annual operating revenues are estimated to cover 34 percent of the operating expenses.

Operating cost summary: Chicago to Dubuque
(In year of expenditure)

	2013	2018	2023
Passenger trips	83,000	83,000	83,000
Annual operating revenues	$ 1.8 million	$ 1.8 million	$ 1.8 million
Annual operating expenses	$ 5.0 million	$ 5.0 million	$ 5.0 million
Annual operating subsidy	$ 3.2 million	$ 3.2 million	$ 3.2 million
Cost recover ratio*	0.36	0.36	0.36
Average fare per passenger	$ 21.69	$ 21.69	$ 21.69
Operating subsidy per passenger	$ 38.55	$ 38.55	$ 38.55

*Operating revenues divided by operating expenses.
Source: Chicago to Dubuque HSIPR Program Application

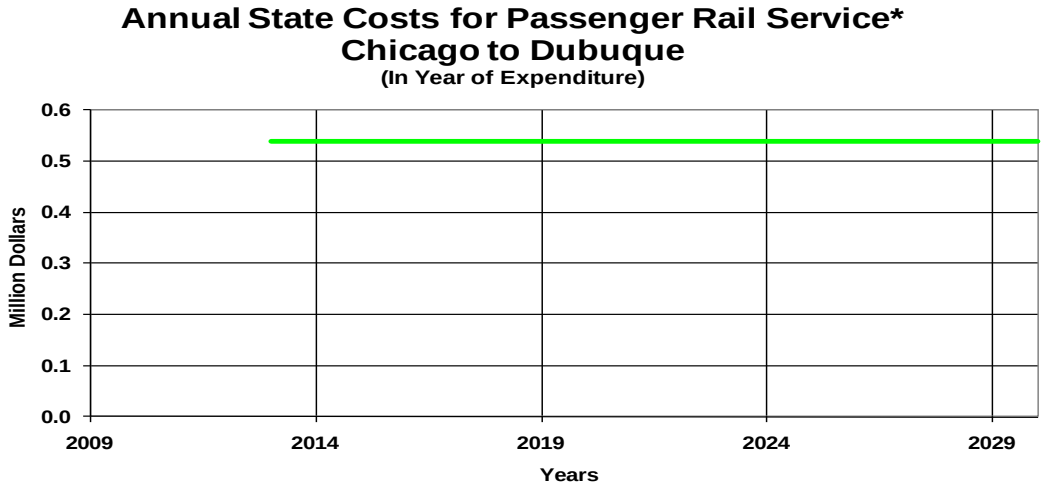
For operation at the current maximum timetable speed, no major track maintenance or upgrading work is recommended, except for track west of Rockford and several segments close to Chicago. Rail on these segments would be replaced. Some minor track work in Dubuque is needed, as well as a small layover facility for use by train crews, storage of equipment and communications. In addition to the track work, there are a number of upfront expenses that would be incurred to initiate service on this route, including stations, support facilities, site work, communications, signaling, locomotives and passenger cars, and professional services (service development plans, service environmental work, preliminary engineering, and design). These capital costs are summarized in the following table.

Capital cost summary: Chicago to Dubuque
(In 2010 dollars)

Category	Cost (in millions)
Track structures and track	$ 35.9
Stations, terminals, intermodal	$ 11.8
Support facilities	$ 0.9
Site work, right of way, land, existing improvements	$ 9.5
Communications and signaling	$ 17.4
Vehicles	$ 46.2
Professional services	$ 15.1
Total capital cost	$ 136.8

Source: Chicago to Dubuque HSIPR Program Application

Construction to implement service is expected to begin in 2011 with operation beginning in 2013. The Iowa DOT, along with the Illinois DOT, has submitted a HSIPR Program Application that would cover 95 percent of the capital costs with the remaining 5 percent from the Illinois Capital Bill. If the application is approved, Iowa would only need to cover its share of the annual operating subsidy, which would be 17 percent. As a result, Iowa's share would average $0.54 million per year from 2013 to 2030.

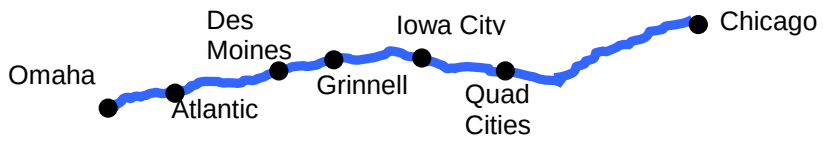


* Includes just operating subsidy.

4. Chicago to Omaha — Iowa City to Omaha segment

Project description

This route would extend service from Chicago to Omaha and complete the MWRRI. Information presented here includes just Iowa City to Omaha, and does not include the Chicago to Iowa City section previously discussed. The proposed route would use IAIS Railroad and a small portion of the UP in the metro areas. Mileage from Iowa City to Omaha totals 256 out of the 474 from Chicago to Omaha, with maximum authorized timetable speeds of 79 mph. The train would consist of one locomotive and one non-powered-control unit or second locomotive and three coaches. In 2008, the Iowa DOT requested Amtrak prepare a feasibility study regarding possible service between Iowa City and Des Moines. The feasibility study has not yet been completed. A feasibility study on the Des Moines to Omaha segment has not been requested at this time.



Train service is based on two daily round-trip frequencies with four additional stations located at Grinnell, Des Moines, Atlantic, and Omaha, in addition to the stations at Moline and Iowa City. A proposed route summary is shown in the following table.

Chicago to Omaha route summary: Iowa City to Omaha Segment

	Total Iowa City to Omaha segment
Number of round trips	2
Route miles	256
Maximum timetable speed	79 mph

Project benefits

Implementation of passenger rail service can improve mobility, economic competitiveness, and community revitalization, and reduce fuel use and emissions. Passenger rail will improve access between Iowa and Illinois communities. This access supports existing industries, fosters growth on new business and expands the job base. Based on the Midwest Regional Rail System study, service from Iowa City to Omaha could create about 360 new permanent jobs in Iowa.

Service from Iowa City to Omaha would provide a good alternative to auto and air travel that promotes potential environmental benefits, including reduced air pollutant emission, less land use, and fewer habitat and water resource impacts compared to expanding existing highways and airports. Based on the MWRRI, passenger rail service from Iowa City to Omaha would carry an estimated 164,000 rides per year, thus taking 63.3 million passenger miles off the roadway system. This would equate to 93,600 cars removed from the road system, 393,500 fewer gallons of fuel consumed and 1,560 fewer tons of greenhouse gases emitted per year.

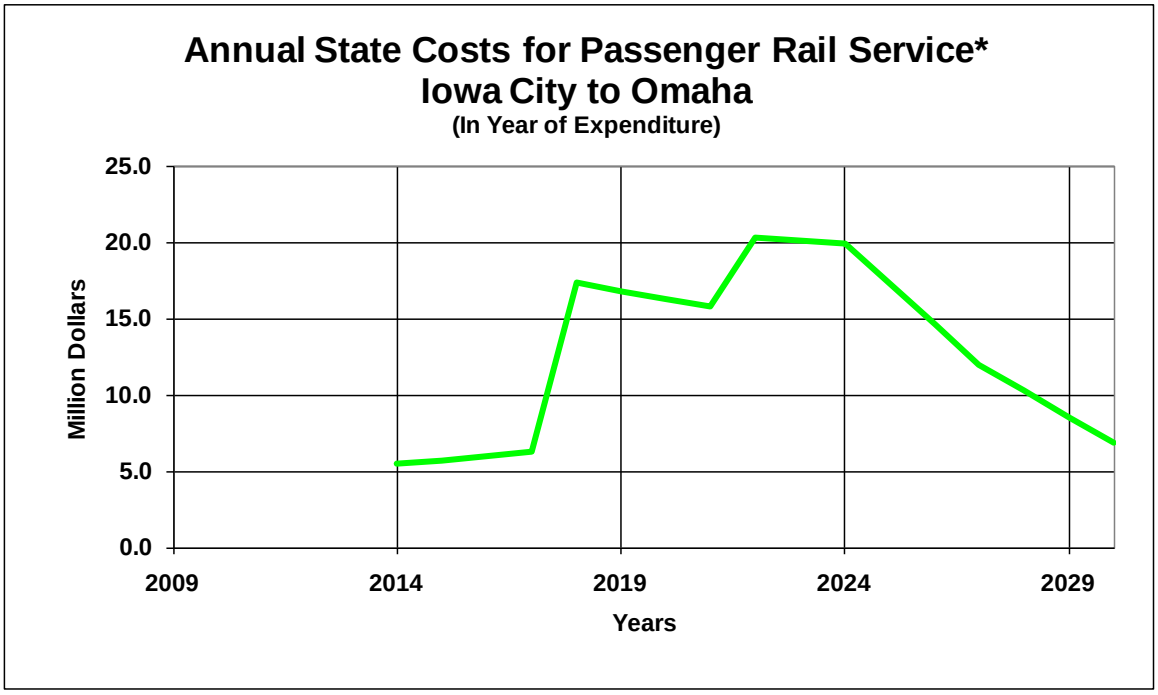
Project costs

The estimated capital and operating costs to implement service from the Iowa City to Omaha segment are summarized in the following table. The cost to upgrade the track to handle train speeds to 79 mph was estimated based on the Chicago to Iowa City HSIPR application. The track work would include rail replacement, tie replacement, surfacing, miscellaneous other track and bridge work, and crossing and siding improvements. Estimated equipment costs were based on two roundtrips per day from Iowa City to Omaha, requiring two train sets. In addition to the track work, there are a number of upfront expenses that would be incurred to initiate service on this route, including stations, support facilities, site work, communications, signaling, locomotives and passenger cars, and professional services (service development plans, service environmental work, preliminary engineering, and design). These capital costs are summarized in the following table. It is assumed that parties other than Amtrak will provide station facilities, including platforms, parking and waiting areas. Operating subsidy was also estimated from the Chicago to Iowa City Amtrak HSIPR application.

Capital and operating cost summary: Iowa City to Omaha segment
(In 2010 dollars)

	Total cost (in millions)	State share (percentage)	State costs (in millions)
Track improvements	$ 183.1	20	$ 36.6
Train control	$ 116.1	20	$ 23.2
Layover facility	$ 8.1	20	$ 1.6
Stations	$ 9.6	0	---
Equipment	$ 113.1	20	$ 22.6
Total capital	$ 430.0	20	$ 84.0
Operating subsidy	$ 16.1	100	$ 16.1

Assuming an 80 percent federal and 20 percent state match program, construction to implement service from Iowa City to Des Moines is estimated to begin in 2014; 2018 for the Des Moines to Omaha segment or sooner based on funding availability. Operation is estimated to begin in 2018 from Iowa City to Des Moines, and 2022 from Des Moines to Omaha. Iowa's share would be 20 percent of the capital costs for track improvements, layover facilities and mobilization costs, and 100 percent of the operating support for the portion of the track in Iowa. The station costs were assumed to be a local responsibility. In addition, operating revenues were assumed to equal operating costs 10 years after startup consistent with the MWRRI. As a result, Iowa's share would average $13.4 million per year (from $10.1 million in 2014 to as high as $21.5 million in 2022, to $3.1 million in 2030, assuming that costs would increase at a rate of 4.5 percent per year).

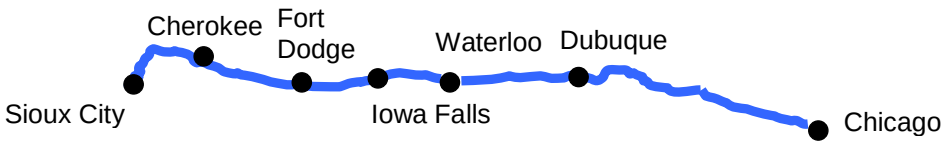


* Includes both capital and operating costs.

5. Chicago to Sioux City — Dubuque to Sioux City segment

Project description

This route would extend service to Sioux City, Iowa, from the Chicago to Dubuque proposed service. Information presented here is just for the Dubuque to Sioux City segment and does not include the Chicago to Dubuque information discussed earlier. The proposed route would use CN railroad. Mileage on this segment totals 330, with maximum authorized timetable speeds of 79 mph. The train would consist of one locomotive and one non-powered-control unit or a second locomotive and three coaches. In 2008, Iowa DOT requested Amtrak prepare a feasibility study regarding possible service between Dubuque and Waterloo. The feasibility study is not yet complete. No feasibility study has been requested for Waterloo to Sioux City.



Train service is based on two daily round-trip frequencies, with six additional stations in Iowa located at Waterloo, Iowa Falls, Fort Dodge, Cherokee, Sioux City, and Dubuque. A proposed route summary is shown in the following table.

Route summary: Dubuque to Sioux City segment

	Dubuque to Sioux City segment
Number of round trips	2
Route miles	330
Maximum timetable speed	79 mph

Project benefits
Implementation of passenger rail service can improve mobility, economic competitiveness, and community revitalization, and reduce fuel use and emissions. Passenger rail will improve access between Iowa and Illinois communities. This access supports existing industries, fosters growth on new business and expands the job base.

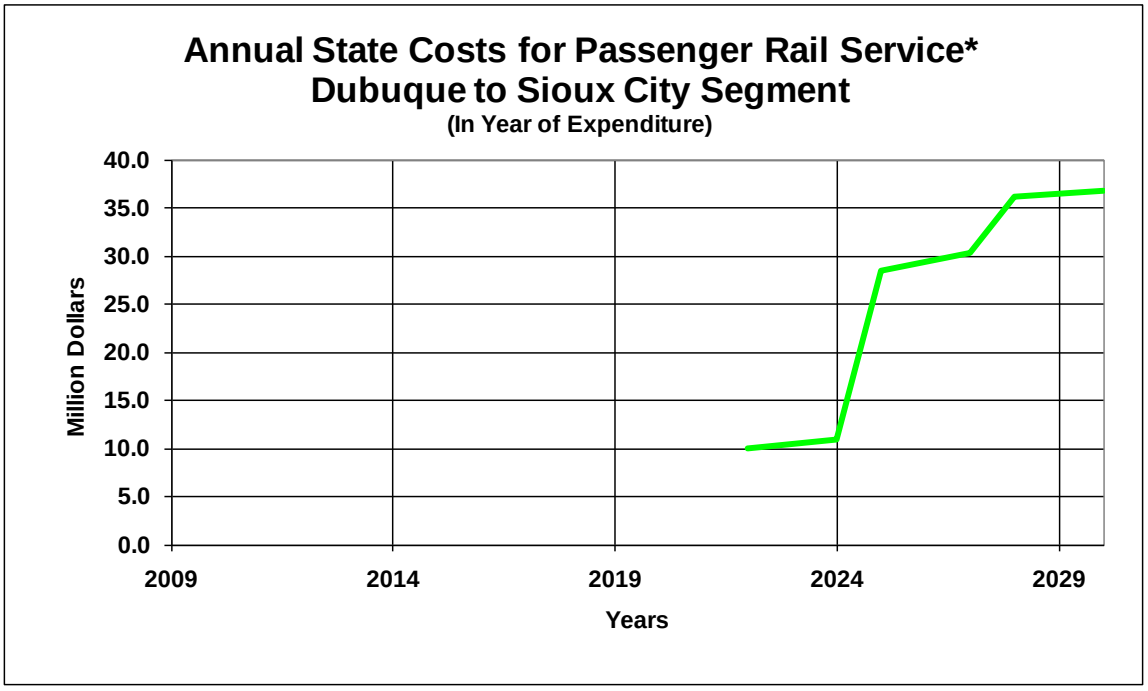
Service from Dubuque to Sioux City would provide a good alternative to auto and air travel that promotes potential environmental benefits, including reduced air pollutant emissions, less land use, and fewer habitat and water resource impacts compared to expanding existing highways and airports. No ridership estimates are available for this route.

Project costs
The estimated capital and operating costs to implement service from Dubuque to Sioux City are summarized in the following table. The cost to upgrade the track to handle train speeds to 79 mph was based on the Chicago to Iowa City HSIPR application. Track work would include rail replacement, tie replacement, surfacing, miscellaneous other track and bridge work, and crossing and siding improvements. In addition to the track work, there are a number of upfront expenses that would be incurred to initiate service on this route, including stations, support facilities, site work, communications, signaling, locomotives and passenger cars, and professional services (service development plans, service environmental work, preliminary engineering, and design). It is assumed that parties other than Amtrak will provide all station facilities, including platforms, parking and waiting areas. Estimated equipment costs were based on two roundtrips per day from Dubuque to Sioux City requiring two train sets. Operating subsidy was also estimated from the Chicago to Iowa City HSIPR application.

Capital and operating costs summary: Dubuque to Sioux City segment
(In 2010 dollars)

	Total cost (millions)	State share (percentage)	State costs (millions)
Track improvements	$ 236.0	20	$ 47.2
Train control	$ 80.7	20	$ 16.1
Layover facility	$ 8.1	20	$ 1.6
Stations	$ 16.0	0	---
Equipment	$ 113.1	20	$ 22.6
Total capital	$ 453.9	20	$ 87.5
Operating subsidy	$ 16.9	100	$ 16.9

Assuming an 80 percent federal and 20 percent state match program, construction to implement service is estimated to begin in 2022 from Dubuque to Waterloo, and in 2025 from Waterloo to Sioux City (or sooner based on available funds). Operation is estimated to begin in 2025 from Dubuque to Waterloo and in 2028 from Waterloo to Sioux City. Iowa's share would be 20 percent of the capital costs and 100 percent of the operating support. The station costs were assumed to be a local responsibility. As a result, Iowa's share would average $25.5 million per year (from $10.1 million in 2022 to $36.8 million in 2030) assuming that costs would increase at a rate of 4.5 percent per year.



* Includes both capital and operating costs.

6. Minneapolis to Kansas City via Des Moines

Project description

This route would extend passenger rail service from Minneapolis to Kansas City via Des Moines. The proposed route would use UP track. Mileage on this route totals 485 (230 in Iowa), with maximum authorized timetable speeds of 79 mph. The train would consist of one locomotive and one non-powered-control unit or a second locomotive and three coaches.

Train service is based on two daily round-trip frequencies with proposed Iowa stations located at Mason City, Iowa Falls and Des Moines. A proposed route summary is shown in the following table.

Route summary: Minneapolis to Kansas City via Des Moines

	Total Minneapolis to Kansas City via Des Moines route
Number of round trips	2
Total route miles	485
Iowa route miles	230
Maximum timetable speed	79 mph

Project benefits
Implementation of passenger rail service can improve mobility, economic competitiveness and community revitalization, and reduce fuel use and emissions. Passenger rail service will improve access between Iowa and Minnesota-Missouri communities. This access supports existing industries, fosters growth on new business and expands the job base.

Service from Minneapolis to Kansas City via Des Moines would provide a good alternative to auto and air travel that promotes potential environmental benefits, including reduced air pollutant emissions, less land use, and fewer habitat and water

resource impacts compared to expanding existing highways and airports. No ridership estimates are available for this route.

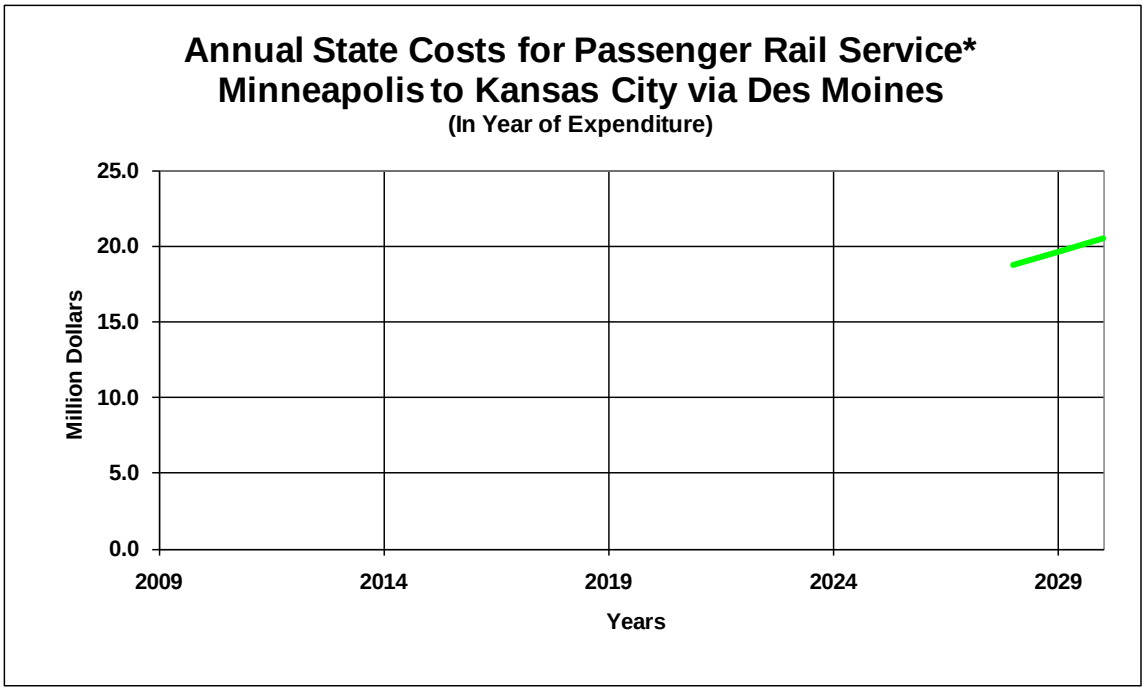
Project costs

The estimated capital and operating costs to implement service from Minneapolis to Kansas City via Des Moines are summarized in the following table. The cost to upgrade the track to handle train speeds to 79 mph was based on the Chicago to Iowa City HSIPR application. Track work would include rail replacement, tie replacement, surfacing, miscellaneous other track and bridge work, and crossing and siding improvements. In addition to the track work, there are a number of upfront expenses that would be incurred to initiate service on this route, including stations, support facilities, site work, communications, signaling, locomotives and passenger cars, and professional services (service development plans, service environmental work, preliminary engineering, and design). It is assumed that parties other than Amtrak would provide station facilities, including platforms, and parking and waiting areas. Estimated equipment costs were based on two roundtrips per day from Minneapolis to Kansas City via Des Moines, requiring two train sets. Operating subsidy was also estimated from the Chicago to Iowa City HSIPR application.

Capital and operating costs summary: Minneapolis to Kansas City via Des Moines
(In 2010 dollars)

	Total cost (millions)	State share (percentage)	State costs (millions)
Track improvements	$ 164.5	20	$ 32.9
Train control	$ 56.2	20	$ 11.2
Layover facility	$ 4.1	20	$ 0.8
Stations	$ 6.4	0	---
Equipment	$ 56.6	20	$ 11.3
Total capital	$ 287.8	20	$ 56.2
Operating subsidy	$ 4.4	100	$ 4.4

Assuming an 80 percent federal and 20 percent state match program, construction to implement service is estimated to begin in 2028, with operation beginning in 2031 or sooner depending on available funds. Iowa's share would be 20 percent of the capital costs and 100 percent of the operating support for the portion in Iowa. The station costs are assumed to be a local responsibility. As a result, Iowa's share would average $19.6 million per year (from $18.8 million in 2028 to $20.5 million in 2030, assuming that costs would increase at a rate of 4.5 percent per year).



* Includes both capital and operating costs.

7. Minneapolis to Kansas City via Omaha

Project description

This route would extend passenger rail service from Minneapolis to Kansas City via Omaha. The proposed route would use the BNSF. Mileage on this route totals 674 (79 in Iowa) with maximum authorized timetable speeds of 79 mph. The train would consist of one locomotive and one non-powered-control unit or a second locomotive and three coaches.

Train service is based on two daily roundtrips with proposed Iowa stations located in Omaha and Sioux City. A proposed route summary is shown in the following table.

Route summary: Minneapolis to Kansas City via Omaha

	Total Minneapolis to Kansas City via Des Moines route
Number of round trips	2
Total route miles	674
Iowa route miles	79
Maximum timetable speed	79 mph

Project benefits
Implementation of passenger rail service can improve mobility, economic competitiveness and community revitalization, and reduce fuel use and emissions. Passenger rail service will improve access between Iowa, Missouri and Nebraska communities. This access supports existing industries, fosters growth of new business and expands the job base.

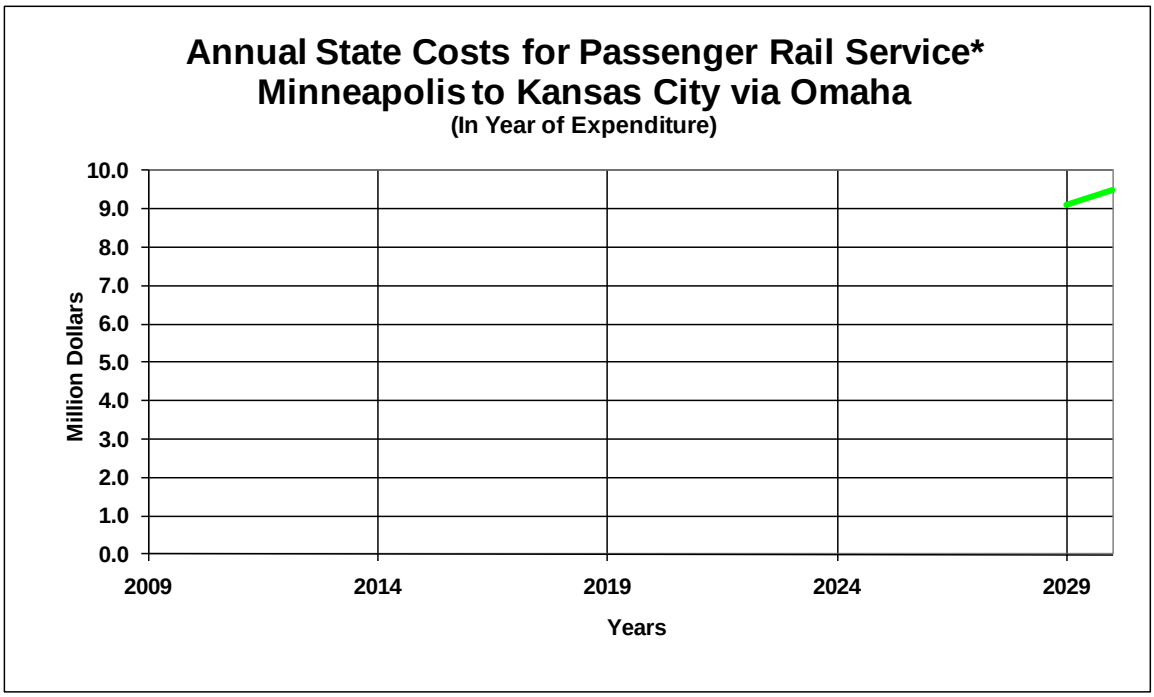
Service from Minneapolis to Kansas City via Omaha would provide a good alternative to auto and air travel that promotes potential environmental benefits, including reduced air pollutant emissions, less land use, and fewer habitat and water resource impacts compared to expanding existing highways and airports. No ridership estimates are available for this route.

Project costs
The estimated capital and operating costs to implement service from Minneapolis to Kansas City via Omaha are summarized in the following table. The cost to upgrade the track to handle train speeds to 79 mph was based on the Chicago to Iowa City HSIPR application. Track work would include rail replacement, tie replacement, surfacing, miscellaneous other track and bridge work, and crossing and siding improvements. In addition to the track work, there are a number of upfront expenses that would be incurred to initiate service on this route, including stations, support facilities, site work, communications, signaling, locomotives and passenger cars, and professional services (service development plans, service environmental work, preliminary engineering, and design). It is assumed that parties other than Amtrak would provide station facilities, including platforms, and parking and waiting areas. Estimated equipment costs were based on two roundtrips per day from Minneapolis to Kansas City via Omaha, requiring two train sets. Operating subsidy was also estimated from the Chicago to Iowa City HSIPR application.

Capital and operating costs summary: Minneapolis to Kansas City via Omaha
(In 2010 dollars)

	Total cost (in millions)	State share (percentage)	State costs (in millions)
Track improvements	$ 56.5	20	$ 11.3
Train control	$ 19.3	20	$ 3.9
Layover facility	$ 4.1	20	$ 0.8
Stations	---	0	---
Equipment	$ 56.6	20	$ 11.3
Total capital	$ 136.5	20	$ 27.3
Operating subsidy	$ 4.1	100	$ 4.1

Assuming an 80 percent federal and a 20 percent state match program, construction to implement service is estimated to begin in 2029, with operation beginning in 2032 or sooner, depending on available funds. Iowa's share would be 20 percent of the capital costs and 100 percent of the operating support for the portion in Iowa. The station costs were assumed to be a local responsibility. As a result, Iowa's share would equal $9.1 million in 2029 and $9.5 million in 2030, assuming that costs would increase at a rate of 4.5 percent per year.



* Includes both capital and operating costs.

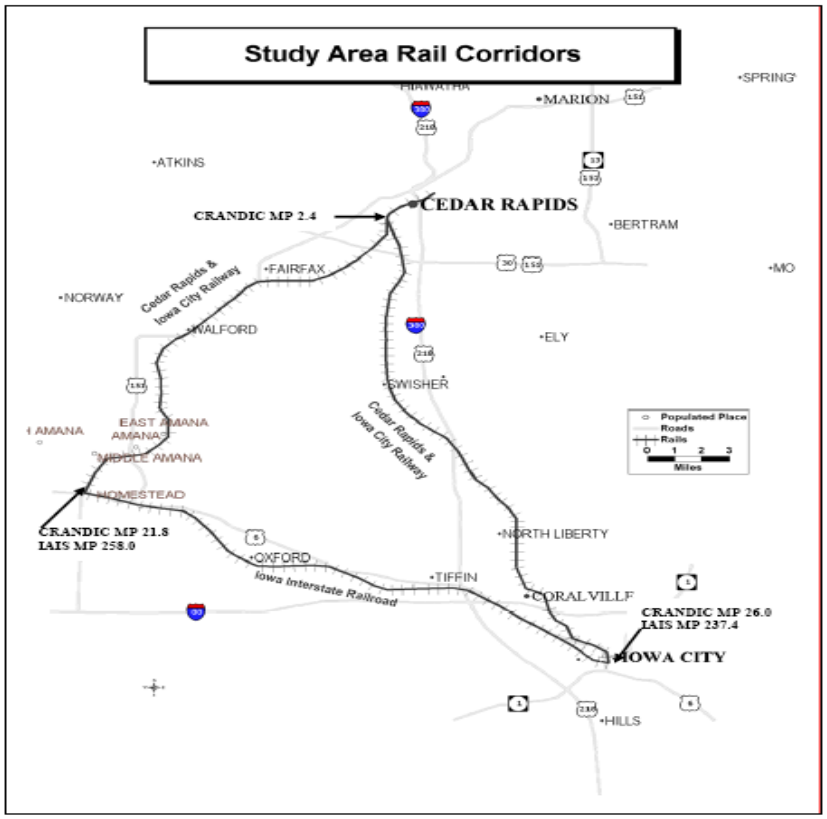
Commuter routes

Currently, no commuter rail passenger service is operating in Iowa. In 2006, Five Seasons Transportation & Parking in Cedar Rapids and the Johnson County Council of Governments for the Cedar Rapids, Iowa City and Amana area commissioned a commuter rail passenger study. In 2000, a commuter rail study was completed for the Des Moines metropolitan area. The results of these studies are summarized below. The state's role for commuter passenger rail service would be similar to its role for intercity passenger rail service. The state would participate in the capital and operating costs, but not in the stations, which are deemed to be a local responsibility.

1. Cedar Rapids, Iowa City and Amana Colonies area

Project description

The purpose of the Cedar-Iowa River Rail Transit Project Feasibility Study was to determine the feasibility of establishing regularly scheduled commuter rail service and/or special event excursion rail service in the Cedar Rapids and Iowa City area. The study examined three, distinct, existing rail line corridors connecting Cedar Rapids, Iowa City and the Amana Colonies as shown in the following map.



Source: Cedar-Iowa River Rail Transit Project Feasibility Study

Description of corridors: Cedar Rapids, Iowa City and Amana Colonies

Corridor	Railroad	Miles	Existing maximum operating Speed	Freight Service
Cedar Rapids – Iowa City/Hills	CIC	33.2	20 mph	Twice weekly
Iowa City – Amana Colonies	IAIS	21.1	25 mph	Daily
Amana Colonies – Cedar Rapids	CIC*	21.8	20 mph	Not available

CIC = Cedar Rapids and Iowa City Railway Co.
IAIS = Iowa Interstate Railroad Ltd.
* IAIS also operates over this corridor
Source: Cedar-Iowa River Rail Transit Project Feasibility Study

Project benefits
After an initial examination of all three rail routes, three potential services were selected for detailed evaluation, including:

- Special event, excursion service.
- Daily commuter services between The Eastern Iowa Airport and Iowa City, with a bus connection to downtown Cedar Rapids.
- Daily commuter services between North Liberty and Iowa City.

The special event excursion service could be tied to area sports, entertainment and cultural events, or focus on the rail trip itself as entertainment. Daily commuter service would target people making regular trips to work, school, shopping or entertainment. These services would provide an alternative to the automobile and help create some transit-dependent development along the corridor between Cedar Rapids and Iowa City.

Commuter and special event excursion service would provide a good alternative to auto travel that promotes potential environmental benefits, including reduced air pollutant emissions, less land use, and fewer habitats and water resource impacts compared to expanding existing highways. Passenger rail service is expected to carry 9,400 rides by 2030, taking 200,000 passenger miles off the roadway system. This would equate to 6,800 cars removed from the road system, 1,330 fewer gallons of fuel consumed and six fewer tons of greenhouse gases emitted per year.

Project costs
Characteristics of the excursion and regular service options are summarized in the following table.

Annual operating costs: Cedar Rapids, Iowa City and Amana Colonies
(In 2006 dollars)

Service	Year	Ridership	Annual operating costs	Operating cost per passenger
Special event excursion service	2006	Up to 6,046	$ 25,000	$ 4.13
Vintage excursion service	2006	Up to 75	$ 20,000	$ 266.67
The Eastern Iowa Airport – Iowa City commuter service	2006	837	$ 5,014,000	$ 5,990.44
	2030	1,991	$ 11,960,000	$ 6,007.03
North Liberty – Iowa City commuter service	2006	742	$ 4,078,000	$ 5,495.96
	2030	1,336	$ 6,797,000	$ 5,087.57

Source: Cedar-Iowa River Rail Transit Project Feasibility Study

Track infrastructure improvements are recommended to coincide with various service plans, matching improvements with train frequencies and operating speeds. Infrastructure improvements include upgrades to the track structure, construction of stations, parking lots and layover tracks. These track improvements would enable reliable and comfortable rail passenger services to be provided. The costs are summarized in the following table.

Capital costs: Cedar Rapids, Iowa City and Amana Colonies
(In 2006 dollars)

Service	Year	Track and bridges	Equipment	Stations and layover facilities	Total cost
Special event excursion service	2006	$25,000	$3,000	$15,000	$43,000
Vintage excursion service	2006	$25,000	$400,000	$15,000	$440,000
Eastern Iowa Airport – Iowa City commuter service	2006	$4,107,000	$4,500,000	$12,800,000	$21,407,000
	2030**	$14,981,000	$7,500,000	$12,800,000	$35,281,000
North Liberty – Iowa City commuter service	2006	$1,448,000	$8,400,000	$8,800,000	$18,648,000
	2030**	$6,615,000	$12,600,000	$8,800,000	$28,015,000

* Does not include rail replacement on the Hills line.
** Similar to 2006 except that all rail weighing less than 112 pounds per yard is replaced.
Source: Cedar-Iowa River Rail Transit Project Feasibility Study

Findings of the study indicated that the excursion service, either special event or regularly scheduled tours, is an option that is feasible to pursue immediately. The regular commuter service options are more expensive and the timing of implementation must be decided by the communities as demand grows and funding becomes available. Final recommendations from the study included the following.

- **Feasible today:** special event excursions and vintage excursions
- **Feasible in three to five years:** commuter service from North Liberty to Iowa City
- **Feasible in six to 12 years:** commuter service from The Eastern Iowa Airport to Iowa City

The operating and capital costs for the commuter service are summarized in the following table.

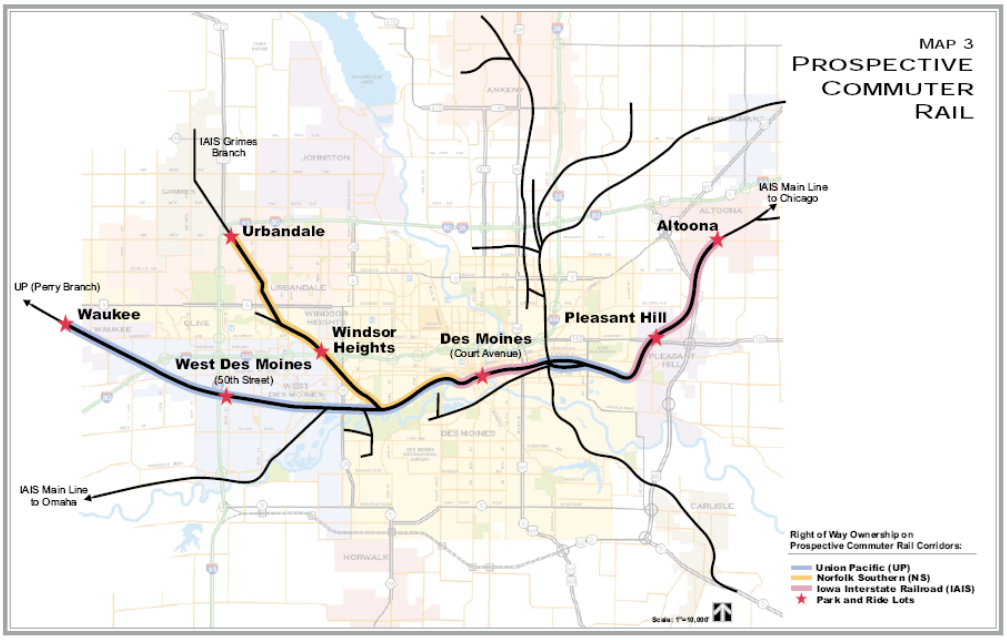
Capital and operating costs summary:
Cedar Rapids, Iowa City and Amana Colonies commuter rail

	Total cost (in millions)	State share (percentage)	State costs (in millions)
Track upgrades	$ 1.4	33	$ 0.5
Equipment	$ 8.4	33	$ 2.8
Stations	$ 8.8	0	---
Total capital	$18.6		$ 3.3
Operating subsidy	$ 6.8	33	$ 2.3

2. Des Moines area commuter service

Project description

The purpose of the Commuter Rail Feasibility Study for the Des Moines Metropolitan Area was to determine the feasibility of establishing regularly scheduled commuter rail service in the area. The study was completed in June 2000, and examined a number of rail corridors as shown in the following map.



Source: Commuter Rail Feasibility Study for the Des Moines Metropolitan Area

System characteristics

- 25-mile system running from Waukee and Urbandale to Des Moines and Altoona
- Initiate a downtown shuttle bus service
- 45-minute headways
- Operate 6-9 a.m. and 3-6 p.m.
- Five train sets each containing a locomotive and two coach cars
- Seven stations needed
- Contract out rolling stock maintenance

Project benefits
The benefits for a commuter rail system in the Des Moines area included the following.

- A low-cost commuter rail system
- Short-term relief to the 2001-2006 reconstruction of I-235 attracting enough riders to alleviate traffic congestion
- Provide a long-term effective travel alternative by reducing freeway vehicle miles of travel by 10 percent
- Operational by 2003
- Use conventional locomotive and passenger car technologies
- Provide service during morning and afternoon peak periods.

Based on these characteristics and the metro travel demand model, the study estimated 1,299 passengers in 2005 and 2,014 passengers in 2025. These ridership levels would have provided only minimal traffic congestion mitigation during I-235 reconstruction.

Commuter service would provide a good alternative to auto travel that promotes potential environmental benefits, including reduced air pollutant emissions, less land use, and fewer habitats and water resource impacts compared to expanding existing highways. Passenger rail service is expected to carry 2,014 rides by 2025, taking 14,000 passenger miles off the roadway system. This would equate to 1,680 cars removed from the road system, 92 fewer gallons of fuel consumed and 1 fewer ton of greenhouse gases emitted per year.

Project costs
The capital costs to implement the commuter rail was estimated at $63.2 million, including track upgrades, purchase of rolling stock, feeder buses, stations, and park-n-ride lots. These costs are shown in the following table.

Capital costs: Des Moines Metro Area

Category	Costs (in millions)
Track upgrades	$ 41.5
Purchase rolling stock	$ 18.0
Feeder buses	$ 2.6
Stations and park/ride lots	$ 1.1
Total	$ 63.2

Source: Commuter Rail Feasibility Study for the Des Moines Metropolitan Area

The financial analysis is shown in the following table. The revenue and cost estimates are based on experience from other operating commuter rail systems. A fare of $2 per trip was used, which resulted in the fare box revenues covering 7 percent of operating costs.

Operating cost summary: Des Moines Area for 2005

Category	Costs (in millions)
Revenues	$ 0.53
Operating costs	$ 7.49
Operating deficit	$ 6.96

Source: Commuter Rail Feasibility Study for the Des Moines Metropolitan Area

The study concluded that commuter rail for Des Moines is technically feasible, but it was not economically feasible. It would not achieve the goal of reducing vehicle miles traveled by 10 percent.

Capital and operating cost summary: Des Moines commuter rail

Category	Total cost (in millions)	State share (percentage)	State costs (in millions)
Track upgrades	$ 41.5	33	$ 13.7
Rolling stock	$ 18	33	$ 5.9
Feeder buses	$ 2.6	33	$ 0.8
Stations	$ 1.1	0	---
Total capital	$ 63.2		$ 20.4
Operating subsidy	$ 6.9	33	$ 2.3

Rail investment costs

Implementation of an effective, productive Iowa rail system will require strategic investments in track upgrades, spur tracks, passenger equipment, stations, and operations. A summary of the investment costs for Iowa are shown below for 2009 to 2030 in future year dollars. Future year's dollars are dollars based on the year in which the investment expenditure is to be made.

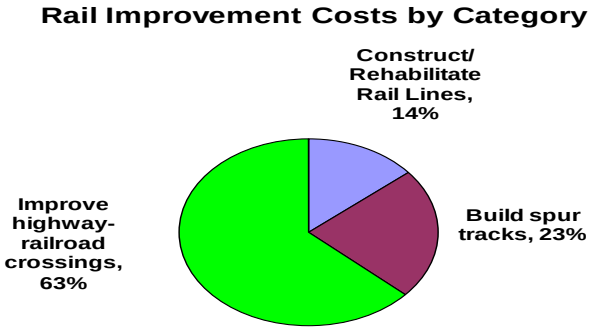
Rail freight

The total cost to implement rail freight investment actions outlined in this plan would average $65.4 million per year from 2009 to 2030. Iowa's share would be $26.5 million per year. Private railroads operating in Iowa invest $435 million annually to maintain and improve the rail lines in the state.

Average annual rail costs
(Future dollars in millions)

Type	Total costs (in millions)	State costs (in millions)
Construct/Rehabilitate rail lines	$ 11.2	$ 3.7
Build spur tracks	$ 18.0	$ 6.0
Improve highway-rail crossings	$ 36.2	$ 16.8
Total	$ 65.4	$ 26.5

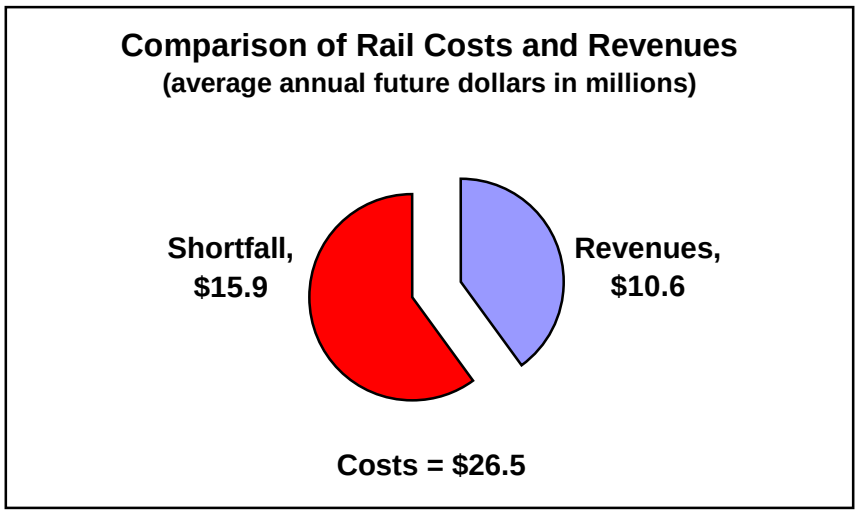
The majority of the $26.5 million per year state share is highway-rail crossing improvements at 63 percent, with spur track construction at 23 percent and track upgrades at 14 percent.



During the 2009 session, the Iowa Legislature appropriated $1.5 million for 2010, $2 million for 2011 and $2 million for 2012 to the RRLGP. For 2013, it was assumed that the RRLGP would be funded at $3 million. The $3 million would increase each year from 2014 to 2030 to keep up with inflation. On average, there is $10.6 million per year in state and federal funding for rail freight service in Iowa. The Railroad Revolving Loan and Grant Program Fund used to upgrade rail lines and build spur tracks accounts for a majority of this funding at $10.6 million per year.

Average annual freight rail revenues
(Future dollars in millions)

Source	Iowa DOT revenues (in millions)
Railroad Revolving Loan and Grant Program Fund	$ 4.0
Railway-Highway Grade Crossing Safety Fund (federal-aid)	$ 4.2
Highway-Railroad Grade Crossing Surface Repair Fund (state funded)	$ 2.4
Total	$ 10.6

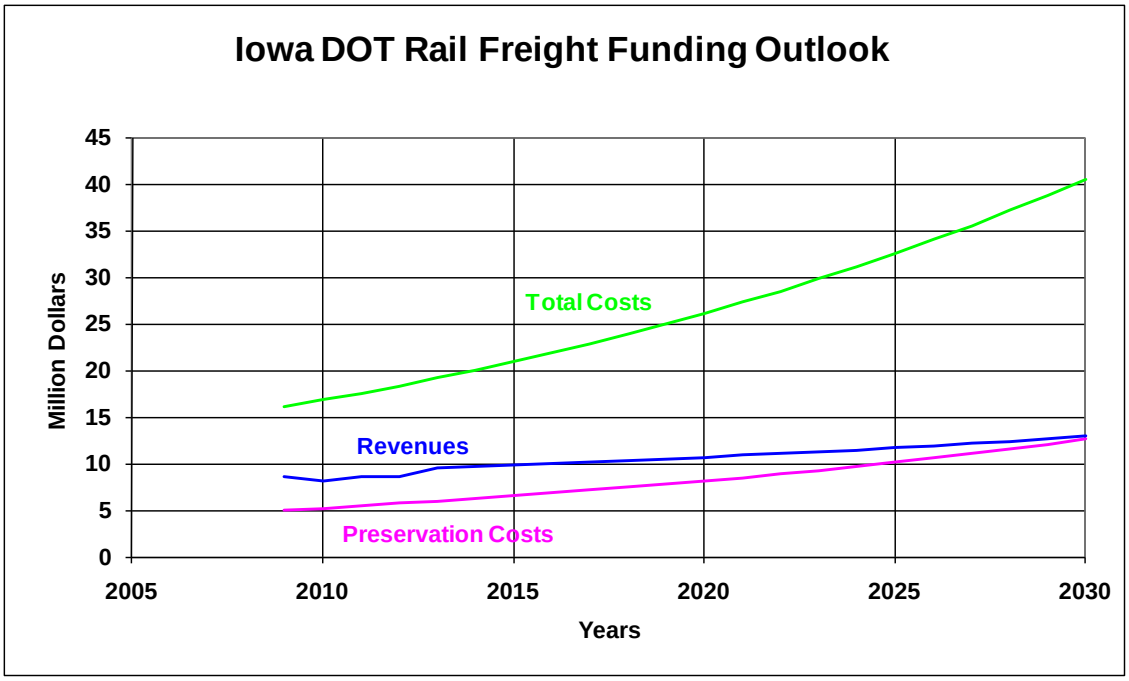


Implications of the shortfall include:

- Branch lines will not be upgraded to handle the larger cars.
- Spur tracks to new industries generating jobs will not be built.
- Highway-rail crossings will not be improved.

The following chart shows the estimated investment-cost-per-year compared to the estimated revenues. Preservation costs include passive sign replacement and surface repair projects at highway-rail crossings.

- Rail freight revenues are adequate to cover the preservation costs through 2030.
- Some rail freight revenue is available to cover the construction/expansion costs.
- By 2030, little money will be available for construction/expansion.



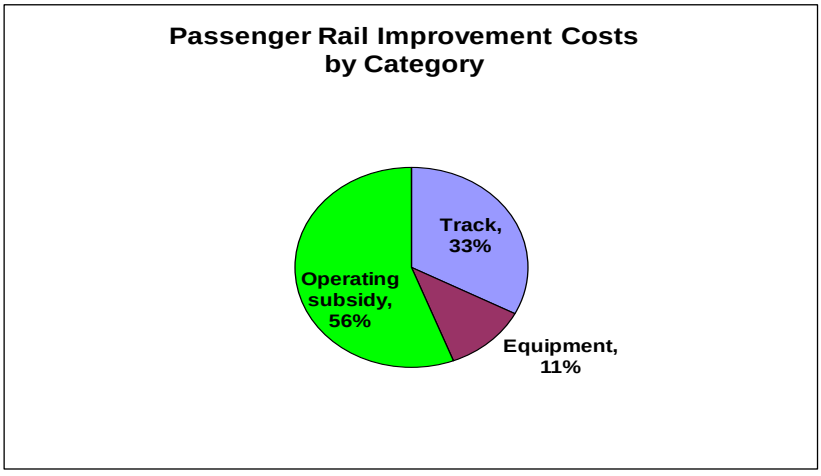
Passenger rail

The total cost to implement passenger rail service on these routes would average $53.3 million per year from 2009 to 2030. Iowa's share would be $22.9 million per year.

Average annual passenger rail costs
(Future dollars)

	Type	Total costs (in millions)	State costs (in millions)
Chicago-Dubuque	Track	---	---
	Equipment	---	---
	Operating support	$ 0.44	$ 0.44
	Subtotal	$ 0.44	$ 0.44
Chicago-Iowa City	Track	---	---
	Equipment	---	---
	Operating support	$ 1.93	$ 1.93
	Subtotal	$ 1.93	$ 1.93
Chicago-Omaha Iowa City to Omaha segment	Track	$ 14.95	$ 2.99
	Equipment	$ 5.50	$ 1.10
	Operating support	$ 6.28	$ 6.28
	Subtotal	$ 26.73	$ 10.37
Chicago-Sioux City Dubuque to Sioux City segment	Track	$ 15.45	$ 3.09
	Equipment	$ 5.40	$ 1.08
	Operating support	$ 6.25	$ 6.25
	Subtotal	$ 27.10	$ 10.42
Minneapolis-Kansas City via Des Moines	Track	$ 10.65	$ 2.13
	Equipment	$ 2.70	$ 0.54
	Operating support	---	---
	Subtotal	$ 13.35	$ 2.67
Minneapolis-Kansas City via Omaha	Track	$ 2.50	$ 0.50
	Equipment	$ 1.75	$ 0.35
	Operating Support	---	---
	Subtotal	$ 4.25	$ 0.85
Total		$ 73.80	$ 26.68

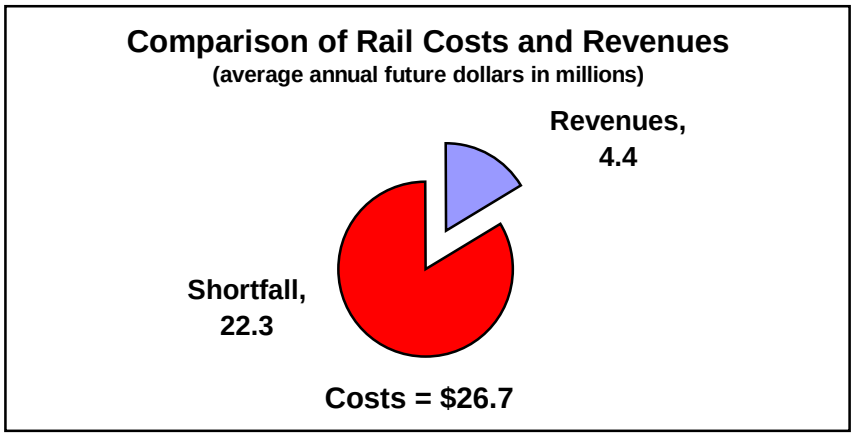
The majority of the $26.7 million per year state share is operating support at 66 percent and track upgrades at 28 percent.



During the 2009 session, the Iowa Legislature appropriated $3 million for 2010 and $3 million for 2011 to the Iowa Passenger Rail Fund. It was assumed that the fund would keep up with inflation from 2012 to 2030. On average, there is $4.4 million of state funding for passenger rail service in Iowa. A new federal authorization bill creates a program that allows states to apply for 80 percent federal funding for capital expenditures to encourage the expansion of intercity passenger rail. State funds to make up the 20 percent match must be available to apply to the competitive grant program. State dollars will be needed to make up the difference between ticket revenues and operating costs, and local funding will be needed for station improvements.

Average annual passenger rail revenues
(Future dollars)

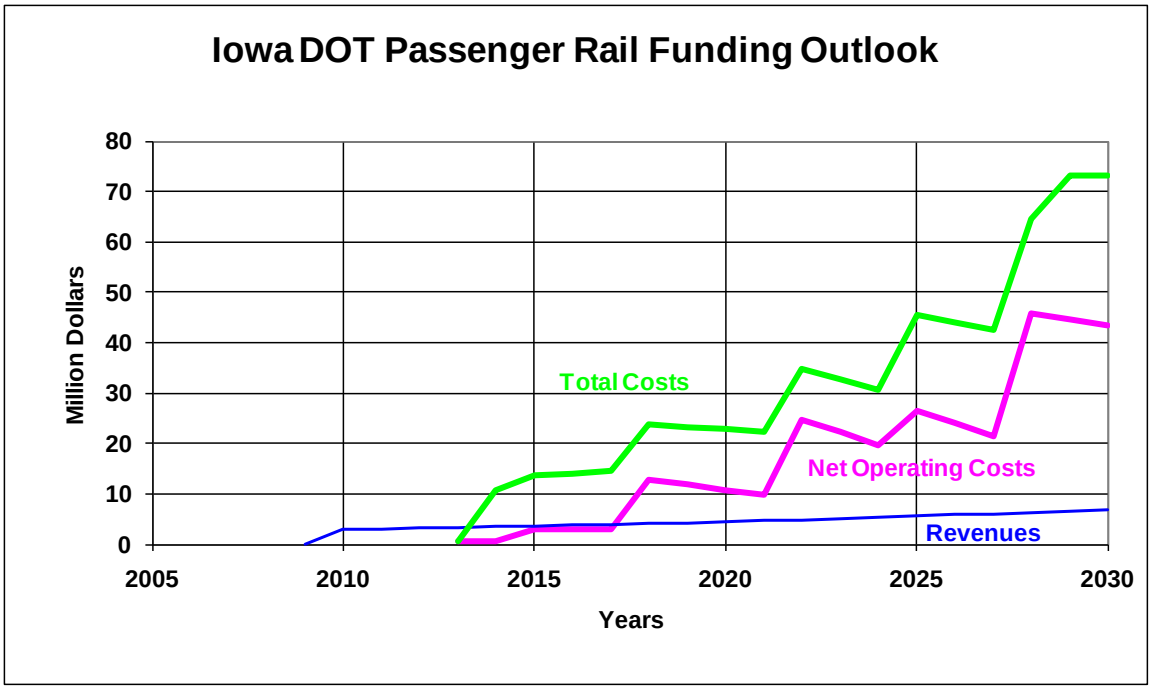
Source	State revenues (in millions)
Iowa Passenger Rail Fund	$ 4.4



Implications of the shortfall include:

- Very little passenger rail service in Iowa will be initiated.
- The future passenger rail system as envisioned would not be completed.
- Commuter rail service will not be financially supported by the state.

The following chart shows the estimated investment cost per year. While the operating investment ramps up over time, the capital requirements to upgrade the track and equipment comes in several intervals between 2009 to 2013 and 2016 to 2018.



- Passenger rail revenues are adequate to cover the capital and operational cost in 2013.
- From 2013 to 2017, revenues are adequate to cover the operational costs, but not for any additional capital costs.
- By 2018, the revenue will not cover all the operational costs; no money will be available for construction/expansion.

Performance measures for Iowa's railroad system

Having performance measures is important for determining whether goals are being met and assessing whether progress is being made. The following performance measures are intended to measure progress being made regarding railroad system safety, rail efficiency and impacts of railroad operations on the quality of life of the citizens of Iowa. More details on these performance measures are provided in Appendix E.

Iowa's rail freight system

Total crashes at highway-rail crossings (safety): The total number of crashes at highway-rail crossings is a measure of safety calculated by summing all crashes that occur where roadways cross railroad tracks in Iowa.

Railroad derailments per one million ton-miles (safety): The number of train derailments per million ton-miles is a primary measure of the safety of Iowa railroad lines. This measure indicates the number of derailments in moving one ton of freight one million miles. A derailment is defined as one or more cars or locomotives leave the tracks for a reason other than a collision, explosion or similar event.

Railroad return on investment (efficiency): The percentage of Iowa rail carriers earning a reasonable return on investment is a measure of efficiency. A higher return on investment means that the more money a railroad company puts into its business it can expect greater profits. One measure of reasonable return on investment is whether the railroad company is meeting its cost of capital. This figure describes how much money (as a percentage) the company needs to make to maintain its physical capital.

Average rail revenue per ton-mile (efficiency): Average rail revenue per ton-mile is a measure of efficiency that is calculated by dividing the total revenue by the number of ton-miles in Iowa. A ton-mile measures one ton of freight traveling one track-mile.

Rail fuel use per ton-mile (efficiency): A ton-mile measures one ton of freight traveling one mile on railroad track. Rail fuel use per ton-mile, a measure of fuel efficiency, is the number of gallons of fuel it takes to move one ton of freight one mile.

Percent of track-miles able to handle 286,000-pound cars (efficiency and quality of life): The percent of track-miles able to handle 286,000-pound cars measures efficiency. This measure is calculated by comparing the track-miles that can carry this weight to those that cannot.

Percent of track-miles able to operate at least 40 mph (efficiency and quality of life): The percentage of track-miles able to operate at 40 mph or more is a measure of speed for freight movement throughout Iowa. This measure compares track-miles that can operate at this speed and those that cannot.

Iowa's passenger rail system

Total accident/incidents relating to passenger rail service in Iowa (safety): The total number of train accidents and highway-rail incidents at highway-rail crossings is a measure of safety calculated by summing all accidents/incidents relating to passenger rail operations in Iowa.

Cost per passenger mile (efficiency): Average rail cost per passenger mile is a measure of efficiency that is calculated by dividing the total cost by the number of passenger miles for the specific passenger rail route.

Passenger rail revenue and cost-per-passenger (efficiency): Average passenger rail revenue and cost-per-passenger is a measure of efficiency that is calculated by dividing the total revenue and cost by the number of passengers for the specific passenger rail route.

Passenger rail ridership in Iowa (quality of life): The amount of passenger rail ridership is a measure of quality of life calculated by summing the ridership at all passenger stations served in Iowa.

Population served by passenger rail stations (quality of life): The population served by passenger rail stations is a measure of quality of life calculated by summing the city population at all passenger stations served in Iowa.

Passenger rail miles per gallon (quality of life): A passenger-mile measures one rider traveling one mile on railroad track. Rail fuel use per passenger-mile, a measure of fuel efficiency, is the number of gallons of fuel it takes to move one passenger one mile.