Iowa DOT 10 Year Strategic Passenger Rail Plan

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Iowa Department of
Transportation

8/4/2010

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Chapter 1 – Iowa's Passenger Rail Vision

Iowa has a well-established foundation and progressive stance in the arena of rail transportation planning and a unique value structure for decision-making within the state. A component of that value structure is the state's vision to create 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. To that end, the Iowa Department of Transportation has undertaken the development of a 10 Year Strategic Passenger Rail Plan to provide a means to proceed with the next logical step in fulfilling Iowa's passenger rail vision.

The Plan will lead to developing and constructing specific routes in an incremental manner, resulting in a long-term commitment and expansion of passenger rail services for Iowans and for those traveling to the state. Potential rail corridors have been identified and studied to determine feasibility, and priorities have been made based on immediate public need and benefit and the perceived availability of funding through 2030.

The purpose of the Strategic Plan is to:

- Identify passenger rail corridor priorities for the next 10 years
- Estimate relative costs for implementation and operation of alternative and potential passenger rail corridors
- Identify state funding required to implement the Plan
- Document Iowa's planning process, including the involvement of advisory groups such as the Passenger Rail Advisory Committee

Challenges and Opportunities Pave Way for Passenger Rail

As is the case with many other states, Iowa is facing unprecedented challenges and opportunities resulting from fundamental changes in environment, economy, and society. Iowa has undergone numerous alterations in the last 25 years, some of which include: shifts in rural-to-urban population and demographics, changes in traditional employment sectors, a surge in personal travel, expanded global economy, increasing construction and maintenance costs, rising fuel prices, climate change awareness, and increased freight volumes. The state more than ever needs to take steps to improve the quality of life for all Iowans; promote sustainability and community; gain energy independence; reverse global climate change; and remain robust and competitive in national and international markets. Passenger rail service has been identified as one means of meeting these goals.

Trends indicate that Iowa's population is enduring major changes. Projections indicate that the state's population will increase from 2.99 million in 2007 to 3.3 million in 2030. And the state's population is slowly urbanizing, as more Iowans work and live in one of the state's nine metropolitan areas: Ames, Cedar Rapids, Council Bluffs, Davenport, Des Moines, Dubuque, Iowa City, Sioux City, and Waterloo. Iowa's metropolitan population overtook its non-metropolitan population during

2003 and is expected to account for nearly 60 percent of the state's total population by 2030. At present, only the Council Bluffs metropolitan area has access to passenger rail service, and that is across the Missouri River in Omaha.

Iowa's proportionately higher older population has specific transportation needs that differ from other age groups. The number of Iowans age 65 and older has experienced constant growth since 1940 and is expected to reach an all-time high as the Baby Boomer generation ages. The state also attracts retired persons who return or relocate to Iowa for medical and family reasons in their later years. Their ability to travel, their established and stable income, and their nostalgia for trains is expected to stimulate passenger rail use.

The state's minority population has more than quadrupled over the last 37 years, and accounted for 9.4 percent of the population in 2007. Minorities – which are expected to account for 16.6 percent of the population in 2030 –tend to have lower household incomes and more households without a vehicle than the average Iowa household. It is anticipated that this population will make broad use of expanded passenger rail service in the state.

Farming and manufacturing have been traditional employment sectors in Iowa, but by 2030, the number of farm jobs will decrease, manufacturing jobs will remain stable, and jobs in all other areas – such as the service sector where growth added about 446,000 jobs between 1970 and 2007 – will increase. Job related travel between and within the state's nine metropolitan areas is expected to increase exponentially.

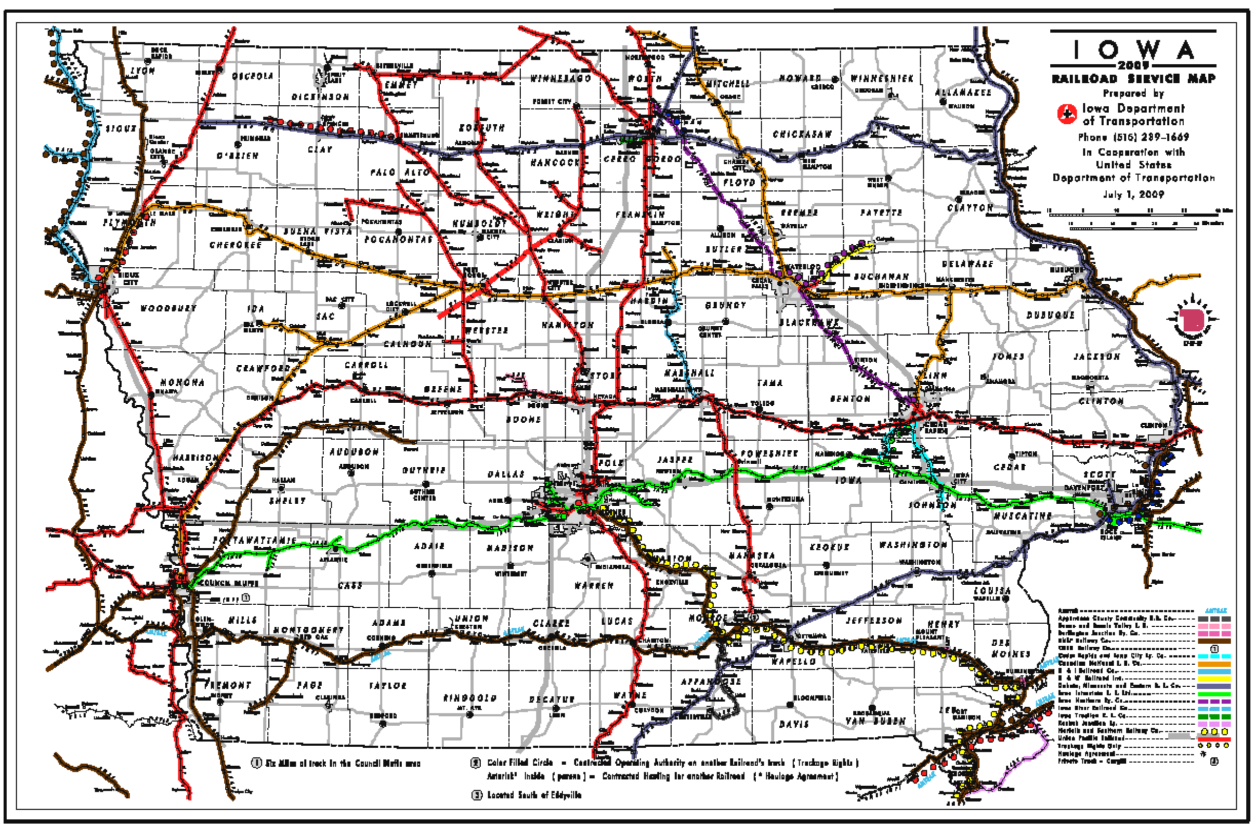
Ease and safe mobility for Iowans and visitors to the state is essential for stable growth in the economy. With soaring gas prices influencing consumer travel plans, shorter, domestic trips are likely to continue to dominate travel destinations. Governments and policymakers worldwide have long touted passenger rail as a cost-effective, long-term alternative to expenditures for building and maintaining highways and airports, particularly in regions facing stagnant or diminished tax revenues and sensitive environmental conditions. Passenger rail has the effect of raising property values for communities.

Iowa has been a transportation crossroads for over a century, and not surprisingly, greenhouse gas emissions from the state's highway, railroad, air, and marine transportation are correspondingly high; such activities account for 18 percent of the state's total emissions. In fact, Iowa's per capita greenhouse gas emissions are 40 percent higher than the Midwest regional per capita emissions and nearly 60 percent higher than the national average. Over 31 billion vehicle-miles of travel occurred, 87 percent of which was by cars, pick-up trucks, and vans, and more than 3.2 million people used commercial service airports in Iowa in 2006. A portion of this travel could have been taken away from the state's roadways and airports – which are costly to build and maintenance intensive – and been accommodated with expanded passenger rail services.

Passenger rail service has long been viewed as a viable and desirable means of limiting the increase of greenhouse gas emissions. Amtrak consumed 18 percent less energy per passenger mile than did airlines and 17 percent less than did automobiles in 2003, according to figures from Cooler Corridors. In Iowa, as is the case elsewhere in the U.S., Amtrak operations are often hosted by freight railroads.

Freight railroads are a major player in Iowa's transportation and economic mix, and because their infrastructure will be used to support enhanced passenger rail in the state, they must be considered and consulted in any plan involving growth of services to passengers. Rail accounts for only 3 percent of the state's 130,000-mile freight system, but carries 43 percent of Iowa's freight, according to 2001 Reebie Data. There are fewer miles of freight railroad line than a generation ago, but those that remain are carrying more freight than ever before. Between 1985 and 2008 the tons of rail freight originating in Iowa increased by 150 percent, the tons of rail freight terminating in Iowa increased by 106 percent, and the tons of rail traveling through the state has increased by 211 percent, despite a net loss of about 735 miles of track since 1985. Despite the fact that freight railroads are the most capital-intensive industry in the U.S., requiring $2.50 of capital to generate $1 dollar of revenue, railroads in Iowa spent an estimated $178 million on maintenance and $213 million on upgrades aimed at providing additional capacity and making operations more efficient. Any expansion of passenger service would have to be executed in such a manner that it would not adversely affect existing and projected freight railroad activity in the state.

Figure 1 – Iowa Railroad Service Map, 2009



Railroads have been critical to Iowa's development and success since statehood and they will continue to play an enormous role in its future direction and long-term health. As can be seen in Figure 1 above, the state is fortunate to have a network of rail lines directly connecting its largest population centers with major metropolitan areas in adjacent states, including Chicago, Omaha, Minneapolis, and Kansas City. Iowa is poised to be an innovative leader by taking advantage of recent public and political interest in high speed rail and by partnering with freight railroads to expand intrastate and interstate passenger service.

Two existing Amtrak routes originating in Chicago cross the southern third of the state and provide service geared toward the long distance traveler venturing beyond Iowa. The brand and frequency of service on each corridor is insufficient to meet the growing demand for passenger rail service in the region and their very location does not meet the need for a custom-tailored intrastate network that connects Iowa's largest population centers, the preponderance of which are clustered in the central and northern tiers of the state.

Iowa's Plan will identify passenger rail service in certain corridors where demand, supply, needs, and values are not being adequately met, and the compatibility of these corridors with the Midwest Regional Rail System, a hub-and-spoke network ultimately designed to connect Chicago with cities throughout the Midwest.

Creation of alternative transportation in Iowa – namely a comprehensive, efficient, cost-effective, all-weather, and safe passenger rail network – is one proactive means of addressing this transition. The network will help surmount the challenges facing the state; spawn opportunities in communities and the business, education, and tourism sectors; offer Iowans a viable and desirable alternative to traditional highway and commercial air travel; connect with existing public transportation systems in large metropolitan areas; minimize traffic delays for freight railroads; and create temporary construction jobs and permanent railroad jobs.

Iowa has long demonstrated an established, effective, open, and transparent public involvement process concerning transportation improvements. The state has a flexible, yet coherent strategy to implement passenger rail logically and carefully and will take into account the needs of all stakeholders, including citizens; elected officials; community, labor, and business leaders; civic and economic-development organizations; Federal, state, and local regulatory agencies; Amtrak (designated passenger service operator); and the freight railroads hosting passenger rail service.

Pathway to the Future

The Iowa DOT received extensive input from a wide variety of sources and stakeholders, public and private on the direction needed for the future of the state's transportation system, including passenger rail. Some of this input came from the Passenger Rail Advisory Committee (consisting of railroads, state agencies, planning organizations, cities, and passenger rail advocacy groups) formed by Iowa DOT in 2008 and was considered during the development of the Strategic Plan. A pathway was developed which provides direction for this Plan. These include:

Guiding Principle and Goals: Gives guidance for transportation investments.

- Investment Actions – Lists the types of transportation investments needed to accomplish the goals
- Costs and Revenues – Reviews the annual costs and revenues for passenger rail infrastructure and services
- Performance Measures – A cross-section of system performance indicators for passenger rail in Iowa

Guiding Principle

The Plan's guiding principle builds upon Iowa DOT's policies as outlined in the State Long-Range Transportation Plan, as well as the 2009 Railroad System Plan. The guiding principle for this plan – **Moving people through investments that strengthen our economic vitality** – is accomplished when passenger rail transportation investments:

- Support economic development and job growth
- Improve our standard of living
- Enhance our ability to compete economically
- Provide mobility and accessibility for everyone
- Be sensitive to the environment
- Enhance Iowa's natural resources

Goals

In order to provide the very best passenger rail transportation system and services to the public, three broad-based and far-reaching goals have been identified:

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

These goals serve as the pillars upon which the investment actions are based. They are the basis of foundation for transportation decisions and will guide decisions covering passenger rail. The Plan is a combination of preserving what infrastructure and services we currently have, plus adding additional passenger rail operations where demand levels warrant. A well-maintained system that has consistent design characteristics and fosters modal interactions is essential for Iowa's continued success. Iowans have a strong desire to have a passenger rail transportation system that is also sensitive to elements of the environment, such as clean air and water, protected wildlife and vegetation, low noise levels, and well-conceived land use plans.

Safety

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

Efficiency

Passenger rail transportation efficiency implies the best use of available funding. Many evaluation tools are available and will be used to achieve the most effective and optimal decision.

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.

Figure 2 – Overview of Guiding Principle and Goals

Guiding Principle and Goals

- Maintain an adequate level of service
- Travel comfort levels
- Enforcement to meet Federal regulations
- Promote safety education
- Improve highway/rail crossing safety
- Improve passenger station platforms

- Making the best use of available funding
- Strategically managing infrastructure and services
- Getting the biggest return for the least amount of money invested
- Not overbuilding or under-building
- Living within our means

- Ability to move about and travel with ease
- Mobility choices
- Accessibility
- Support desired life styles
- Accommodate travel for special needs
- Feel safe and secure
- Enhance our natural resources
- Affordable transportation
- Environmental justice

Investment in these goals reduces societal impacts, such as lives, healthcare, lost wages, productivity, and mental distress; reduces financial costs, such as vehicle operating costs, travel time costs, inventory costs, and freight shipping costs; and reduce the number of people moving out of the state by retaining and creating good-paying jobs, enhancement of lifestyle options, providing travel and recreation opportunities, and maintaining easy access to key amenities.

Acting on these goals will accomplish an accessible, reliable, and competitive transportation network that reduces and minimizes crashes, injuries, and deaths and property damage and enhances mobility by providing transportation choices and options that are easy to use and environmentally friendly.

The goal's investment actions will be achieved through creation of a well-designed system following design guides and standards for maintaining the existing system and adding new links, preserving what already exists and adding capacity where demand warrants, and to make all modes of transportation accessible to sustain, support, and protect Iowa's natural resources, and to support a marked decrease in greenhouse gas emissions.

Building on Past Transportation Planning Efforts

The Plan is a part of an ongoing planning effort which builds heavily upon past rail planning activities. The Iowa DOT, working with Iowa cities, planning organizations, and advocacy groups has created a bold new passenger rail vision called Iowa Connections.

Iowa Connections views passenger rail as a means to larger national and regional goals such as building a robust, green economy, gaining energy independence, reversing global climate change, and fostering more livable, and connected communities. The vision seeks to integrate passenger rail into the broader transportation system and make it a significant contributor to improved mobility, economic competitiveness, community revitalization, and reduced fuel use and emissions. It is a vision where travel by train is comfortable, efficient, and reliable. The vision uses an incremental approach to implementation – to increase service over time, based on market demand, operational feasibility, and funding.

Iowans can reap the benefits of expanded passenger rail in multiple ways.

Sustainable transportation alternatives

- Energy efficiency that promotes energy independence
- Fewer greenhouse gas emissions for healthier Iowans and a better environment

Economic vitality and development

- Business environment that will create and attract new and retain existing jobs
- More travel options for both business and leisure
- Enhanced business and university recruitment
- Better access to cultural, educational, and natural resources

Quality of life

- Access to travel for those who do not or cannot drive
- A comfortable, convenient travel option

Efficiencies

- Speedy and straightforward boarding
- Productive travel time with use of laptops and cell phones en route

Freight rail enhancements

- Benefits to freight rail service from infrastructure improvements to support passenger rail

Chapter 2 – Goals and Uses of the Plan

Iowa has long demonstrated an established, effective, open, and transparent public involvement process that takes into account all of the benefits of transportation infrastructure improvements on society, helps the Iowa Department of Transportation and other agencies engage and understand the concerns of local communities, and shares information and provides feedback with all stakeholders during the planning process. The state has a flexible, yet coherent strategy to implement passenger rail logically, carefully, and responsibly and will take into account the findings in the Plan and all subsequent state railroad plans, reports, and initiatives throughout the process of exploring and expanding passenger rail options in Iowa.

Organization of the Plan:

- Chapter 3: Corridor Analysis
- Chapter 4: Prioritization Plan
- Chapter 5: Implementation Plan

Technical uses of the Plan:

- Corridor prioritizations, containing ridership estimates, cost estimates, and infrastructure needs
- Corridor descriptions, including route and nominal schedule
- Proposed implementation schedule
- Educate all Iowa residents - including elected officials; community, labor, and business leaders; and civic and economic-development groups - and broaden discussion of the benefits of passenger rail in Iowa
- Provide supporting documentation of the process to the Federal Railroad Administration, other state and local regulatory agencies, and local governments
- Inform Amtrak and freight railroads hosting passenger rail service

The Plan will be reviewed and modified as necessary and will incorporate input from the public through meetings and other established protocols for gathering commentary, the Passenger Rail Advisory Committee, Metropolitan Planning Organizations, Regional Planning Affiliations, and freight railroads hosting passenger trains (BNSF Railway is the only such carrier hosting passenger rail in 2010, but an expanded system is anticipated to use trackage owned and operated by Canadian National, Iowa Interstate, and Union Pacific).

The Plan will be distributed widely for public and private consumption and all interested parties are invited to review it and share commentary with the Iowa Department of Transportation's Office of Rail Transportation. Paper copies of the Plan will be made available through Iowa DOT at its main office, 800 Lincoln Way, Ames, IA 50010 or electronically by visiting its website at http://www.iowadot.gov.

As a matter of financial and logistical necessity, and as the Plan sets forth, the state must bridge the gap between the long-term vision, which takes into account expansion of passenger rail service in the next 20 years and beyond, with immediate construction and implementation plans within the next 10 years. Such a process would enable near-term opportunities to be intelligently slotted into the long-term vision.

Chapter 3 – Corridor Analysis

Introduction

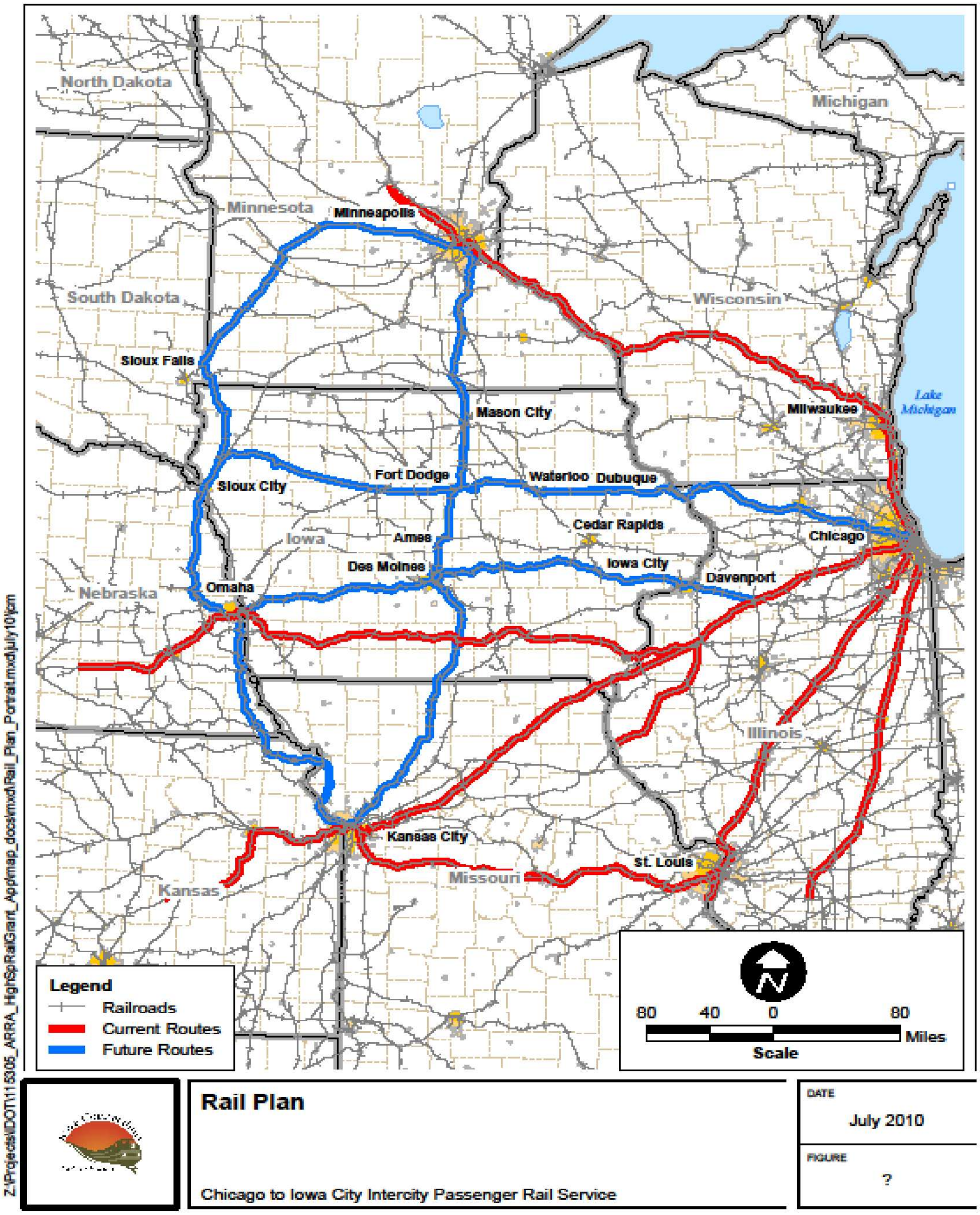
This chapter describes the existing rail infrastructure in Iowa, its feasibility for development into passenger-rail corridors, and potential passenger ridership and revenue on each corridor. This chapter is organized into the following subsections:

- Methodology of selecting corridors and corridor identification
- Assumptions
- Base passenger-service operating plan development
- Corridor infrastructure needs
- Corridor infrastructure costs
- Ridership and revenue forecasts
- Conclusions for the Chicago-Omaha corridor

Methodology for Selection of Corridors and Corridor Identification

The 2009 Iowa Railroad System Plan expresses a vision for passenger-rail service that creates connections between major urban areas within Iowa, and between Iowa and major urban areas in neighboring states. The System Plan in turn is congruent with a regional vision expressed in the Midwest Regional Rail Initiative (see Figure 3). Note that while these corridors extend beyond Iowa, relative costs for development of passenger-rail infrastructure and operation were performed only within Iowa's borders.

Figure 3 – Passenger Routes Identified in 2009 Iowa Railroad System Plan



In order to reach from the present to this vision, this study seeks first to identify corridors for comparison with each other, to compare the cost of creating service in each corridor, and to identify the potential demand for passenger services (ridership) and potential operating revenue for each corridor. Primary corridors were identified using the State Rail Plan as follows:

1. Chicago-Des Moines-Omaha (east-west)
2. Chicago-Dubuque-Waterloo-Sioux City (east-west)
3. Minneapolis-Des Moines-Kansas City (north-south)

An additional north-south corridor identified in the System Plan, Minneapolis-Sioux City-Omaha, was not studied because most of the potential rail infrastructure that would be used for this corridor is located outside of Iowa.

This study considered the potential for new-build versus existing rail corridors presently used for freight-only or for freight and Amtrak intercity services. In broad terms, new-build rail corridors have advantages of enabling much higher speeds and frequency of service than existing freight or freight/passenger rail corridors that are adapted to host high-speed rail passenger service. The disadvantage is much higher cost for infrastructure, as much as $10 million per mile in non-urban areas (and much higher in urban areas), as well as land acquisition costs and the potential for much greater environmental and community impact. In worldwide terms, new-build high-speed rail corridors are generally employed only when potential ridership is very high, for example, connections between urban centers of more than 2 million population each, with high travel demand, and at distances of less than 500 miles. As Iowa does not have urban areas exceeding 2 million population, and regional rail connections that might pass through Iowa to cities larger than 2 million are in corridors of greater than 500 miles, new-build construction was deemed to be in excess of demand at this time, and of too great a cost. Accordingly, only adaptation of existing freight corridors and freight corridors hosting Amtrak were considered.

Iowa's System Plan expresses a vision for passenger rail service that creates connections between major urban areas within Iowa, and between Iowa and major urban areas in neighboring states. The Plan is congruent with a regional vision expressed in the Midwest Regional Rail Initiative, a hub-and-spoke system ultimately designed to connect Chicago with principal cities throughout the Midwest. Existing freight and freight/Amtrak corridors in and through Iowa can potentially be adapted to fulfill the vision in the System Plan. The following railroads provide contiguous rail routes through Iowa in the three corridors identified by the System Plan:

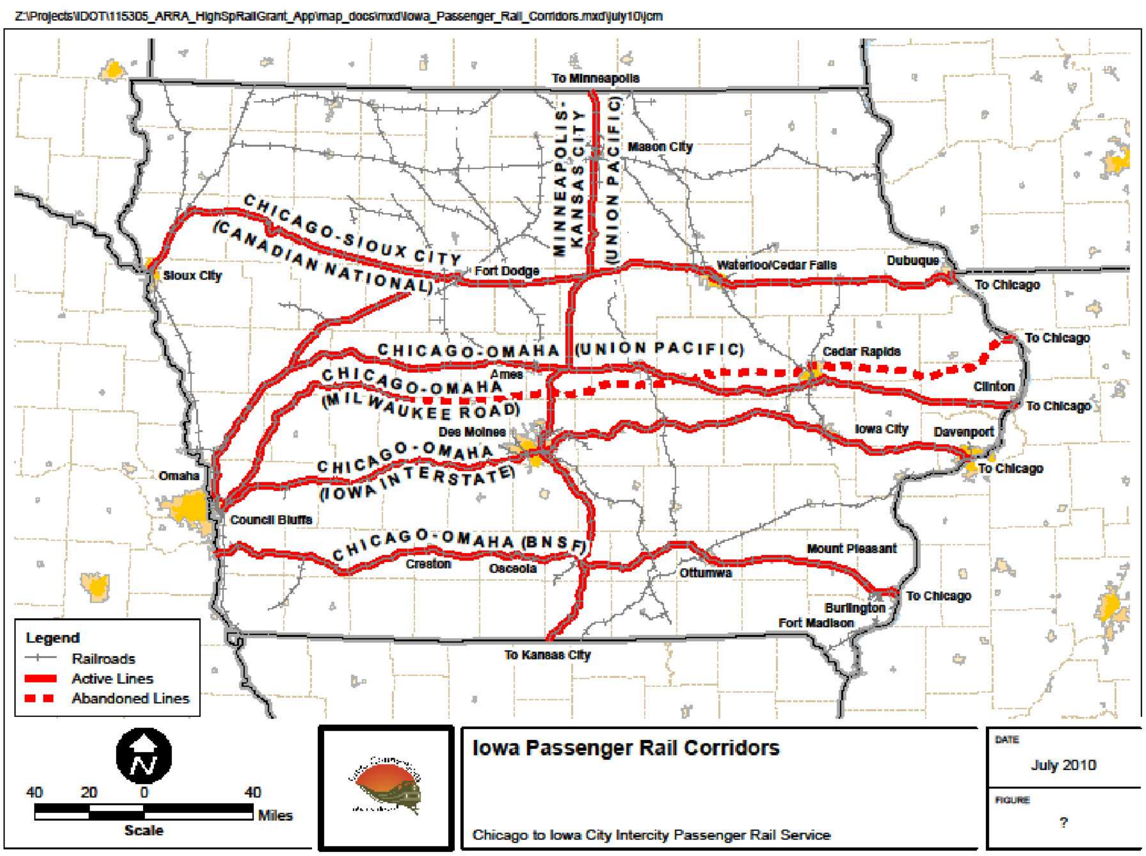
1. Chicago – Omaha (five route options for this intercity corridor):
    a. Union Pacific Railroad (UP) via Clinton, Cedar Rapids, and Ames
    b. BNSF Railway via Burlington, Ottumwa, and Creston (already used by Amtrak's two daily *California Zephyr* trains between Chicago, Omaha, Denver, and Oakland)
    c. Iowa Interstate Railroad (IAIS) via Davenport, Iowa City, and Des Moines
    d. Canadian National Railroad (CN) via Dubuque, Waterloo, and Fort Dodge

  e. Note: The former Chicago, Milwaukee, St. Paul & Pacific Railroad (Milwaukee Road) route between Sabula and Council Bluffs via Marion, Tama, and Perry – which has been abandoned across Iowa, save for the Bayard-Council Bluffs segment operated by BNSF and the Sabula-Green Island segment operated by CP – will be considered during detailed evaluations of the Chicago-Omaha corridor.
2. Chicago – Sioux City (one route option for this intercity corridor):
  a. Canadian National Railroad (CN) via Dubuque, Waterloo, and Fort Dodge
3. Minneapolis – Kansas City (one route option for this intercity corridor):
  a. Union Pacific Railroad (UP) via Mason City, Nevada, and Des Moines

These corridors are illustrated in Figure 4 below. Note that the CN route can be either a Chicago-Sioux City corridor, a Chicago-Omaha corridor, or both. Accordingly, this study considered both in conjunction.

For each of these contiguous rail routes, conceptual-level relative implementation costs were prepared and ridership estimates were prepared for the Strategic Plan.

Figure 4 Iowa Passenger Rail Corridors



Assumptions

In order to restrict this study to a reasonable level of options, certain initial assumptions were made about what types of rail-passenger service would be practical for the general demand in and through Iowa within the next 25 years, and the likely state of technological advancement within that period. These assumptions can be codified into a basic passenger-service description as follows:

1. Trainsets will be locomotive-hauled trains adhering closely to existing technology, using diesel-electric locomotives. The rationales for this assumption are as follows:
    a. Diesel-electric locomotive technology offers sufficient horsepower (4,000 per locomotive) to provide the acceleration and sustained power necessary for the train speeds contemplated. Generally speaking, trainsets that meet U.S. crash-safety standards are too heavy for diesel-electric performance to be adequate at higher speeds. For higher speeds, electric locomotives drawing power from overhead wires (commonly referred to as catenary), which can generate upwards of 6,000 hp per locomotive, are typically employed.
    b. Self-propelled, diesel-powered rail vehicles will not have sufficient passenger capacity or amenities. Generally these types of vehicles are used for short-haul commuter service. It is feasible to couple multiple self-propelled vehicles together, but cumulative cost of acquisition and maintenance then will exceed the cost of a conventional locomotive-hauled passenger train.
    c. Alternative propulsion technologies are unlikely to reach maturity within the next 10 years. These technologies include fuel cell, gas turbine, and hybrid systems, coupled to an electric transmission. It may be possible for some of these technologies to offer electric-like horsepower in a single locomotive package, but without the expense of overhead power distribution systems.
2. Train speed maximums will be within the 79-110 mph range. The rationales for this assumption are as follows:
    a. Existing corridors have too much curvature for higher speeds and to straighten curves, significant excursions from these existing corridors would be required. These excursions would require right-of-way acquisition and in some cases could have significant environmental and community impacts, as in many locations existing rail corridors are curved specifically to conform to local topography and drainages, and communities are adjacent to the right-of-way boundaries of existing rail corridors.
    b. For train speeds greater than 110 mph, the FRA requires significantly greater safety measures at rail/roadway at-grade crossings. At speeds greater than 125 mph, no at-grade crossings are permitted. The cost of grade separations typically ranges from $3 million for low-traffic roadways in open country to more than $50 million for multiple-lane roadways in urban settings.
    c. The 110-mph speeds or greater in existing freight-rail corridors can create severe capacity demand on the rail infrastructure, and the ability to share the same track for

passenger and freight trains can become very low. Freight trains typically move with 40-50 mph average speeds between terminals, and much slower on even the mild inclines (gradients) encountered within Iowa. The assumption is that the economic cost of delaying freight trains in order to preserve schedule adherence for passenger trains will be too high. In order for freight trains to move without additional delay, and for passenger trains to move without any delay to clear freight trains, sufficient rail capacity must be created to enable fluid meet/pass events and fluid overtake events. For example, in the case of a freight train moving at 40 mph, a passenger train moving in the same direction at 79 mph on the same track would need to crossover to another track when it has approached within about 10 miles of the rear of the freight train – this spacing is necessary so that the passenger train does not receive restrictive signal indications requiring it to slow down. Once onto an adjacent track, the passenger train will require 15 miles to reach the rear of the freight train (because the freight train has moved 5 miles farther during that time), 3 miles to pass the freight train (assuming a 10,000-foot freight train), and another 15 miles to reach a crossover to return to the same track as the freight train without creating restrictive signals for the freight train. In total, the amount of second track needed for overtaking of a single freight train is a minimum of 38 miles, assuming crossovers are spaced at the best possible locations. During this time, the second track cannot be used for train movements in the opposing direction. On a freight railroad with 24 trains per day each way, equally spaced in the 24-hour day, and moving at 40 mph, each freight train proceeding in the same direction is 40 miles apart: a passenger train crossing over for the first same-direction freight train it encountered would never be able to return to the same track because of freight traffic volume. At 110 mph, the required track capacity becomes proportionally unfavorable. In short, for more than 1 passenger train each way daily, high speeds quickly generate a requirement for freight and passenger trains separated onto dedicated tracks.

3. Passenger-train frequency will be two to five trains per day each direction. The rationale for this assumption are as follows:
   a. Likely ridership, based on comparisons with other U.S. rail corridors, will probably not exceed 250,000 passengers per segment per year. This amount of ridership equates to a daily maximum of 342 passengers in each direction. A typical intercity-type passenger coach has 60 seats, thus two three-coach trains in each direction would provide sufficient seating capacity. Greater frequency of service, however, will be required for peak days and peak seasons. Accordingly, four trains per day in each direction will probably be sufficient. This is congruent with planning conducted by the MWRRI.

Base Passenger Service Operating Plan Development

The elements of the passenger-rail service plan contemplated in this document are as follows.

1. Passenger train speeds of 79 to 110 mph maximum.
2. Passenger train frequency of initially 2 and up to 5 trains per day each direction.
3. Passenger train operation primarily in daylight hours, with initial terminal departures not earlier than 6 a.m., nor arrivals later than midnight. For example, Chicago to Omaha is approximately 470 miles. A train operating at an average speed of 50 mph would require approximately 9 hours. Accordingly, a train leaving Chicago at 6 am would arrive at Chicago at 3 p.m., and a train arriving Chicago at midnight would leave Omaha at 3 p.m. Evenly spaced service for a four-times daily service would put departures out of Omaha at 6 am, 9 am, noon, and 3 p.m.
4. Station stops at approximately 50-mile intervals in each corridor. This station stop spacing will not severely impact train speeds (acceleration/deceleration times) for train speeds in the 79-90 mph regime, but at speeds of 110 or greater, station stops can negate much of the advantage of the higher speed due to the loss of time for deceleration/acceleration.
5. Trains provided with food service. This requirement is important for long-distance trips of multiple hours.
6. Push-pull trainsets will likely be necessary to optimize platform capacity at Chicago Union Station and other end terminals.
7. Trains will employ standardized equipment to maximize usage and flexibility. Total train length is 1 locomotive, 3 coaches, 1 food-service car, and 1 cab-car, or approximately 500 feet.

Corridor Infrastructure Needs

Each of the study corridors was examined for a scenario involving two to five passenger trains per day operating at maximum speeds of 79 mph initially, and for compatibility for future speed increase to 90 and 110 mph (as corridors undergo detailed environmental analysis and service development plan preparation, increased speeds of 90 and 110 mph will be evaluated in greater detail). The methodology for this study was to first examine existing corridor infrastructure and its freight-train demand, and then determine a basic infrastructure model that would enable high-reliability passenger train operation, freight-train operation without delay or capacity loss, and preservation of future freight growth capability. Freight growth capability is both long-haul and local: long-haul trains require main track capacity and fluidity, whereas local growth capability requires the ability to develop lineside industries that are not precluded by the existence of an adjacent passenger-rail corridor that separates them from the freight corridor, and track capacity for freight trains to pick up and drop off trains or cars to these industries. This two-step approach arrives at a basic corridor infrastructure cost that can be used, within broad caveats, for corridor comparisons. The caveats are necessary because corridors have not been examined in detail – this study simply provides a pointer toward *likely* orders-of-magnitude of cost.

All of the study corridors had common elements. Topography is similar on each line, with maximum gradients rarely in excess of 1 percent and maximum curvature rarely in excess of 6 degrees. At the margins of the state, large bridges span the Mississippi and Missouri rivers, constricting rail capacity.

Industrial development with rail switching occurs at many disseminated locations. Typically, urban areas with a population of 100,000 or more have considerable industrial development. Large rail-served grain elevators, ethanol plants, and agricultural processing plants are often located outside of urban areas. Accordingly, Iowa has a relatively high demand for rail switching from the main track. Low train-density main lines typically accommodate this switching by carefully scheduling freight trains to enable individual trains to switch customers without interfering with other trains. High train-density main lines typically segregate local switching onto industrial lead tracks that parallel main tracks and enable customers to be switched without interference with through trains.

Corridor infrastructure needs were categorized as main track, sidings, signals, minor bridges, major bridges, grade-crossings, grade-separations, and right-of-way. Only main track, sidings, signals, minor bridges, and grade-crossings were considered in this study. The others were excluded for the following reasons:

1. Major bridges consist of crossings of the Mississippi River, Missouri River, and principal drainages (Kate Shelley Bridge over the Des Moines River on Union Pacific's Omaha-Chicago mainline, for example). These bridges were excluded because the requirement for new construction and the cost of new construction is highly site specific and requires detailed study.
2. Grade-separations. These were excluded because the requirements for grade separations are highly localized and subject to negotiations with local governments. Existing grade separations, if highway over rail, may not have adequate room for an additional main track or siding, and if rail over highway, rarely have a bridge in place for a future main track or siding.
3. Right-of-way was excluded because the cost of acquiring right-of-way, if needed to accommodate an additional main track or siding, is highly site specific.

Two basic models of corridor infrastructure development were created. The first model, used for the CN and IAIS Chicago-Omaha, CN Chicago-Sioux City, and UP Minneapolis-Des Moines-Kansas City corridors, contemplates that it is probably feasible to establish two to four passenger trains per day onto the existing freight-only network, with improvements to existing infrastructure. The second model, used for the UP and BNSF Chicago-Omaha corridors, contemplates that it is probably feasible to establish two to four passenger trains per day onto the same right-of-way (assuming sufficient width exists throughout), but only by constructing a separate passenger-only track with its own sidings, to avoid the track capacity loss of overtakes on these high-density main lines.

Basic elements of the low-density corridor model are as follows:

1. Improvement of main track quality from FRA Class 3 or 4, to FRA Class 5 (90 mph passenger) or 6 (110 mph passenger).
2. Installation of 12,500-foot sidings, extended sidings, or double-track at selected intervals to enable meet-pass events required by passenger trains. These meet-pass events are both freight/passenger and freight/freight – the latter is necessary to enable freight trains to be

reconfigured to "meet around" passenger-train movements. Some of these sidings will require construction of grade-separations, relocation of local roadways to avoid mid-siding grade crossings, or construction of bridges across drainages. An allowance was added to each siding cost for road relocations and drainage structures only.

3. Improvement of existing turnouts (track switches) with new turnout components to enable higher track speeds, ride quality, maintenance reduction, and passenger-train reliability.
4. Rehabilitation of existing sidings to enable higher use of sidings for meet-pass events.
5. Improvement of grade-crossing surfaces, track quality, and signaling.
6. Installation of Centralized Traffic Control (CTC) signaling, which enables a high degree of train dispatcher control, flexibility, and increases the capability of the train dispatcher to issue more frequent control decisions.

Basic elements of the high-density corridor model are as follows:

1. Installation of a parallel new passenger main track built to FRA Class 5 or 6, with minor bridges only (150 feet or less).
2. Installation of 20,000-foot sidings at 50-mile intervals for use by passenger trains.
3. Installation of crossovers from freight mains to passenger mains to enable freight service to customers located on the passenger side of the freight main tracks.

Corridor Infrastructure Costs

Table 01 below shows the comparative capital costs (relative among corridors) that were developed to enable comparison between the routes, within Iowa's borders (for example, the construction cost per mile for the BNSF route would be 3.43 times greater than the construction cost per mile on the IAIS route).

Costs do not take into account any required right-of-way acquisition, station development, major bridges (including those over the Mississippi and Missouri rivers – should such infrastructure be deemed necessary) – and road/rail and rail/rail grade-separation structures. The methodology also does not account for the cost of negotiating major terminals, such as Des Moines, Council Bluffs, Waterloo, and Sioux City, where passenger trains encounter a more challenging operating environment involving more complex freight activity, a larger number of grade crossings, greater population and vehicular traffic, and other obstacles. In either case, a detailed independent study would need to be undertaken to determine the scope and cost of accommodating or mitigating such arrangements.

Table 1 – Comparative Costs for proposed passenger rail routes in Iowa

ROUTE	MILES	CONSTRUCTION COSTS COMPARATIVE RATIOS	CONSTRUCTION COSTS PER MILE COMPARATIVE RATIOS
BNSF Burlington to Council Bluffs	288	3.24	3.43
UP Clinton to Council Bluffs	343	3.42	3.05
UP Northwood to Lineville	227	0.75	1.01
CN Dubuque to Council Bluffs	331	1.42	1.31
CN Dubuque to Sioux City	327	1.36	1.27
IAIS Davenport to Council Bluffs	305	1	1

Ridership and Revenue Forecasts

This ridership demand forecast is a high-level approach with the intent of capturing upper and lower probable boundaries for rail ridership in Iowa. It was developed using a spreadsheet-based methodology to consistently apply generalized factors for each of the routes assuming 2 trains per day in each direction at top speed of 79 mph. Ridership potential will increase for 90 and 110 mph maximum speeds and more frequent departures, but probably not by a large number, at least within the next 10 years.

The methodology used to forecast rail ridership utilized a two-step approach. In the first step, the total number of person trips between each origin and destination metropolitan city pair with a proposed station stop was compiled from the data supplied by the Iowa Department of Transportation's statewide travel-demand forecasting model (iTRAM) for years 2010, 2020, and 2035. To determine the other non-metropolitan city station stops, it was assumed that a station stop would be located approximately every 50 miles. In order to account for the person trips to and from the non-metropolitan station stops, a generalized number of person trips was applied for each city pair combination.

In the second step, a rail mode share was applied to the person trips to determine the potential rail demand. In order to determine the appropriate rail mode shares for a typical Midwestern state such as Iowa, two studies were considered: one conducted by Cambridge Systematics entitled "Minnesota Comprehensive Statewide Freight and Passenger Rail Plan" dated July 2009 and the other study conducted by Burk-Kleinpeter, Inc. and AECOM entitled "Lake Charles to Meridian Corridor Development Plan" dated June 2007. In the AECOM study, the rail mode shares were based on an intercity mode choice model that was calibrated to observed Amtrak data in the New Orleans-Atlanta and Mobile-New Orleans-Houston corridors. The Cambridge Systematics study employed a more simplified method using the boarding and alighting data from Amtrak and apportioning those trips to Minnesota's Twin Cities by applying a range of factors that depended on trip distance. In general, the rail shares estimated in these two studies ranged from 0.1 percent (in the AECOM study) to 3.9 percent (in the Cambridge study) based on a level of service of 2 trains a day in each direction.

In this study for Iowa, two estimates of rail demand for each rail route were developed: the first is a lower-bound estimate that assumed 1.5 percent rail mode share; and the second is an upper-bound estimate that assumed 3.5 percent rail mode share. The person trips from the first step were multiplied by the lower and upper bound percent rail mode share to obtain estimated rail ridership between each city pair. The estimated city pair rail ridership volumes were then aggregated for each route to develop daily rail ridership volumes for each route.

Using the above steps, a lower and upper bound daily ridership for each route was developed, which are estimates that reflect the variance in potential demand for each corridor. These volumes were converted to yearly ridership by multiplying the daily ridership by a conservative figure of 300. For planning purposes, 300 was used as a typical escalation factor to convert average weekday rail ridership to annual rail ridership (by multiplying by 300 and rounding off accordingly). Table 2 summarizes the yearly lower and upper bound ridership for each corridor for years 2010, 2020, and 2035.

Table 2 - Ridership and Revenue Projections

Data Item	Year	**Corridor 1: Chicago - Omaha** Route a: Union Pacific Railroad	**Corridor 1: Chicago - Omaha** Route b: BNSF Railway	**Corridor 1: Chicago - Omaha** Route c: Iowa Interstate Railroad	**Corridor 1: Chicago - Omaha** Route d: Canadian National Railroad	**Corridor 1: Chicago - Omaha** Route d: Canadian National Railroad including Fort Dodge to Sioux City	**Corridor 2: Chicago - Sioux City** Route a: Canadian National Railroad	**Corridor 3: Minneapolis - KC** Route a: Union Pacific Railroad
Yearly Ridership -	2010	183	150	255	189	219	174	144
Lowerbound (000s)	2020	204	165	282	204	234	186	162
	2035	234	186	333	228	261	207	186
Yearly Ridership -	2010	414	342	582	429	492	396	333
Upperbound (000s)	2020	468	378	651	465	531	426	369
	2035	531	429	759	510	582	465	423
Yearly Passenger Miles -	2010	41.6	34.1	50.6	37.5	45.3	29.8	35.2
Lowerbound (millions)	2020	46.6	37.9	55.8	41.0	48.8	31.8	39.7
	2035	53.7	42.8	64.7	46.2	54.6	35.5	46.1
Yearly Passenger Miles -	2010	94.0	77.1	114.7	84.7	101.0	67.8	80.0
Upperbound (millions)	2020	106.1	85.8	127.7	92.8	109.7	72.9	89.8
	2035	120.5	97.3	145.2	102.1	120.1	79.2	103.9
Yearly Revenue -	2010	$ 8.7	$ 7.2	$ 10.6	$ 7.9	$ 9.5	$ 6.3	$ 7.4
Lowerbound (millions)	2020	$ 9.8	$ 8.0	$ 11.7	$ 8.6	$ 10.3	$ 6.7	$ 8.3
	2035	$ 11.3	$ 9.0	$ 13.6	$ 9.7	$ 11.5	$ 7.5	$ 9.7
Yearly Revenue -	2010	$ 19.7	$ 16.2	$ 24.1	$ 17.8	$ 21.2	$ 14.2	$ 16.8
Upperbound (millions)	2020	$ 22.3	$ 18.0	$ 26.8	$ 19.5	$ 23.0	$ 15.3	$ 18.9
	2035	$ 25.3	$ 20.4	$ 30.5	$ 21.4	$ 25.2	$ 16.6	$ 21.8
Daily Station to Station	2010	200	175	260	200	205	175	150
Max One-Way Ridership -	2020	225	195	285	215	220	185	170
	2035	265	220	330	240	245	205	195
Daily Station to Station	2010	460	400	595	450	460	395	345
Max One-Way Ridership -	2020	520	445	660	490	500	425	385
	2035	595	505	740	535	545	460	445

Note: While the Chicago-Dubuque service will benefit Iowans, nearly all of the route is in Illinois, and therefore specific figures were not included in the table above. Detailed explanation of the service appears in Chapter 4.

These ridership figures are concept-level planning volumes that provide a comparison between the various routes. The estimated ridership volumes were compared to some existing ridership projections developed from previous studies to evaluate the consistency. The following is a summary of the comparison:

- The "Iowa Rail Route Alternative Analysis" (IRRAA Study) dated June 1998 conducted by Transportation Economics & Management Systems, Inc. developed ridership projections for Omaha to Chicago corridor for the BNSF, IAIS, and UP routes. The year 2010 ridership projections from the IRRAA Study were an average of 18 percent higher than the upper bound ridership projections from this study for these three routes. It was anticipated that IRRAA Study ridership projections would be higher since it assumed 4 trains per day and buildout of the MWRRI system.
- Amtrak Feasibility Reports were developed for Chicago-Rockford-Galena-Dubuque, Chicago–Quad Cities, and Chicago–Iowa City via the Quad Cities. The ridership projections from the Amtrak Feasibility Reports were compared to the equivalent partial route ridership projections from this study. Each of the Amtrak Feasibility Report ridership projections fall within the lower and upper bound year 2010 ridership projections from this study.

Passenger Miles

The yearly passenger miles was estimated for the lower and upper bound by multiplying the yearly ridership between the station pairs by the distance between the station pairs for each route. Table 2 summarizes the yearly lower and upper bound passenger miles for each route for years 2010, 2020, and 2035.

Revenue

In order to estimate the revenue for each route, a generalized cost per passenger mile was applied to each route. In order to determine the appropriate cost per passenger mile for a typical route, Amtrak fares from comparable existing routes in the Midwest were utilized. The existing Amtrak fares ranged from $0.13 to $0.39 per mile. The cost per mile on the existing Amtrak service was dependent on the length of the service. Comparing the average length of the service along the proposed routes with the existing Amtrak fare structure we assumed $0.21 per mile. Table 02 summarizes the yearly lower and upper bound revenue for each route for years 2010, 2020, and 2035.

Daily Station to Station Maximum One-Way Ridership

The daily station-to-station maximum one-way daily ridership was estimated for each route in order to determine required train capacity to accommodate the route. The maximum station-to-station one-way ridership was determined by aggregating station-to-station daily volumes for each route and then dividing by two to convert to one-way volumes. Table 2 summarizes the yearly lower and upper bound daily station to station maximum one-way ridership for each route for years 2010, 2020, and 2035.

As part of the planning process, specific ridership and revenue estimates will be prepared at the corridor level. Refer to Chapter 4 for corridor-level projections for selected routes.

Conclusions for the Chicago-Omaha Corridor

Of the five routes identified in the Chicago-Omaha corridor, the IAIS mainline emerged as the most feasible option for reasons of public benefit, revenue generation, and economy, and for being the least disruptive to existing and projected freight traffic density and operations.

Use of the IAIS between Davenport and Council Bluffs presented the best trans-Iowa corridor, as the IAIS route directly serves the preponderance of the state's population, including the Quad Cities, Iowa City, and Des Moines. Correspondingly, ridership figures, passenger revenue, and daily station-to-station, one-way maximum ridership using the IAIS was the highest of the four corridors for years 2010, 2020, and 2035.

The IAIS option provides the least expensive low-range cost within Iowa, at approximately one-fifth of the cost of employing the service on parallel UP and BNSF mainlines and about two-thirds of the cost of using the more circuitous CN route. The cost does not account for any required right-of-way acquisition, station development, major bridges, grade-separation structures, and signals.

Furthermore, use of the single-track IAIS would not require construction of an additional mainline track, as would likely be the case on portions of the heavily trafficked UP and BNSF routes. The CN route hosts higher traffic volumes than the parallel IAIS route and would require broader infrastructure improvements to accommodate passenger trains. The Milwaukee Road route is largely abandoned across Iowa and would require extensive, time consuming, and costly right-of-way acquisition (most of the abandoned section between Green Island and Bayard via Marion and Perry has been reclaimed by private parties or converted to a recreation trail in the last 30 years).

Intermodal Connectivity Broadens Rail's Reach

Regardless of which routes are selected for intercity passenger rail service, connecting transit services in and between large metropolitan areas would serve to broaden the reach of such trains in Iowa by bolstering ridership, mitigating parking issues at stations, and reducing vehicular traffic.

In the first-phase territory, municipal bus and paratransit services exist in Dubuque, the Quad Cities (Davenport and Bettendorf, Iowa, and Rock Island, Moline, and East Moline, Illinois), Iowa City (including a campus bus service for the University of Iowa), and Des Moines. Many of these services could be timed, and extended where necessary, to meet passenger trains at principal stations through cooperation with independent transit agencies and operators. Any future development of light rail, commuter rail, and tourist railroads in Iowa should vie to establish convenient connections with new and existing intercity passenger rail service, wherever possible.

Amtrak Thruway buses connect metropolitan populations nationwide with existing intercity rail services. Such a service, which could be used by as much as 10 percent of passenger rail riders in Iowa, would allow for seamless, guaranteed connections with trains; through ticketing; and sufficient storage space for baggage. In the first-phase territory, a Thruway bus could be instituted from Iowa City to Des Moines and Iowa City to Cedar Rapids. The latter service would link downtown Cedar Rapids and the Eastern Iowa Airport south of Cedar Rapids with the passenger rail station in Iowa City.

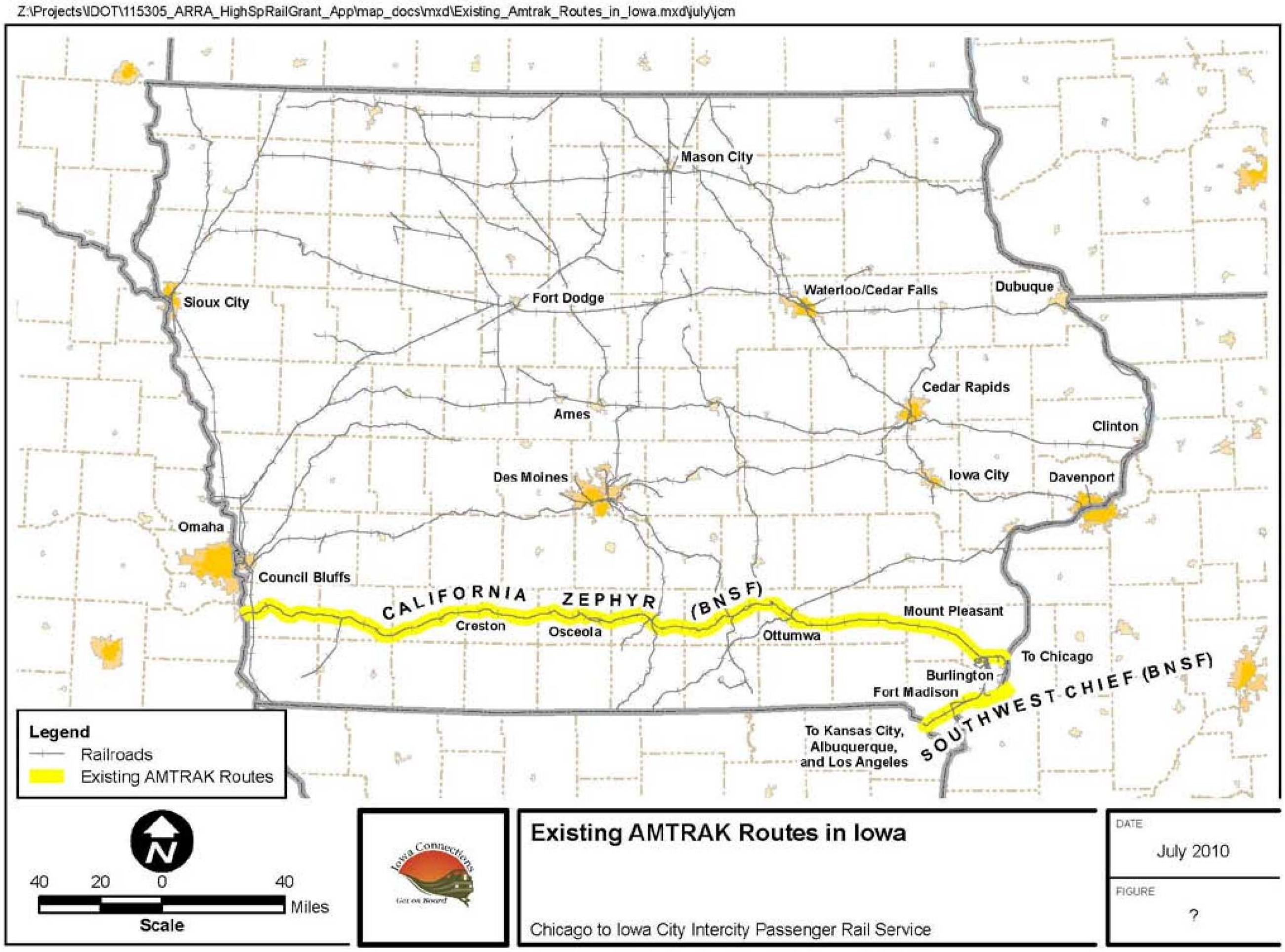
Chapter 4 – Prioritization Plan

In order to advance its goal of sustainable and incremental growth of an intercity passenger rail network that compliments existing Amtrak services in the state, the Iowa DOT has identified three services that could be initiated in the next 10 years, each of which could be expanded in the following 25 years to flesh out the optimal system.

The purpose of the new routes in and through Iowa is to supplement – not supplant – existing services on the 297 miles of railroad already operated by Amtrak. The Iowa DOT supports the retention of service on two BNSF routes, where those in southern Iowa are already amply served by two pairs of daily Amtrak long distance trains that offer convenient timings for travel to Chicago and Omaha. These are:

- The Chicago-Omaha-Denver-Salt Lake City-Oakland *California Zephyr,* which crosses southern Iowa on the fully signaled and mostly doubletrack east-west BNSF mainline. Stations exist at Burlington (205 miles west of Chicago), Mount Pleasant (south of Iowa City and Cedar Rapids; 233 miles west of Chicago), Ottumwa (279 miles west of Chicago), Osceola (south of Des Moines; 359 miles west of Chicago), and Creston (392 miles west of Chicago). This corridor hosted a full complement of long distance and intercity services offered by the Chicago, Burlington & Quincy until the 1971 advent of Amtrak. The present eastbound schedule provides morning service from Omaha (500 miles west of Chicago) and southern Iowa to Chicago and the westbound schedule provides afternoon service from Chicago, which arrives in southern Iowa and Omaha during the evening hours.
- The daily Chicago-Kansas City-Albuquerque-Los Angeles *Southwest Chief,* which slices through the extreme southeastern part of Iowa on a fully signaled doubletrack BNSF mainline and stops only in Fort Madison. This long distance service operates on a route served by long distance and intercity passenger trains of the Atchison, Topeka & Santa Fe until the 1971 advent of Amtrak. The present eastbound schedule provides morning service from Fort Madison to Chicago (220 miles) and the westbound schedule provides afternoon service from Chicago, which arrives in Fort Madison in the evening.

Figure 5 – Map of Existing Amtrak Routes and Stations in Iowa



Priority Passenger Rail Corridors: The First 10 Years

The availability of Federal funding; constraints of process capacity; and the willingness of policymakers – Federal, state, and local – and the public will dictate the extent and speed at which Iowa's passenger rail system can be developed, approved, constructed, and put into service. Competition for Federal funding will be keen, and only those passenger rail projects that can demonstrate the greatest immediate public need, cost effectiveness, profitability, and commitment from state and local governments will secure the necessary capital. Using those conditions, the Iowa DOT has identified the three most feasible passenger rail service projects, which can be completed in the next 10 to 15 years. Each is an incremental roll out of a full corridor service and all initial segments will be built in a manner that will allow for compatibility and connectivity with existing Amtrak services in the state and subsequent service extensions that could occur in the next 25 years as an optimal system is developed. Such a strategy would be employed to extend a first phase project like Chicago-Dubuque west to Waterloo and ultimately Sioux City, for example.

Route prioritization is based on the expectation that the Federal Railroad Administration will continue to award monies to passenger rail project based on its own prioritization plans that emphasize the highest possible cost-benefit ratio, technical feasibility, incremental approach, and state commitment. For the purposes of this Strategic Plan, the criteria become:

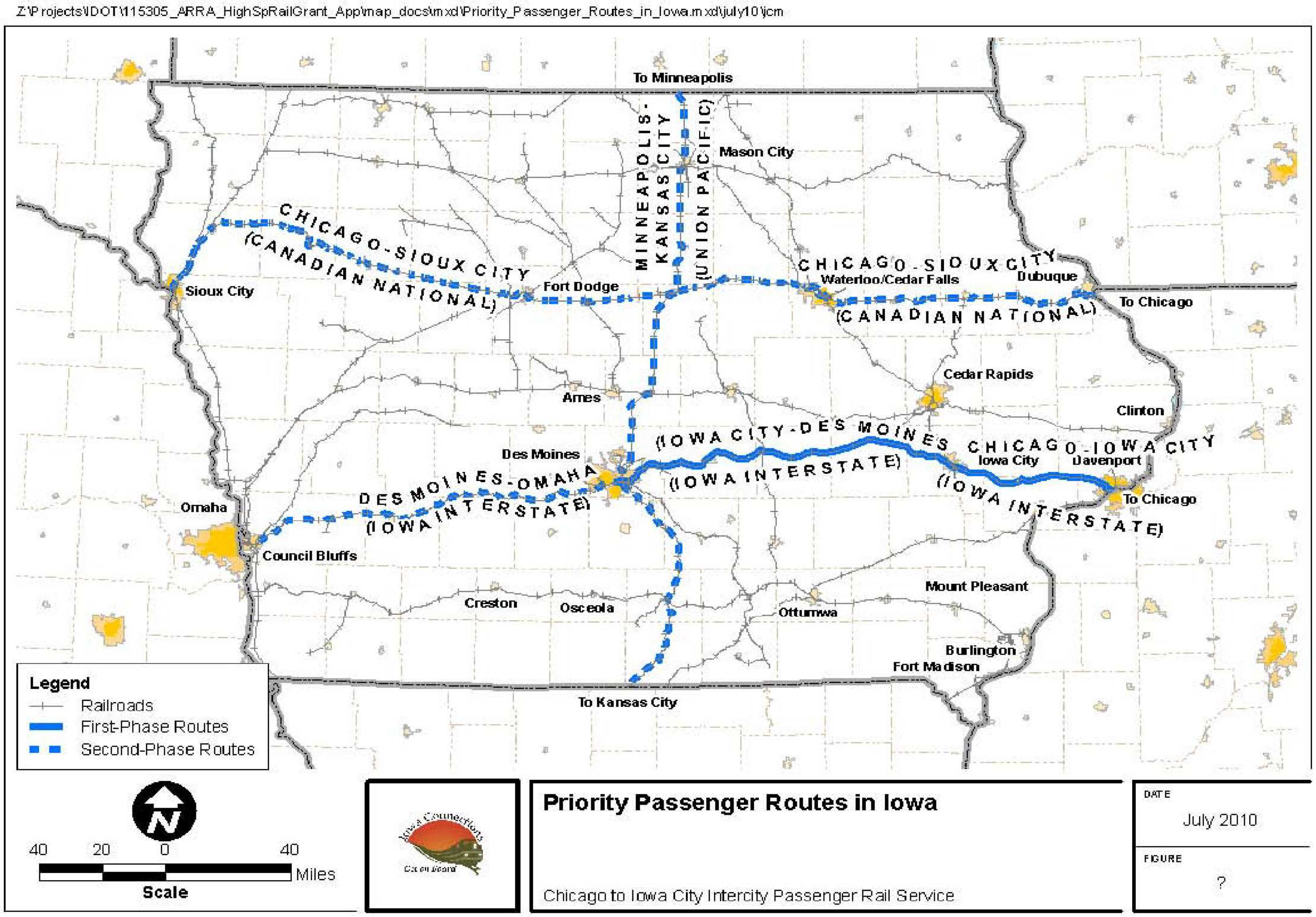
- Highest ratio of ridership-to-capital costs
- Availability of funding for the corridor from other state sources (specifically, Illinois DOT commitments of matching funds for Chicago-Iowa City and Chicago-Dubuque services)
- Probable availability of federal funds (currently, the FRA is offering 80 percent toward capital costs)
- Technical and other capacity to complete the project within the 10-year horizon of this Plan

The following first-phase passenger rail services in Iowa have been identified for implementation:

- Chicago-Iowa City via Amtrak, BNSF, and IAIS, 79 mph (in the Chicago – Omaha corridor) (1)
- Chicago-Dubuque via Amtrak and CN, 79 mph (in the Chicago – Sioux City corridor) (2)
- Iowa City-Des Moines via IAIS, 79 mph (in the Chicago – Omaha corridor) (3)

Additional corridors, train frequency increases, and maximum speed increases can be prioritized if the Strategic Plan is extended.

Figure 6 – Priority Passenger Routes in Iowa



The Chicago-Iowa City service

This corridor, connecting Chicago and the Quad Cities with Iowa City, has been a source of considerable public attention since the Chicago, Rock Island & Pacific discontinued its *Quad Cities Rocket* service between Chicago and Rock Island in 1978 (this carrier opted to continue its own passenger operations after the 1971 creation of Amtrak, with some support from the State of Illinois). It was the subject of a 2008 Amtrak Feasibility Study and the Iowa and Illinois DOTs later initiated the Chicago - Iowa City High Speed Intercity Passenger Rail Project to address the purpose, need, implementation, operation, maintenance, and predicted financial and ridership results over a 30-year time horizon for a passenger-train service that consists of twice-daily, round-trip, maximum 79-mph trains between Chicago Union Station and Iowa City (with a 2008 estimated metropolitan population of 149,437), a distance of 219.5 miles between station platforms. The aim of the service is to pull vehicular traffic off of parallel Interstate 80 and reduce dependence on air travel between Chicago, the Quad Cities, and Iowa City / Cedar Rapids.

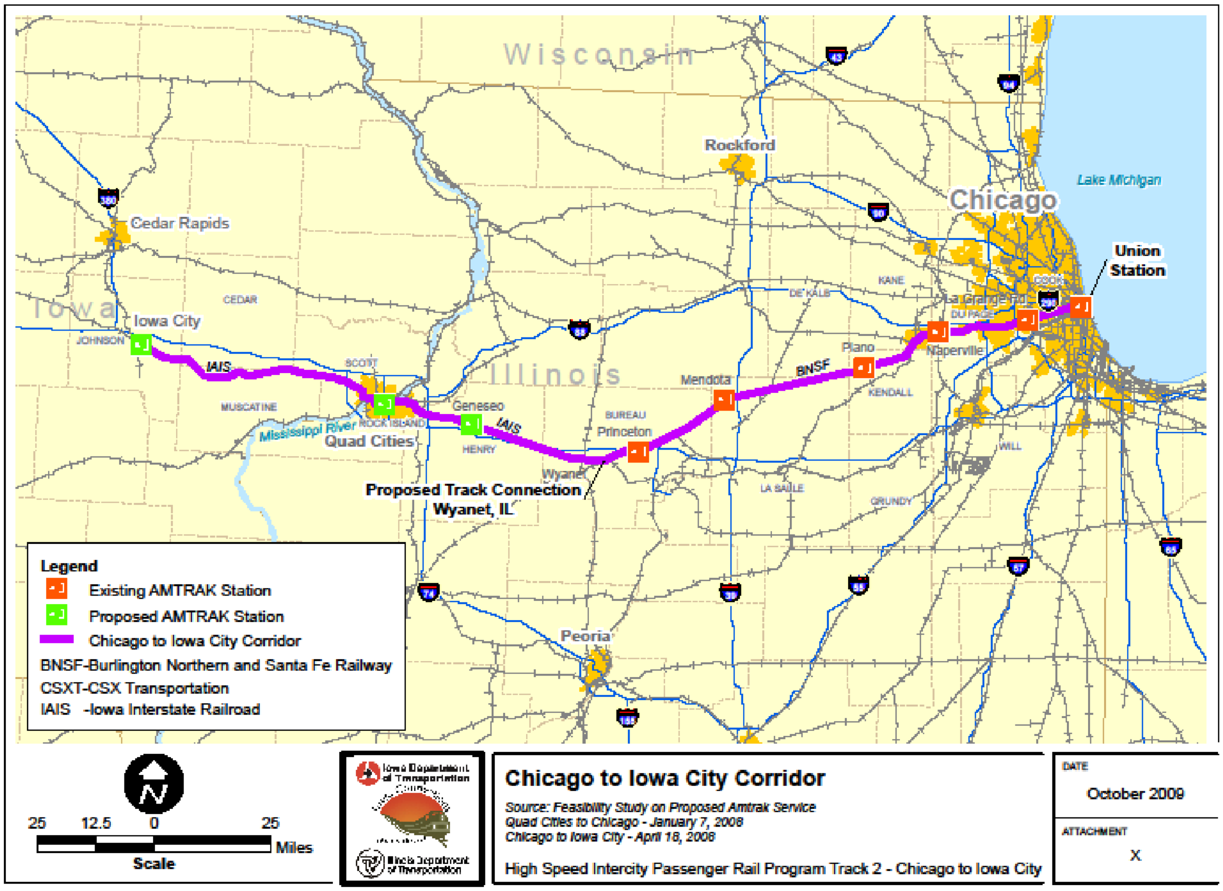
In 2009, a Tier 1 Service Level National Environmental Policy Act (NEPA) Environmental Assessment document was completed. National experts on passenger rail projects have worked closely with both states in developing a sound approach to the overall project. The Program is a specific project listed in the Iowa and Illinois Transportation Plans and State Railroad Plans. Both Governors and Legislatures have strongly endorsed this program. Both Iowa and Illinois have been active members of MWRRI since 1996 and have signed a cost sharing Memorandum of Understanding (MOU) concerning the Program.

Amtrak would be the passenger train operator under agreement with Illinois DOT and Iowa DOT. Host freight railroads are BNSF between Chicago and Wyanet, Illinois, 112.0 miles; and IAIS between Wyanet and Iowa City, 107.5 miles. BNSF's mainline between Chicago and Wyanet already hosts METRA commuter service in suburban Chicago and eight long-distance Amtrak trains per day on the portion of the route between Chicago and Wyanet. An estimated 186,900 passengers per year would use the trains in the corridor, with the preponderance traveling between two station pairs, Chicago and Iowa City, and Chicago and Moline (this is an average of 512 passengers per day, or 128 per train). Each train would have a capacity of 240 coach seats and 20 business-class seats, offer food service, and operate on a 5-hour schedule between end points, for an average speed of approximately 44 mph including station stops. An intermediate station would be constructed at Moline to serve the Quad Cities area of Illinois and Iowa, population 400,000. The service would earn annual revenues of $4.8 million and would require $6 million in annual operating investment.

This initial passenger service described is anticipated to be an interim step toward an ultimate train density of five round-trips daily with speeds of up to 90 mph, and extension of the Program corridor westward from Iowa City to Des Moines, and later Omaha. Any completed portions of the route would be a component of the Midwest Regional Rail System (MWRRS), a hub-and-spoke system ultimately designed to connect Chicago with principal cities throughout the Midwest. Amtrak

Thruway Bus service could be developed between the rail station in Iowa City, Cedar Rapids, and Waterloo.

Figure 7 – Map of Chicago - Iowa City High Speed Intercity Passenger Rail Project



Infrastructure on the IAIS between Wyanet and Iowa City (and onward to Des Moines; mentioned later) is matched to its role as a regional freight carrier and is insufficient to host the proposed passenger service without substantial additions of track and improvement to track structure. Fortunately, many of the improvements can be constructed on the subgrade of the formerly doubletracked IAIS network. Infrastructure needed to support the proposed passenger train service on IAIS includes:

- Installation of sidings, crossovers, and second main track to enable passenger trains and freight trains to make meet-pass events and operate without creating either delays for passenger trains or loss of efficiency for freight trains. Many sidings on IAIS can already accommodate its through freight trains of 9,000 feet in length or shorter, and are generally at intervals of 20 to 25 miles. Existing sidings at Atkinson, Silvis, Moline, and Rock Island, Illinois; and Walcott, North Star, West Liberty, and Iowa City, Iowa, may be used or extended to accommodate meet events. Also proposed is a new siding at American (Iowa City); a short stretch of double track at Iowa City to enable freight trains to switch and meet passenger trains and a longer segment with crossovers between Rock Island and Silvis to eliminate possible delays with IAIS, BNSF, and Canadian Pacific train movements in the Quad Cities; installation of a main track bypass on the north side of the IAIS yard at Rock Island to enable passenger trains to avoid passing through the yard at low speeds where they would encounter numerous turnouts; and a new 0.8-mile connection track to the BNSF at Wyanet.

- Improvement of track structure to increase nominal maximum non-urban track speed from 40 mph to 79 mph, and urban track speed through the Quad Cities and Iowa City from 10 to 20 mph, to 30 or 40 mph, or greater. Much of the rail on the IAIS between Wyanet and Iowa City is 115 lb. or heavier and long stretches of welded rail exist, including some recent installations between Rock Island and Iowa City. Currently, the IAIS is maintained to FRA Class 3 track standards or better, which allows maximum speed limits of 40 mph for freight and 60 mph for passenger. Upgrades would consist of surfacing, ballast dressing, tamping, and aligning to improve track geometry and reduce maintenance frequency needs; installation of 8.8 miles of welded rail to eliminate jointed rail, larger turnout sizes to enable higher track speeds on diverging routes, and 89,000 wood crossties to improve FRA track class and to reduce ongoing maintenance.
- Installation of Centralized Traffic Control (CTC) to enable passenger trains to operate at speeds of up to 79 mph, and to enable a high degree of train dispatcher control, flexibility, and to increase the capability of the train dispatcher to issue more frequent control decisions. IAIS' present Method of Operation between Wyanet and Iowa City is Track Warrant Control (TWC), a system in which trains receive operating authority on the main track through verbal instructions from a train dispatcher, transmitted in most cases by radio, is insufficient to meet the scope of operations that will include two or more pairs of passenger trains.
- Installation of Positive Train Control (PTC) technology to enable the entire route to be in compliance with the Railroad Safety Improvement Act of 2008. According to the Federal Railroad Administration (FRA), PTC is capable of preventing train collisions, overspeed derailments, and casualties or injuries to field railroad workers. The deadline for PTC implementation is 2015.
- Upgrading, replacement, or new installation of some grade crossing signals to increase safety, efficiency, and compatibility with higher train speeds and passenger rail operation.
- Acquisition or construction of station facilities at Geneseo, Moline, and Iowa City. A new multimodal transportation facility is proposed for Moline, which would serve the Quad Cities, and Geneseo and Iowa City could make use of local historic resources by using Chicago, Rock Island & Pacific depots, with some modifications and improvements to facilities, platforms, and parking to accommodate full accessibility and the specific needs of the service. The service will use existing stations on BNSF and Amtrak between Chicago and Wyanet.

- Construction of a layover facility in Iowa City or Coralville for passenger trains that terminate at Iowa City and do not return to Chicago for long periods of time.
- Installation of a fourth main track and crossovers at Eola, Illinois, to enable meet-pass events to occur for the new Iowa City passenger trains west of Eola.

The Chicago-Dubuque service

The Chicago – Dubuque service, which lies almost completely in Illinois, is a logical and cost-effective means of reinstating passenger trains over the Canadian National corridor between Chicago, Waterloo, and Sioux City, and demonstrates the commitment and cooperative spirit that exists between Iowa and Illinois. High ridership and revenue figures and the need for few infrastructure improvements between Chicago and Dubuque make it a feasible first phase option.

The state of Illinois and various public and private stakeholders along the route in both states are seeking initiation of a new, 79-mph intercity passenger service connecting the populous Chicago and Rockford metropolitan areas with the burgeoning tourism centers of Galena and Dubuque. The only Iowa metropolitan area served by the corridor – Dubuque – had an estimated 2008 population of 92,724.

An Amtrak Feasibility Report completed in 2007 showed that the single daily roundtrip in the corridor would attract an estimated annual ridership of 74,500 and that travel time on CN and Amtrak between Chicago and Dubuque would be about five hours and would require a single train set to support the service. From a schedule standpoint, the train would leave Dubuque eastbound in the early morning and leave Chicago Union Station westbound in the early evening. The service would earn annual revenues $1.5 million and would incur $4.4 million in annual operating expense.

While the CN route has been identified as a possible route for new service in the Chicago – Omaha corridor, major metropolitan areas along the line would likely be better served and more directly linked by an independent Chicago – Sioux City service via Dubuque.

Illinois Central Railroad (IC), now a component of CN, offered its overnight *Hawkeye* passenger service between Chicago and Sioux City via Dubuque (a 510-mile service corridor) until the 1971 advent of Amtrak. After a three-year hiatus, passenger service in the Chicago-Rockford-Galena-Dubuque corridor returned in 1974 with a daily pair of Amtrak intercity trains – the *Black Hawk* – on the Illinois Central Gulf. The service over Illinois Central Gulf was partially funded by the Illinois Department of Transportation and offered a scheduled time of 4 hours and 10 minutes over the 183 miles between Chicago and Dubuque (all but 2 miles of the route lie within the state of Illinois).

The *Black Hawk* was discontinued in 1981 leaving potential riders to avail themselves of scheduled bus service and the automobile. Public support for reinstatement of rail service in Iowa and Illinois has been mounting for a generation and is widely seen as a viable option for decreasing automobile traffic on parallel Interstate 90 and U.S. Highway 20. Portions of the latter roadway in northwestern

Illinois are still two-lane and are subject to traffic delays during weekend travel periods and inclement weather.

The route is mostly singletrack with passing sidings at regular intervals and is signaled by Central Traffic Control (CTC) between Dubuque and Freeport and a combination of Automatic Block System (ABS) and Track Warrant Control (TWC) from Freeport to Chicago. Passenger trains must negotiate numerous grades and sharp curves in extreme northwestern Illinois, where the railroad must follow small tributary rivers to fight its way out of the Mississippi River valley, and delays incurred at a swingbridge over the Mississippi River which is opened frequently for barge traffic. Passenger trains on the route would share a doubletrack mainline with BNSF between Portage and East Dubuque, Illinois.

Following the plan of incremental corridor growth, the Chicago-Dubuque service could be extended westward over CN in the next 25 years to reach the growing metropolitan areas, universities, and businesses of central and northern Iowa in the east-west U.S. Highway 20 corridor and terminate at Sioux City. Such a service would tap Waterloo (276 miles west of Chicago), Cedar Falls (282 miles west of Chicago), Iowa Falls (326 miles west of Chicago and the location of a possible connection and joint station facility with an eventual Minneapolis-Des Moines-Kansas City service via UP), Fort Dodge (375 miles west of Chicago), Storm Lake (428 miles west of Chicago), Cherokee (451 miles west of Chicago), Le Mars (485 miles west of Chicago), and Sioux City (510 miles west of Chicago). Amtrak Thruway Bus service could be developed to promote interstate travel via public transportation and funnel riders from Sioux City to Sioux Falls, Fort Dodge to Council Bluffs and Omaha, Waterloo to Mason City and Cedar Rapids, and Dubuque to Cedar Rapids and Iowa City.

Infrastructure on the CN between Chicago and Dubuque is generally well-suited to host the proposed passenger service without substantial additions of track and improvement to track structure. Infrastructure needed to support the proposed passenger train service on CN in Iowa includes:

- Installation of sidings, crossovers, and second main track between the Mississippi River swingbridge and the Dubuque station (about 2 miles) to enable passenger trains and CN and Canadian Pacific freight trains (the latter road has trackage rights on the CN between Dubuque and Wood) make meet-pass events and operate without creating either delays for passenger trains or loss of efficiency for freight trains. Depending upon where the station is located, it may be necessary to install a main track bypass on the east side of the CN mainline and yard at Dubuque to enable passenger trains to avoid passing through the yard at low speeds where they would encounter freight train switching operations and numerous turnouts. Consideration should be given to the operational layout necessary for a future westward service extension and possible future increases in CN and CP freight traffic when selecting a location for the main track bypass.
- Much of the rail on the CN mainline in the Dubuque area is 115 lb. or heavier and some welded rail exists. Currently, the CN is maintained to FRA Class 3 track standards in Iowa and Illinois,

and nearly always better, which allows maximum speed limits of 40 mph for freight and 60 mph for passenger. Only minor upgrades would be necessary in the Dubuque area, including installation of welded rail to eliminate jointed rail, larger turnout sizes to enable higher track speeds on diverging routes, and wood crossties to improve FRA track class and to reduce ongoing maintenance.

- Installation of Positive Train Control (PTC) to enable the entire route to be in compliance with the Railroad Safety Improvement Act of 2008. The deadline for PTC implementation is 2015.
- Upgrading, replacement, or new installation of some grade crossing signals to increase safety, efficiency, and compatibility with higher train speeds and passenger train operations.
- Acquisition or construction of station facilities at Dubuque. A historic Chicago, Burlington & Quincy depot of brick construction adjacent to the CN mainline could be used with some modifications and improvements to facilities, platforms, and parking to accommodate full accessibility and the specific needs of the service. The brick IC depot used by Amtrak from 1974 until 1981 was razed to make way for a reconfiguration of roadways and railroads in downtown Dubuque.
- Construction of a layover facility in Dubuque for passenger trains that terminate at Dubuque and do not return to Chicago for long periods of time.

The Iowa City-Des Moines service

A second phase of the Chicago-Iowa City service over IAIS would involve a 121-mile extension of 79 mph passenger service from Iowa City to Des Moines, Iowa's capital and largest metropolitan area, with a population of 481,000 in 2000. The service would include two daily roundtrips on a 6-hour schedule between Chicago and Des Moines and the route between the two cities could be upgraded to support 90 mph passenger train operation over the entire corridor. The Chicago, Rock Island & Pacific's Chicago-Des Moines-Omaha *Cornhusker* was the last passenger train to serve this corridor when it was discontinued in 1970. Stations west of Iowa City could include Grinnell (303 miles west of Chicago), Newton (321 miles west of Chicago), and Des Moines (358 miles west of Chicago). Possible sites for a second station in Des Moines metropolitan area could be situated on either the east side of Des Moines (possibly near the Iowa State Fairgrounds) or the suburb of Altoona (the home of the Adventureland amusement park and resort). Amtrak Thruway bus service could be initiated from Des Moines to Ames, Boone, Fort Dodge, and Mason City to stimulate train ridership.

As is the case with the Wyanet-Iowa City segment to the east, infrastructure on the IAIS between Wyanet and Iowa City is best suited to supporting a regional freight carrier and is insufficient to host the proposed passenger service without substantial additions of track and improvement to track structure. Unlike the Wyanet-Iowa City segment, which features the subgrade of the formerly doubletrack IAIS network, the Iowa City-Des Moines segment rests mostly on a singletrack alignment, which makes some capacity improvements more difficult and costly. Infrastructure needed to support the proposed passenger train service on IAIS includes:

- Installation of sidings, crossovers, and second main track to enable passenger trains and freight trains to make meet-pass events and operate without creating either delays for passenger trains or loss of efficiency for freight trains. Many sidings on IAIS can already accommodate its through freight trains of 9,000 feet in length or shorter, and are generally at intervals of 20 to 25 miles. Existing sidings at Homestead, Marengo, Brooklyn, Grinnell, Newton, and Colfax may be used or extended to accommodate meet events.
- Threading through the Des Moines terminal area more efficiently presents some unique challenges for any future passenger rail service, namely because UP owns and operates the former Chicago, Rock Island & Pacific mainline through much of the metropolitan area. IAIS employs trackage rights over UP from East Des Moines through Short Line Yard (a major terminal facility off of UP's Minneapolis-Des Moines-Kansas City "Spine Line"), Short Line Junction, and downtown Des Moines to West Des Moines, where it regains its own trackage to Council Bluffs. One possibility of enabling passenger trains to avoid passing through Short Line Yard at low speeds, where they would encounter freight train switching operations, numerous turnouts, and uncertain delays, is to construct a bypass around the north side of the yard and to grade separate any intersection with UP's Minneapolis-Des Moines-Kansas City mainline at the west end of the yard by constructing a flyover immediately north of Short Line Junction. Consideration should be given to the operational layout necessary to make a connection with the future westward Minneapolis-Des Moines-Kansas City passenger rail service and possible future increases in UP freight traffic when selecting a location for the bypass and flyover. The route through Des Moines west of Short Line Yard was once doubletrack as far as West Des Moines (the bridge spanning the Des Moines River is evidence of that arrangement and may be sound enough to accommodate two tracks again), but it is now a singletrack mainline plagued by frequent grade crossings, unfavorable track alignment, and urban encroachment. It may be necessary to extend the yard bypass track westward to the Des Moines station to avoid any comingling with freight traffic on the existing trackage, or doubletrack the existing line from a connection with the bypass west of Short Line Junction to the station in downtown Des Moines.
- Improvement of track structure to increase nominal maximum non-urban track speed from 40 mph to 79 mph, and urban track speed through Des Moines from 10 to 20 mph, to 30 or 40 mph, or greater. Much of the rail on the IAIS between Iowa City and Des Moines is 115 lb. or heavier and long stretches of welded rail exist. Currently, the IAIS is maintained to FRA Class 3 track standards or better, which allows maximum speed limits of 40 mph for freight and 60 mph for passenger. Upgrades would consist of surfacing, ballast dressing, tamping, and aligning to improve track geometry and reduce maintenance frequency needs; installation of welded rail to eliminate jointed rail, larger turnout sizes to enable higher track speeds on diverging routes, and wood crossties to improve FRA track class and to reduce ongoing maintenance.
- Installation of Centralized Traffic Control (CTC) to enable passenger trains to operate at speeds of up to 79, 90, or 110 mph, and to enable a high degree of train dispatcher control,

flexibility, and to increase the capability of the train dispatcher to issue more frequent control decisions. IAIS' present Method of Operation between Iowa City and East Des Moines is Track Warrant Control (TWC), a system in which trains receive operating authority on the main track through verbal instructions from a train dispatcher, transmitted in most cases by radio, is insufficient to meet the scope of operations that will include two or more pairs of passenger trains.

- Installation of Positive Train Control (PTC) to enable the entire route to be in compliance with the Railroad Safety Improvement Act of 2008. The deadline for PTC implementation is 2015.
- Upgrading, replacement, or new installation of some grade crossing signals to increase safety, efficiency, and compatibility with higher train speeds and passenger rail operations.
- Acquisition or construction of station facilities at Grinnell, Newton, and Des Moines. Historic Chicago, Rock Island & Pacific depots of brick construction (now privately owned) could be used at all three locations, with some modifications and improvements to facilities, platforms, and parking to accommodate full accessibility and the specific needs of the service.
- Construction of a layover facility in Des Moines for passenger trains that terminate there and do not return to Chicago for long periods of time. The facility could be shared with passenger trains from the proposed Minneapolis-Des Moines-Kansas City route, should an incremental plan be initiated that would see the origin and termination of the service at Des Moines.

Other Passenger Rail Corridors Under Consideration

Additionally, the following corridors have been identified for passenger rail planning in the next 10 years:

- Des Moines-Omaha via IAIS (in the Chicago – Omaha corridor)
- Minneapolis-Des Moines-Kansas City via UP (in the Minneapolis – Kansas City corridor)
- Dubuque-Sioux City via CN (in the Chicago – Sioux City corridor)

Additional corridors, train frequency increases, and maximum speed increases can be prioritized if the Plan is extended.

The Des Moines-Omaha service

A third phase of the Chicago-Iowa City 79 mph service in the Interstate 80 corridor could operate from Des Moines west to Council Bluffs and Omaha, predominantly over the singletrack route owned by IAIS. Previous phases identified as priorities in the Strategic Plan included Chicago – Iowa City and Iowa City – Des Moines segments. Together, the three segments embody the Chicago – Omaha route proposed for the Midwest Regional Rail System, a hub-and-spoke network ultimately designed to connect Chicago with cities throughout the Midwest. The trains would serve the two largest metropolitan areas that encompass Iowa, according to 2008 population estimates from the U.S. Census Bureau: Des Moines (556,230) and Omaha/Council Bluffs (837,925). The service could begin at

79 mph and speeds could later be increased to 90 mph. The last Chicago, Rock Island & Pacific passenger train to serve the entire corridor was discontinued in 1970.

The Minneapolis-Des Moines-Kansas City service

A new 79 mph intercity passenger service on this north-south corridor parallel to Interstate 35 would link Des Moines and Mason City with Minneapolis and Kansas City and operate on an existing singletrack UP route through Iowa. The service has been identified in the Strategic Plan and is under consideration for inclusion in Iowa's comprehensive network, set to reach completion within the next 25 years, but it has not been identified as a first-phase operation. Employing the strategy used elsewhere in the state, the service could be introduced incrementally, with separate Minneapolis-Des Moines and Kansas City-Des Moines components. Either segment would connect with existing Amtrak services in Minneapolis or Kansas City and could meet other proposed passenger rail services at Des Moines and Iowa Falls. The last passenger train to serve the entire corridor was the Chicago, Rock Island & Pacific's *Plainsman*, discontinued in 1969.

The Dubuque-Sioux City service

A trans-Iowa passenger service between Dubuque and Sioux City would connect metropolitan areas in the U.S. Highway 20 corridor with a proposed Chicago – Dubuque service identified as a first-phase option in the Strategic Plan. The new, 79 mph service would operate over an existing singletrack route owned by CN and would provide an alternative in a region where air, bus, and personal vehicles are the only means of transportation. U.S. Census Bureau estimates from 2008 place population for metropolitan areas in the corridor at 92,724 for Dubuque; 164,220 for Waterloo/Cedar Falls; and 143,157 for Sioux City. The last passenger train to serve the entire corridor was the Illinois Central's *Hawkeye*, discontinued in 1971.

Chapter 5 – Implementation Plan

A multi-faceted implementation plan has been developed that will examine the logistics and cost of initiating, funding, and sustaining the three, first-phase services identified in the Strategic Plan – Chicago-Iowa City, Chicago-Dubuque, and Iowa City-Des Moines. It will examine three scenarios for planning, design, construction, and operating and maintenance costs and suggest Iowa DOT funding needs for each year. This chapter will also explain how Iowa might update the Plan to explore the feasibility of extending first-phase services and creating new, second-phase services in the 25-year horizon.

An accelerated schedule for the implementation of passenger rail service on each of the three corridors listed in Table 3 below illustrates the timeframe necessary for the completion of planning activities, Tier 2 NEPA preliminary engineering, final design, construction and testing, and operations.

Table 3 - Iowa DOT Passenger Rail Implementation Plan - Aggressive Schedule

Iowa DOT Passenger Rail Implementation Plan - Aggressive Schedule

(Iowa DOT dollars in thousands)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total:
Chicago - Iowa City via IAIS												
Chicago - Dubuque												
Iowa City - Des Moines via IAIS												
Chicago - Omaha via IAIS (Planning)												
Iowa DOT Funding Needs	4,000	4,000	4,000	12,000	20,000	20,000	20,000	20,000	12,000	12,000	12,000	**140,000**

Planning Activities | Tier 2 NEPA / PE | Final Design

Construction / Testing | Operations

Table 3 above shows an aggressive timetable for the implementation of passenger rail service in Iowa and illustrates the schedule necessary for the completion of planning activities, Tier 2 NEPA preliminary engineering, final design, construction and testing, and operations and assumes 80 percent Federal funding. The schedule is controlled by a best-case scenario development process and is not constrained by state funding levels.

Table 4 - Iowa DOT Passenger Rail Implementation Plan – Moderate Schedule - Iowa City to Des Moines

Iowa DOT Passenger Rail Implementation Plan - Moderate Schedule - Iowa City to Des Moines

(Iowa DOT dollars in thousands)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total:
Chicago - Iowa City via IAIS												
Chicago - Dubuque												
Iowa City - Des Moines via IAIS												
Chicago - Omaha via IAIS (Planning)												
Iowa DOT Funding Needs	4,000	4,000	4,000	4,000	16,000	16,000	16,000	16,000	16,000	16,000	12,000	**124,000**

Planning Activities | Tier 2 NEPA / PE | Final Design

Construction / Testing | Operations

Table 4 above shows a moderate timetable for the implementation of passenger rail service in Iowa and illustrates the schedule necessary for the completion of planning activities, Tier 2 NEPA preliminary engineering, final design, construction and testing, and operations and assumes 80 percent Federal funding. The development schedule is conservative and moderately constrained by state funding levels.

Table 5 - Iowa DOT Passenger Rail Implementation Plan - Base Constant Funding at $5 Million / Year

Iowa DOT Passenger Rail Implementation Plan – Constant Funding at $5 Million / Year

(Iowa DOT dollars in thousands)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Chicago - Iowa City via IAIS												
Chicago - Dubuque												
Iowa City - Des Moines via IAIS												
Chicago - Omaha via IAIS (Planning)												**Total:**
Iowa DOT Funding Needs	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	**55,000**

Planning Activities | Tier 2 NEPA / PE | Final Design

Construction / Testing | Operations

Table 5 above shows a timetable with constant funding of $5 million per year for the next 10 years for the implementation of passenger rail service on each of the three corridors and illustrates the schedule necessary for the completion of planning activities, Tier 2 NEPA preliminary engineering, final design, construction and testing, and operations and assumes 80 percent Federal funding. The development schedule is conservative and is constrained by limited, but constant state funding levels.

Planning Beyond the 10-Year Horizon

In order to support the state's efforts to explore alternative transportation and take into account the travel needs of the next generation of Iowans, the Iowa DOT will review, update, and modify the Strategic Plan and verify the assumptions and conclusions contained therein at sustained regular intervals to capture the most accurate data, timely public consensus, ongoing endorsement by host railroads, and the latest concerns from all stakeholders.

Such oversight would show responsibility, initiative, and adherence to a strong planning process, and be in concert with Iowa's value system. Regular review of the Plan and its myriad components could yield important changes in data, which could assist policymakers in making the most sound and logical decisions regarding the expansion of passenger rail service in the state. Employing the strategy used in the Strategic Plan, existing services could be expanded incrementally and new services introduced in previously unserved corridors. The combination of first (within 10 years) and second-phase (beyond the initial 10-year period) rail services would flesh out an optimal rail system, which is planned to connect all metropolitan areas in Iowa with cities in adjacent states within 25 years.

The purpose of an updated Plan is to:

- Identify passenger rail corridor priorities through 2035
- Form the basis for detailed feasibility studies for each corridor
- Take into account the needs of all public and private stakeholders in Iowa
- Estimate relative costs for implementation and operation of passenger rail corridors
- Identify Federal and state funding required to implement the Plan
- Contribute to economic growth and strengthen manufacturing, service, and tourism in Iowa and to improve access to neighboring states
- Discuss a much-needed travel alternative in critically important economic regions of the state, resulting in lower congestion levels and reductions in emissions on highways and in airports as travelers are being diverted from air, bus, and personal automobile to passenger rail
- Document Iowa's planning process, including the involvement of advisory groups such as the Passenger Rail Advisory Committee

A primary function of the updated Plan would be to examine in detail corridors identified for new or expanded services in the next 25 years and discuss the feasibility of each. To that end, the Plan would:

- Identify areas with high ridership potential
- Outline the cost of design, construction, operation, and maintenance of expanded services

- Improve reliability for rail passengers and reduce travel times in existing corridors by instituting a higher frequency and faster speed of service (e.g. 79 mph to 90 to 110 mph)
- Increase safety through improved signaling and infrastructure
- Create more comfort through modern amenities (e.g. improved station facilities, broader food/beverage service, greater access to technology)
- Identify operating, maintenance, and equipment synergies with existing and other proposed intercity passenger rail services in Iowa
- Explore environmentally responsible methods for designing, constructing, and operating the service through compliance with the National Environmental Policy Act and other Federal, state, and local regulations
- Serve as the impetus for significant public/private development opportunities near stations
- Bolster connectivity with other transportation modes and public transportation networks

The updated Plan would embody the same format as the existing version of the Strategic Plan and would be compiled in much the same manner. Any new versions would be crafted by the Iowa DOT in cooperation with host railroads, rail industry and public policy experts, PRAC, and communities. The final document would be available to the public in print and electronic form from the Iowa DOT.