

CHAPTER 1

PURPOSE AND NEED

The Iowa Department of Transportation (Iowa DOT), in conjunction with the Federal Railroad Administration (FRA), is evaluating alternatives for the expansion of intercity passenger rail service from Chicago, Illinois, through Iowa, to Council Bluffs, Iowa, and Omaha, Nebraska (the Project). Intercity passenger rail service provides “connectivity between major urban centers” (MWRRI, September 2004). Iowa DOT’s evaluation is documented in this Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study (the Study) Tier 1 Service Level Environmental Impact Statement (EIS). Past planning documents identified a “Chicago to Omaha” corridor, so for the purposes of this analysis, the corridor reference will remain as previously designated. The Project name includes “Council Bluffs” in the title because the Project terminus is the Omaha/Council Bluffs metropolitan area; “Council Bluffs” is listed before Omaha because it is located between Chicago and Omaha. For passenger rail projects, this Tier 1 EIS focuses on broad corridor and service level issues, while subsequent Tier 2 analyses would focus on the details of a specific project or action.

This Tier 1 EIS evaluates the No-Build Alternative and the Build Alternative as described in Chapter 2. In addition, following publication of the Tier 1 Draft EIS, Iowa DOT determined that an interim implementation phase for the Project would be needed, as described in Chapter 2.

This chapter describes the history of the Project, the Study Area, the purpose of and need for the Project, decisions to be made based on this Tier 1 EIS, and other transportation projects in and near the Study Area.

1.1 HISTORY

The existing rail lines that are proposed to be used to provide passenger service from Chicago, Illinois, through Iowa, to Omaha, Nebraska, were all in place by 1871 (Colton, 1871) and are among the oldest rail lines in the region. The railroads were initially constructed to carry passengers and to haul a variety of freight and have evolved into very busy railroads (Hudson, 2005). Most of the passenger service along these routes began in the 1850s, 1860s, and 1870s (Young, 2005). By the 1880s, commuter rail service in Chicago had been developed in a hub-and-spoke¹ pattern, extending 30 to 40 miles in 15 different directions from downtown Chicago (Conzen, 2005). This hub-and-spoke system is still operating today as Chicago’s Metra (Young, 2005). Intercity passenger rail service generally was terminated by the 1970s, when railroad passenger service declined nationally, and was consolidated into Amtrak (Hudson, 2005). In the Chicago metropolitan area, the section between Chicago and Naperville, Illinois, carries the heaviest volume of commuters (Hudson, 2005).

¹ A hub-and-spoke passenger rail system provides transportation to a central location. From this central location (the hub), one can travel to various other destinations (the spokes).

The Midwest Regional Rail Initiative (MWRRI) was established in 1991 as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) (Public Law [PL] 102-240) and its reauthorization in 1998 with the Transportation Equity Act for the 21st Century (TEA-21) (PL 105-178). ISTEA and TEA-21 included a broader national effort to support high-speed rail investment. Nine transportation agencies across the Midwest, along with Amtrak, sponsored the MWRRI:

- Illinois Department of Transportation
- Indiana Department of Transportation
- Iowa Department of Transportation
- Michigan Department of Transportation
- Minnesota Department of Transportation
- Missouri Department of Transportation
- Nebraska Department of Roads
- Ohio Rail Development Commission
- Wisconsin Department of Transportation

As a result of the MWRRI and the national high-speed rail initiative, numerous corridors were identified and refined, with Chicago as the hub. Between 1996 and 2004, a single transportation plan was developed that included all of these corridors; this plan is known as the Midwest Regional Rail System. Meanwhile, numerous studies were completed with regard to bus service integration with the MWRRI; financial, economic, market, and transportation analyses; infrastructure and capital costs; operating costs; and institutional and organizational issues. These efforts culminated in 2004, when the MWRRI issued the *Midwest Regional Rail Initiative Project Notebook* (MWRRI, June 2004) and the *Midwest Regional Rail System: A Transportation Network for the 21st Century, Executive Report* (MWRRI, September 2004).

Since 2004, efforts have progressed to develop the various corridors. In 2006, the *Midwest Regional Rail Initiative Project Notebook*, Chapter 11, Benefit Cost and Economic Analysis, was updated to reflect economic conditions at that time (MWRRI, November 2006). The nine passenger rail corridors originally considered for the Midwest Regional Rail System included (see Figure 1-1):

- Chicago to Detroit/Grand Rapids/Port Huron, Michigan
- Chicago to Cleveland, Ohio
- Chicago to Cincinnati, Ohio
- Chicago to Carbondale, Illinois
- Chicago to St. Louis, Missouri
- St. Louis, Missouri, to Kansas City, Missouri
- Chicago to Quincy, Illinois
- Chicago to Omaha, Nebraska
- Chicago to Milwaukee, Wisconsin, and to St. Paul, Minnesota/Green Bay, Wisconsin

Planning, design, and development for passenger rail corridors have progressed since the original conception of the Midwest Regional Rail System. Figure 1-2 shows the currently proposed rail corridor in the Great Lakes Megaregion as it is anticipated to exist in 2050.



Midwest Regional Rail System

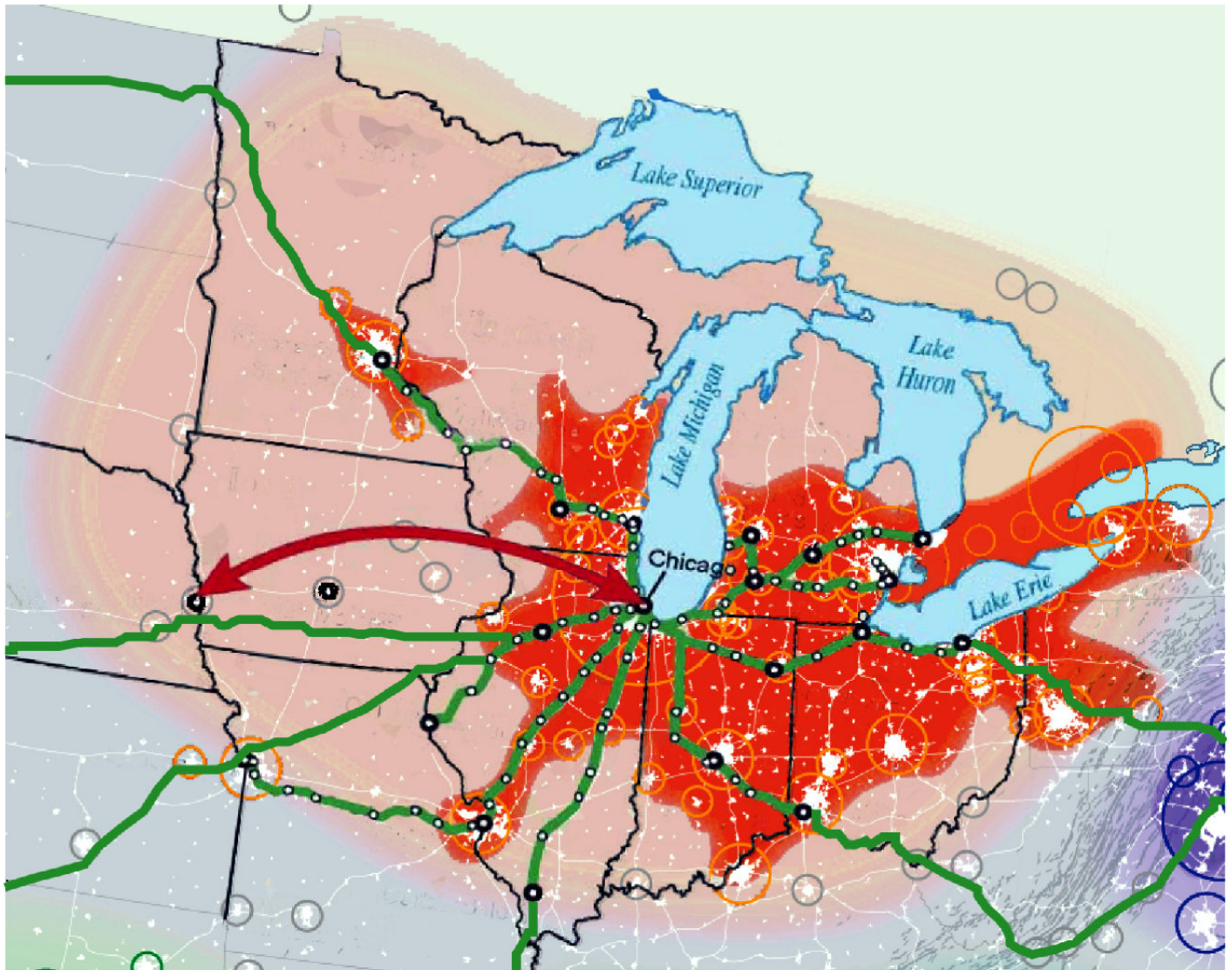
Chicago to Council Bluffs - Omaha
Regional Passenger Rail System Planning Study

DATE

May 2013

FIGURE

1-1



- Megaregion ■ Area of influence ↔ Chicago to Council Bluffs-Omaha
- Current long-distance and intercity passenger rail routes

Regional Plan Association, 2013,
America 2015 (<http://www.america2050.org>).



Great Lakes Megaregion Rail System and Areas of Influence (2050)

Chicago to Council Bluffs - Omaha
Regional Passenger Rail System Planning Study

DATE

May 2013

FIGURE

1-2

In 2009 and 2010, Iowa DOT and the Illinois Department of Transportation (Illinois DOT), in conjunction with FRA, evaluated alternatives for the corridor extending from Chicago Union Station to Iowa City, Iowa, with the completion of the Chicago to Iowa City Intercity Passenger Rail Service Tier 1 Service Level Environmental Assessment. On October 28, 2010, FRA awarded Iowa DOT and Illinois DOT a grant of \$230 million to proceed with the Chicago to Iowa City corridor Tier 2 Project Level studies and construction activities.

In 2010 and 2011, additional studies were completed for the MWRRI prior to commencement of the Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study. These studies included MWRRI corridor alternatives analysis, capital cost updates, operating equipment configurations and performance standards, advanced train control, and public outreach (MWRRI, 2011). The Chicago to Omaha corridor (the Corridor) was included in these studies.

The MWRRI includes many high-speed (that is, 110 miles per hour [mph]) passenger rail corridors, but the MWRRI initially identified the service between Chicago and Omaha for conventional-speed (that is, 79 mph) and not high-speed service. The 2010 and 2011 studies expanded the analysis to include five round-trips per day between Chicago and Des Moines and four round-trips per day between Chicago and Omaha (MWRRI, 2011). Subsequent to these studies, Iowa DOT and FRA concluded that analysis for speeds up to 110 mph is warranted for the Chicago to Omaha Corridor. The Project includes a maximum of seven round-trips per day at maximum authorized track speeds of up to 110 mph between Chicago and Omaha.

As stated in the *Midwest Regional Rail Initiative Project Notebook* (MWRRI, June 2004), full implementation of the MWRRI would significantly improve Midwest passenger rail service by:

- Upgrading existing rail lines to permit frequent, reliable, high-speed passenger train operations
- Accommodating operation of a hub-and-spoke passenger rail system that provides through-service and connectivity in Chicago to locations throughout the Midwest region
- Introducing modern train equipment that offers improved amenities operating at speeds of up to 110 mph
- Providing multimodal connections and feeder bus systems to improve access to the rail system
- Introducing a contracted rail operation that improves efficiency, reliability, and on-time performance

With full implementation, the Midwest Regional Rail System would encompass approximately 3,000 route miles in the sponsor states and would attract approximately 13.6 million passengers annually. Approximately 90 percent of the Midwest region's population would be within an hour's ride of a Midwest Regional Rail System rail station and/or within 30 minutes of a Midwest Regional Rail System feeder bus station (MWRRI, September 2004).

On October 14, 2011, FRA agreed to a phased implementation approach for the Chicago to Iowa City corridor. Illinois DOT is proceeding with the Tier 2 studies and construction activities for the portion of the corridor extending from Chicago to Quad Cities (East Moline,

Moline, and Rock Island, Illinois, and Davenport and Bettendorf, Iowa) with a terminus in Moline, Illinois. Iowa DOT would conduct Tier 2 studies for the portion of the corridor from the Quad Cities to Iowa City.

While the Chicago to Iowa City service and Chicago to Council Bluffs-Omaha service may ultimately use the same corridor from Chicago to Iowa City for implementation, the level of service under consideration is different. From Chicago to Iowa City, service was evaluated for the Tier 1 analysis at a maximum of five round-trip trains per day at speeds up to 79 mph, while the Chicago to Council Bluffs-Omaha service is being evaluated for a maximum of seven round-trip trains per day at speeds up to 110 mph. The higher maximum speed and frequency of service for the Chicago to Council Bluffs-Omaha service would result in additional impacts, and, therefore, require additional study. For analysis purposes in this Tier 1 EIS, the passenger rail service from Chicago to the Quad Cities is assumed to be constructed and in operation.

1.2 STUDY AREA

The Corridor extends from Chicago Union Station, in downtown Chicago, Illinois, on the east to a terminal in Omaha, Nebraska, on the west. The Study Area consists of the five previously established passenger rail routes between Chicago and Omaha that pass through the states of Illinois and Iowa (Figure 1-3). The Study Area for each route is approximately 500 miles long and 500 feet wide. In Illinois, the Study Area runs generally west from Chicago Union Station, the hub for the MWRRI, to the Mississippi River and, depending on the route, is a distance of between 150 and 250 miles. In Iowa, the Study Area runs west from the Mississippi River for approximately 300 miles across the entire state of Iowa to the Missouri River. In Nebraska, the Study Area terminates in Omaha, which is located at the Missouri River, the eastern border of the state. The general location for the terminal in Omaha will be identified as part of this Study. For each route, the counties that are traversed in Illinois, Iowa, and Nebraska are listed east to west in Table 1-1.

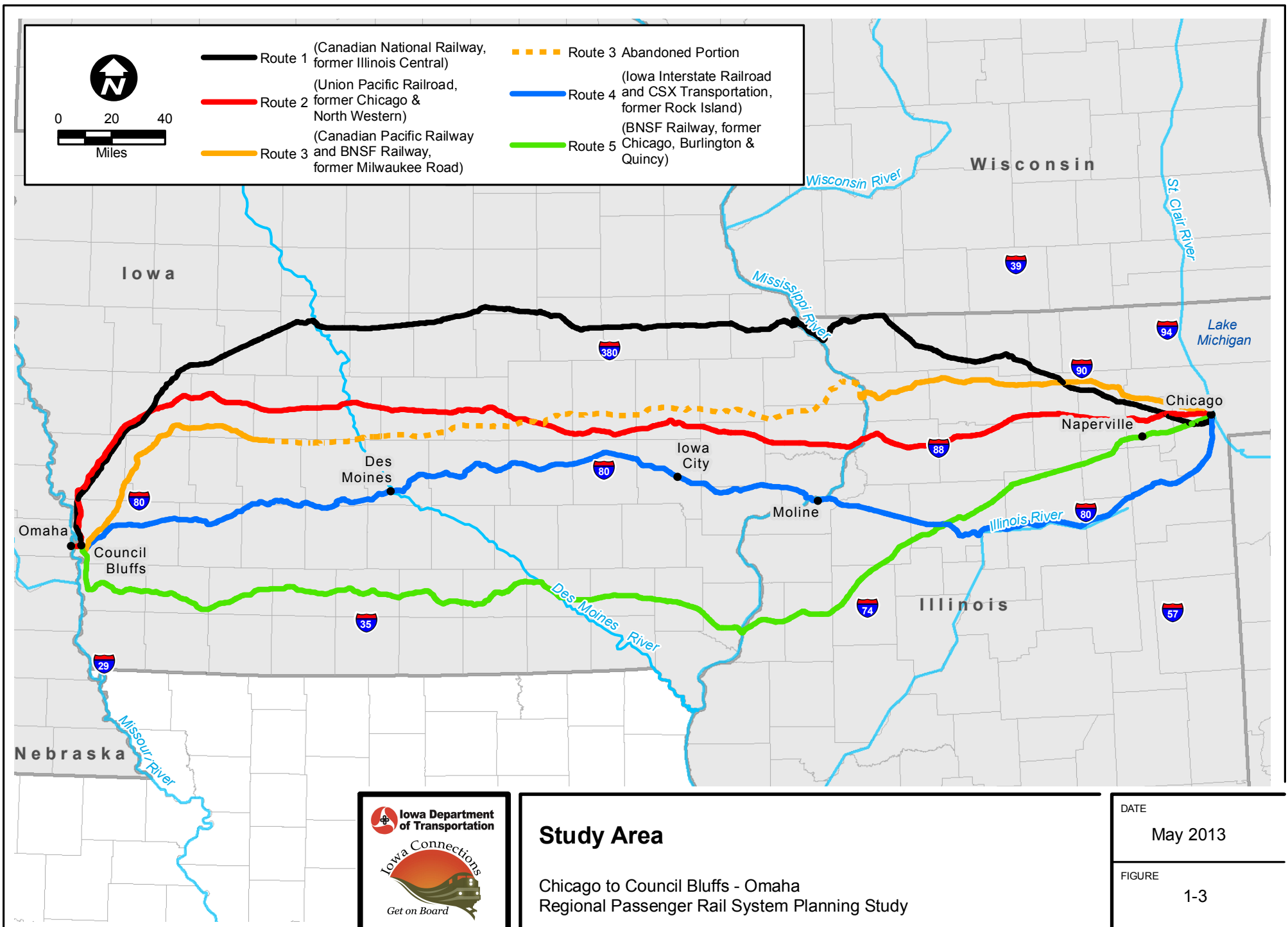


Table 1-1. Counties Traversed by Routes in the Study Area

State	Route 1	Route 2	Route 3	Route 4	Route 5
Illinois	Cook	Cook	Cook	Cook	Cook
	DuPage	DuPage	DuPage	Will	DuPage
	Kane	Kane	Kane	Grundy	Kane
	DeKalb	DeKalb	DeKalb	La Salle	Kendall
	Boone	Ogle	Ogle	Bureau	DeKalb
	Winnebago	Lee	Carroll	Henry	La Salle
	Stephenson	Whiteside		Rock Island	Bureau
	Jo Daviess				Henry Knox Warren Henderson
Iowa	Dubuque	Clinton	Jackson	Scott	Des Moines
	Delaware	Cedar	Clinton	Muscatine	Henry
	Buchanan	Linn	Jones	Cedar	Jefferson
	Black Hawk	Benton	Linn	Johnson	Wapello
	Butler	Tama	Benton	Iowa	Monroe
	Franklin	Marshall	Tama	Poweshiek	Lucas
	Hardin	Story	Marshall	Jasper	Clarke
	Hamilton	Boone	Story	Polk	Union
	Webster	Greene	Boone	Dallas	Adams
	Calhoun	Carroll	Dallas	Madison	Montgomery
	Sac	Crawford	Guthrie	Guthrie	Mills
	Crawford	Harrison	Carroll	Adair	Pottawattamie
	Harrison	Pottawattamie	Crawford	Cass	
	Pottawattamie		Shelby Harrison Pottawattamie	Pottawattamie	
Nebraska	Douglas	Douglas	Douglas	Douglas	Douglas

1.3 PURPOSE AND NEED

1.3.1 Purpose

The Project and the Midwest Regional Rail System are intended “to meet current and future regional travel needs through significant improvements to the level and quality of passenger rail service,” as defined by the MWRRI in its Midwest Regional Rail System Executive Report (MWRRI, September 2004). The Chicago to Council Bluffs-Omaha Regional Passenger Rail System would provide competitive passenger rail transportation between Chicago and Omaha to help meet future travel demands in the Study Area. The Project would create a competitive passenger rail transportation alternative to the available automobile, bus, and air service and would meet needs for more efficient travel between major urban centers by:

- Decreasing travel times
- Increasing frequency of service
- Improving reliability
- Providing an efficient transportation option
- Providing amenities to improve passenger ride quality and comfort
- Promoting environmental benefits, including reduced air pollutant emissions, improved land use options, and fewer adverse impacts on surrounding habitat and water resources

1.3.2 Need

The need for the Project stems from the increasing travel demand resulting from population growth and changing demographics along the Corridor as well as the need for competitive and attractive modes of travel (MWRRI, June 2004).

1.3.2.1 Travel Demand

Travel demand is the total demand for travel services in the Corridor. Between 2000 and 2010, the Chicago and Omaha/Council Bluffs metropolitan statistical areas (MSAs) have seen growth of 3.3 and 20.7 percent, respectively (U.S. Census Bureau, 2010). As shown in Table 1-2, the combined population in Illinois, Iowa, and Nebraska has increased by 14.8 percent between 1970 and 2010 (U.S. Census Bureau, March 27, 1995, and 2010). Not only is population increasing in the area, but it is also becoming more urbanized, with expanded access to and demands for public transportation (Iowa DOT, December 27, 2010). For example, Iowa has historically had a mostly rural population; however, that trend has shifted, and 64 percent of the population lived in urban areas in 2010 (U.S. Census Bureau, April 2, 2012).

Table 1-2. Population Change

State	Total Population & Urban/Rural Percent of Total			Percent Change (+/-) Between 1970 and 2010
	1970	2000	2010	
Illinois	11,113,976	12,419,293	12,830,632	+15.4
Urban	9,251,930 (83.2%)	10,909,520 (87.8%)	11,353,553 (88.5%)	+22.7
Rural	1,862,046 (16.8%)	1,509,773 (12.2%)	1,477,079 (11.5%)	-20.7
Iowa	2,824,376	2,926,324	3,046,355	+7.9
Urban	1,616,405 (57.2%)	1,787,432 (61.1%)	1,950,256 (64.0%)	+20.7
Rural	1,207,971 (42.8%)	1,138,892 (38.9%)	1,096,099 (36.0%)	-9.3
Nebraska	1,483,493	1,711,263	1,826,341	+23.1
Urban	912,598 (61.5%)	1,193,725 (69.8%)	1,335,686 (73.1%)	+46.4
Rural	570,895 (38.5%)	517,538 (30.2%)	490,655 (26.9%)	-14.1
Total State	15,421,845	17,056,880	17,703,328	+14.8
Total Urban	11,780,933 (76.4%)	13,890,677 (81.4%)	14,639,495 (82.7%)	+24.3
Total Rural	3,640,912 (23.6%)	3,166,203 (18.6%)	3,063,833 (17.3%)	-15.8

Sources: U.S. Census Bureau, March 27, 1995, "County Population Census Counts 1900-90," retrieved December 5, 2011, <http://www.census.gov/population/www/censusdata/cencounts/index.html>.

U.S. Census Bureau, February 26, 2003, Urban and Rural Population for the U.S. and all States: 1900 – 2000, retrieved April 11, 2013, <http://data.iowadatatcenter.org/datatables/UnitedStates/urusstpop19002000.pdf>.

U.S. Census Bureau, 2010, Census 2010, Summary File 1, Table P12: SEX BY AGE - Universe: Total population, generated by Kelly Farrell using American FactFinder, retrieved December 19, 2011, <http://factfinder2.census.gov/main.html>.

U.S. Census Bureau, April 2, 2012, Urban and Rural Population by State, 2010, retrieved April 11, 2013, <http://www.census.gov/geo/www/ua/2010urbanruralclass.html>.

The predominant mode of travel in the region is the automobile. Highway access between Chicago and Omaha is provided through Interstate 80 (I-80) and Interstate 88 (I-88), portions of which are toll road, as well as a number of federal and state highways. Table 1-3 shows the total trips estimated by mode within the Corridor for the year 2040.

Table 1-3. Total Trips by Mode for the Year 2040

Mode of Travel	Total Trips ^a	Percent of Total
Automobile	108,300,000	97.7%
Air	1,832,000	1.7%
Bus	533,000	0.4%
Passenger Rail	168,000	0.2%
Total	110,833,000	100%

Note:

^a Excludes short trips of less than 100 miles.

The population is also aging and is increasingly seeking alternative modes of transportation. As shown in Table 1-4, between 2000 and 2010, the population of individuals who are 65 years of age and over in Illinois, Iowa, and Nebraska has increased by 7.3, 3.8, and 6.2 percent, respectively (U.S. Census Bureau, 2000 and 2010). Within the Chicago and Omaha MSAs, the growth of the population of individuals who are 65 years of age and over, a population segment who tend to rely more on public transportation, is 8.2 and 25.9 percent higher, respectively, in 2010 compared to 2000 (Iowa DOT, 2012b; Iowa DOT, December 27, 2010; U.S. Census Bureau, 2000 and 2010).

Table 1-4. Population 65 Years of Age and Over

State	Total Population 65 Years of Age and Over (Percentage of Total Population)		Percent Increase Between 2000 and 2010
	2000	2010	
Illinois	1,500,025 (12.1)	1,609,213 (12.5)	7.3
Iowa	436,213 (14.9)	452,888 (14.9)	3.8
Nebraska	232,195 (13.6)	246,677 (13.5)	6.2
Total	2,168,433 (12.7)	2,308,778 (13.0)	6.5
Chicago MSA	998,464 (10.9)	1,079,893 (11.4)	8.2
Omaha MSA	76,345 (10.6)	96,098 (11.1)	25.9

Source: U.S. Census Bureau, 2010, *Census 2010, Summary File 1, Table P12: SEX BY AGE - Universe: Total population, generated by Kelly Farrell using American FactFinder*, retrieved December 19, 2011, <http://factfinder2.census.gov/main.html>.

1.3.2.2 Competitive and Attractive Travel Modes

Introducing intercity passenger rail service connecting major urban centers in the Corridor, which are the proposed station stops, would provide a competitive modal option for travel in the Corridor. The travelling public selects travel modes based on a combination of trip time, cost, and convenience. As shown in Table 1-3, approximately 98 percent of travel between city pairs in the Study Area is estimated to occur by automobile, with air, bus, and passenger rail travel making up the remainder.

Intercity passenger rail service would provide an option to highway and air travel between major urban centers in the face of a growing and aging population and increasing congestion on Midwest highways and at Midwest airports. For example, highway vehicle miles traveled in Iowa have increased 37 percent since 1990, and I-80 in Chicago, Des Moines, and Omaha currently experience peak-period congestion and capacity issues. Chicago O'Hare International Airport is the second busiest airport in the nation (Iowa DOT, 2012b; U.S. DOT, January 2012).

Travel modes available to the public along the Corridor include automobile, air, bus, and conventional-speed long-distance passenger rail. The primary automobile travel route is Interstate 88 (I-88) between Chicago and East Moline, approximately 160 miles, and Interstate 80 (I-80) between East Moline and Downtown Omaha, approximately 313 miles. From southern Chicago, the entire route along I-80 from Chicago to Omaha is approximately 470 miles. A one-way trip by automobile between Chicago and Omaha along either of these routes at posted interstate speeds would take about 8 hours during off-peak hours. Using the

2012 Internal Revenue Service standard of \$0.555 per mile,² the cost of driving round-trip between Omaha and Chicago with one day of parking in either Omaha (\$5) or Chicago (\$35) is \$547.10 and \$577.10, respectively (FRA and Iowa DOT, 2012).

I-80 is also a major truck route in the region. Between 2010 and 2030, vehicle miles traveled in Iowa on I-80 are expected to increase by more than 65 percent. If no capacity improvements are made, nearly 75 percent of I-80 in Iowa would be bordering on unstable traffic flow, at or beyond capacity (Iowa DOT, January 24, 2012). In Chicago, Des Moines, and Omaha, I-80 currently has peak-period congestion and capacity issues due to a volume/service flow ratio³ greater than 0.95 that results in stop-and-go traffic conditions (Federal Highway Administration [FHWA], November 2010). The remainder of the Corridor is not currently experiencing substantial traffic congestion. By 2040, if no capacity improvements are made, the I-80 corridor between Chicago and Omaha with the exception of rural parts of Illinois will be experiencing peak-period congestion issues due to a volume/service flow ratio greater than 0.95 with stop-and-go traffic conditions (FHWA, November 2010).

Air service is currently available between major cities in the Study Area. Commercial air service is provided in Chicago (Chicago O'Hare International Airport and Chicago Midway International Airport), Moline (Quad Cities International Airport), Des Moines (Des Moines International Airport), and Omaha (Eppley Airfield). Direct flight service between Chicago and Omaha is served by American Airlines, Southwest Airlines, United Airlines, and U.S. Airways. Typical flight times range from 1 hour and 20 minutes to 1 hour and 40 minutes. Direct flight service between Chicago and Des Moines is served by American Airlines, Southwest Airlines, United Airlines, and U.S. Airways. Typical flight times range from 1 hour and 15 minutes to 1 hour and 25 minutes. Direct flight service between Chicago and the Quad Cities is also served by American Airlines, United Airlines, and U.S. Airways. Typical flight times range from 52 minutes to 56 minutes. There is no direct service between Moline and Omaha or between Des Moines and Omaha; typical connections go through Chicago or Minneapolis. Between February 2011 and February 2012, the 17 daily flights between Chicago and Omaha were reliable an average of 79 percent of the time, with the other 21 percent of flights either delayed 15 minutes or more or cancelled (FRA and Iowa DOT, 2012). Tickets purchased with 2 weeks advanced notice typically cost between \$210 and \$1,400 (FRA and Iowa DOT, 2012).

Bus service is provided in a majority of mid-to-large sized cities, with intermittent service in smaller towns. Service between Chicago and Omaha, with multiple stops, was provided by Greyhound. Typical bus service includes two trips per day: one in the early morning and one in the late evening. Typical travel time by bus between Chicago and Omaha ranges from

² The Internal Revenue Service annually adjusts its standard mileage rates to include both the fixed and variable costs of operating a vehicle. These rates can be used for income tax filing for reimbursement for certain uses of vehicles.

³ The volume/surface flow ratio represents the relationship between actual traffic volumes and the maximum capacity of the roadway. No roadway congestion is present when the volume/surface flow ratio is 0.0. Roadways are considered congested when the volume/surface flow ratio is between 0.75 and 0.95. A roadway with a volume/surface flow ratio of 0.95 to 1.0 has traffic volumes approaching or equal to the surface flow is considered to be highly congested, and experiences stop-and-go traffic conditions.

9 hours and 15 minutes for “Express” service to 9 hours and 40 minutes for regular service (Greyhound, 2011). On August 15, 2012, Burlington Trailways took over the Greyhound routes from Omaha (though Greyhound is still maintaining the terminals), including the route from Omaha to Chicago, which features stops in Des Moines, Iowa City, Davenport, and Moline. Bus ticket prices vary from \$40 to \$126 (FRA and Iowa DOT, 2012).

Megabus.com, a subsidiary of Coach USA, is a low-fare express bus service that recently added daily service between Chicago and Omaha with stops in Iowa City and Des Moines. Megabus.com provides two round-trips per day: one in the morning and one in the late evening. The full one-way trip from Chicago to Omaha takes 8 hours and 50 minutes. In addition to low fares, Megabus.com offers competitive amenities including Wi-Fi service, power ports at each seat, and on-board restrooms. However, Megabus.com does not always provide traditional sheltered station stops. In Chicago, the station stop is located adjacent to Union Station. In Omaha, the station stop is adjacent to the parking garage at Crossroads Mall (Megabus.com, 2012).

Current passenger rail service between Chicago and Omaha is part of Amtrak’s long-distance service on the *California Zephyr*. Travel time from Chicago to Omaha on the current Amtrak long-distance, conventional-speed service is approximately 8 hours and 55 minutes and travel time from Omaha to Chicago is approximately 9 hours and 36 minutes (Amtrak, November 7, 2011). Long-distance trains are designed for long-distance passengers and are often inconvenient for regional travelers. Tickets purchased with 2 weeks advanced notice typically cost \$69 to travel from Chicago to Omaha and \$108 to travel from Omaha to Chicago (FRA and Iowa DOT, 2012). The arrival and departure times in Omaha are late at night or early in the morning, which is not consistent with convenient intercity travel. The only major metropolitan community in Iowa that currently has access to passenger rail is Council Bluffs via the once-a-day Amtrak *California Zephyr* (Iowa DOT, December 27, 2010).

Inclement winter weather in the Study Area often creates conditions that impact both highway and air travel, creating a need for an alternative mode that is less prone to winter service interruptions. For example, winter storms (storms lasting 4 or more hours with snowfall rates of 0.20 inch per hour or more) in Iowa reduce traffic volumes by an average of 29 percent (ranging from 16 to 47 percent) depending on total snowfall and wind speeds (Knapp, Kroeger, and Giese, February 2000).

1.4 DECISIONS TO BE MADE

Iowa DOT and FRA must comply with the National Environmental Policy Act (NEPA) due to the proposed use of FRA’s High-Speed Intercity Passenger Rail Program funds for the Project. “The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment” (40 Code of Federal Regulations [CFR] 1500.1).

FRA has issued guidance supporting a tiered NEPA approach that includes Tier 1 NEPA documents followed by Tier 2 NEPA documents (FRA, August 14, 2009). With a tiered approach, the Tier 1 NEPA document evaluates impacts of a broad-scale project with focus on more qualitative than quantitative impacts on specific resources. Following completion of the Tier 1 NEPA document and the associated decision document, Tier 2 NEPA documents

are developed to evaluate quantitatively the environmental impacts within one or more specific logical sections or phases of the Project, which would be developed through separate but related projects.

The purpose of this Tier 1 EIS is to provide environmental resource and regulatory agencies, the public, and decision makers with a full understanding of the service-wide environmental impacts of the Project alternatives. Decisions to be made through this Tier 1 EIS process include selection of a preferred corridor and identification of communities served by station stops, frequency of service, speed of service, and a plan for phased implementation of service. Prior to implementation of passenger rail service between Chicago and Council Bluffs-Omaha, Tier 2 NEPA documents will be developed for the logical sections or phases identified in Chapter 5, Next Steps.

1.5 OTHER TRANSPORTATION PROJECTS

In addition to the Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study, numerous transportation projects in and near the Study Area are in various stages of development. These major transportation projects for passenger rail, commuter rail, tollways, and interstate travel are described below. Some of the identified projects are considered in this Tier 1 EIS as part of the cumulative effects analysis in Section 3.26.

Of the MWRRI corridors identified in Section 1.1, the following are currently funded passenger rail projects and are under development at various stages of planning and implementation:

- Chicago to Detroit (Pontiac), Michigan
- Chicago to St. Louis, Missouri
- St. Louis, Missouri, to Kansas City, Missouri
- Chicago to Moline, Illinois (the Illinois portion of the Chicago to Iowa City project)
- Chicago to Milwaukee, Wisconsin, to Twin Cities, Minnesota, to Duluth, Minnesota

Illinois DOT is in the early planning stages for a passenger rail project between Chicago and Dubuque, Iowa.

Chicago's Metra has planned improvements to help offset the demand from the increasing population in northeast Illinois. Metra's four primary projects are the following (Commuter Rail Division of the Regional Transportation Authority, 2012):

- Suburban Transit Access Route (STAR Line) – Suburb-to-suburb commuter rail service between Joliet, Illinois, and O'Hare International Airport
- SouthEast Service (SES) – Commuter service in south Suburban Cook and Will counties
- Union Pacific Northwest (UP-NW) Line – Expansion of service to eastern McHenry County and the addition of express and reverse-commute service to northwest Cook County
- Union Pacific West (UP-W) Line – Capacity, speed, and reliability improvements for Cook, DuPage, and Kane counties

In addition to the aforementioned projects, Metra has initiated an Environmental Assessment and design of an extension of the BNSF Railway (BNSF) line from Aurora to Oswego, Illinois.

The Illinois State Toll Highway Authority has two capital programs. *Move Illinois* is a \$12 billion program to improve mobility, relieve congestion, reduce pollution, create jobs, and link economies in the Midwest (Illinois Tollway, 2012). This program includes improvements to existing tollways as well as the development of new tollways. The second capital program is the *Congestion-Relief Program* that was initiated in 2005 with \$5.8 billion to reduce travel times, rebuild and restore the existing system, and the recently constructed south extension of I-355 into Will County (Illinois Tollway, 2012).

Both Illinois DOT and Iowa DOT have numerous localized interstate improvement projects. Some of the larger projects near the Study Area include:

- Illiana Corridor (Illinois) – A proposed project south of Joliet, Illinois, that would provide a direct connection between I-55 in Illinois and I-65 in Indiana. The Tier 1 Final EIS and ROD were signed by FHWA on January 17, 2013 (Illinois DOT and Indiana DOT, January 2013).
- Elgin O'Hare West Bypass Study (Illinois) – A tiered analysis of transportation issues west of O'Hare International Airport that has identified a multi-modal alternative including a new expressway, arterial, transit, and bicycle/pedestrian improvements (FHWA, FAA, Illinois DOT, and Illinois State Toll Highway Authority, October 2012). The Tier 2 Final EIS was signed by FHWA on October 30, 2012 (FHWA, FAA, Illinois DOT, and Illinois State Toll Highway Authority, October 2012), and the Record of Decision was issued on December 12, 2012 (FHWA and FAA, December 2012).
- Council Bluffs Interstate System (CBIS) Improvements Project (Iowa) – A multi-phased project focused on improving I-80, Interstate 29 (I-29), and Interstate 480 (I-480) within the Omaha/Council Bluffs metropolitan area to improve mobility, reduce congestion and crashes, and add capacity along five roadway segments (Iowa DOT, 2012a). A Record of Decision on the Tier 1 process was issued on October 26, 2005, and Tier 2 NEPA documentation has been completed for Segments 1, 2, and 3. Segment 1 is fully constructed, and Segments 2 and 3 are under construction. For Segments 4 and 5, NEPA evaluations would be planned in the future.

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