

# **Record of Decision**

## **Tier 1: Environmental Impact Statement Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study**

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**Prepared by:**



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## Summary

This is the Record of Decision (ROD) of the Federal Railroad Administration (FRA), an operating administration of the U.S. Department of Transportation, with regard to the Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study conducted by the Iowa Department of Transportation (Iowa DOT) in cooperation with the Illinois Department of Transportation (Illinois DOT). Iowa DOT proposes to implement the expansion of intercity passenger rail service from Chicago, Illinois, through Iowa, to Council Bluffs, Iowa, and Omaha, Nebraska (the Project) subject to the approval of appropriate authorities.

FRA has served as the federal Lead Agency for the environmental review under the National Environmental Policy Act (NEPA). Federal Cooperating Agencies for the process have included the Federal Highway Administration (FHWA); the Federal Transit Administration (FTA); the U.S. Army Corps of Engineers (USACE); the U.S. Coast Guard (USCG); the U.S. Department of the Army-Rock Island Arsenal (RIA); the U.S. Environmental Protection Agency (USEPA); the U.S. Fish and Wildlife Service (USFWS); the Illinois Department of Natural Resources (IDNR); and the Iowa State Historic Preservation Office (Iowa SHPO). Federal agencies with specific review, consultation, and/or permitting roles also include, but are not limited to, the Natural Resources Conservation Service (NRCS) and the U.S. Department of Commerce (USDOC).

FRA and Iowa DOT used a tiered environmental process for the Project. Tiering is a phased environmental review process that is commonly used in the development of complex projects. 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.

In making this Tier 1 decision, FRA considered the information and analysis contained in the Draft Environmental Impact Statement (Draft EIS) dated October 2012 and the Final Environmental Impact Statement (Final EIS) dated May 2013 for the Tier 1 Project (referred to collectively hereafter as the EIS Documents). FRA also considered comments from agencies, tribes and Native American groups, and the public received during the scoping process and the public comment periods for the EIS Documents.

FRA has prepared this ROD in accordance with the Council on Environmental Quality's (CEQ) regulations implementing NEPA (40 CFR part 1500) and FRA's Procedures for Considering Environmental Impacts (64 FR 28545, May 26, 1999). Specifically, this ROD:

- Provides background on the NEPA process leading to the June 2013 publication of the Final EIS, including a summary of public involvement and agency coordination.
- States and reaffirms the Project's Purpose and Need.
- Identifies the alternatives considered by FRA in making a decision at the Tier 1 level for the Project, including the environmentally preferable alternative.
- Identifies the Selected Alternative for the Project.
- Summarizes the environmental benefits and adverse effects of the Selected Alternative.



- Summarizes the comments received on the Final EIS.
- Discusses the measures to avoid and minimize environmental harm, and the future evaluations for Tier 2 studies.
- Presents the FRA Decision, determinations, and findings on the Project and identifies and discusses the factors that were balanced by FRA in making its decision.

## 1.0 Project Introduction

Iowa DOT proposes to expand intercity passenger rail service from Chicago, Illinois, through Iowa, to Council Bluffs, Iowa, and Omaha, Nebraska. The Chicago to Omaha Corridor (Corridor) is approximately 500 miles long and consists of tracks currently owned and operated by four rail carriers between Chicago and Omaha: BNSF Railway (BNSF), Iowa Interstate Railroad (IAIS), Union Pacific Railroad (UP), and Amtrak. The Project would include construction of new main track, sidings, and connection tracks, as well as upgrades to existing track to enable faster passenger train speeds and the desired passenger train service reliability and safety. The Project also includes improvements to railroad crossings, signals, and stations.

The EIS Documents considered and evaluated several route alternatives along existing railroads connecting the Chicago and the Omaha/Council Bluffs metropolitan area.

## 2.0 NEPA Process

The Tier 1 NEPA process for the Project began formally in February 2012. This and other milestones are shown in Table 2-1. Agency Scoping Meetings were held February 21 and 22, 2012; an online open-house public meeting was held from February 13 to April 16, 2012; and the Tier 1 Draft EIS was published in November 2012.

Table 2-1. Milestones in the NEPA Process for the Project

Milestone	Date
Agency and Public Scoping Meetings	February 2012
Notice of Intent	March 2012
Public Meetings on Alternatives Analysis Report	May 2012
Final Scoping Report	July 2012
Notice of Availability and Publication/Circulation of Tier 1 Draft EIS	November 2012
Public Hearings: Chicago, Des Moines, & Council Bluffs	December 2012
Publication of the Tier 1 Final EIS	May 2013
Notice of Availability	June 2013

The Tier 1 Draft EIS presented: the purpose and need for the Project; the range of route alternatives and the alternatives screening for these routes; the existing environmental setting; potential adverse and beneficial effects from Project implementation; and potential measures to avoid, minimize, or mitigate potential adverse environmental effects.

The Tier 1 Draft EIS also informed resource agencies, decision makers, interested parties, and the public about the differences between the No-Build Alternative and the Build Alternative carried forward for evaluation in the Tier 1 Draft EIS. FRA circulated the Tier 1 Draft EIS for 45 days for public review and comment and public hearings were held in Chicago, Illinois and

Des Moines and Council Bluffs, Iowa. In addition, an online open house meeting was held from February 13 to April 16, 2012 to provide opportunities for the public to comment on the Tier 1 Draft EIS.

EPA published the Notice of Availability for the Final EIS in the Federal Register on June 7, 2013. The Final EIS addressed changes to the Project as a result of public and agency comments on the Tier 1 Draft EIS.

### **3.0 Purpose and Need**

The purpose of the Project is to provide competitive passenger rail transportation between Chicago and Omaha to help meet future travel demands in the Study Area. 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, and is 500 feet wide on each side of the existing rail centerline. 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

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, as follows:

- There is an increase in travel demand as population in the Study Area is increasing and becoming more urbanized, with expanded access to and demands for public transportation. The population is also aging and is increasingly seeking alternative modes of transportation.
- 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. A one-way trip by automobile between Chicago and Omaha along Interstate 80 (I-80) or Interstate 88 (I-88) at posted interstate speeds would take about 8 hours during off-peak hours. The cost of driving round-trip between Omaha and Chicago with one day of parking in either Omaha or Chicago would be approximately \$547 to \$577 respectively.
- 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, resulting in stop-and-go traffic conditions in Chicago, Des Moines, and Omaha.



- Air service in the Study Area is currently available between the major cities of Chicago, Moline, Des Moines, and Omaha. Flight times for direct service between Chicago and Omaha typically range from 1 hour and 20 minutes to 1 hour and 40 minutes, with typical ticket prices ranging from \$210 to \$1,400, with 2 weeks advanced notice.
- Bus service between Chicago and Omaha, with multiple stops, is provided by Burlington Trailways. Typical bus service includes two trips per day, with travel times ranging from 9 hours and 15 minutes for “Express” service to 9 hours and 40 minutes for regular service. Bus ticket prices vary from \$40 to \$126. Megabus.com 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 between Chicago and Omaha, and takes 8 hours and 50 minutes.
- Current passenger rail service between Chicago and Omaha is part of Amtrak’s long-distance service on the *California Zephyr*, with travel times of approximately 8 hours and 55 minutes from Chicago to Omaha, and approximately 9 hours and 36 minutes from Omaha to Chicago. The *California Zephyr* service operates one train each way daily over the length of the route between Chicago and the San Francisco Bay Area with a stop in Omaha. Tickets purchased with 2 weeks advance notice typically cost \$69 to travel from Chicago to Omaha and \$108 to travel from Omaha to Chicago.
- 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.

#### **4.0 Alternatives**

The Corridor extends from Chicago Union Station, in downtown Chicago, Illinois, on the east to a terminal in Omaha, Nebraska, on the west. The route alternatives evaluated for the Project consist of the five previously established passenger rail routes and combinations of those routes between Chicago and Omaha that pass through the states of Illinois and Iowa.

Each route is approximately 500 miles long. For each route, the counties that are traversed in Illinois, Iowa, and Nebraska are listed east to west in Table 4-1. In Illinois, the alternatives run generally west from Chicago Union Station, which is the hub for the Midwest Regional Rail Initiative (MWRRI) to the Mississippi River and, depending on the route, is a distance of between 150 and 250 miles. In Iowa, the alternatives traverse west from the Mississippi River across the entire state to the Missouri River, a distance of approximately 300 miles. In Nebraska, the route alternatives terminate in Omaha, which is located at the Missouri River, the eastern border of the State of Iowa. Additionally, the No-Build Alternative was evaluated.

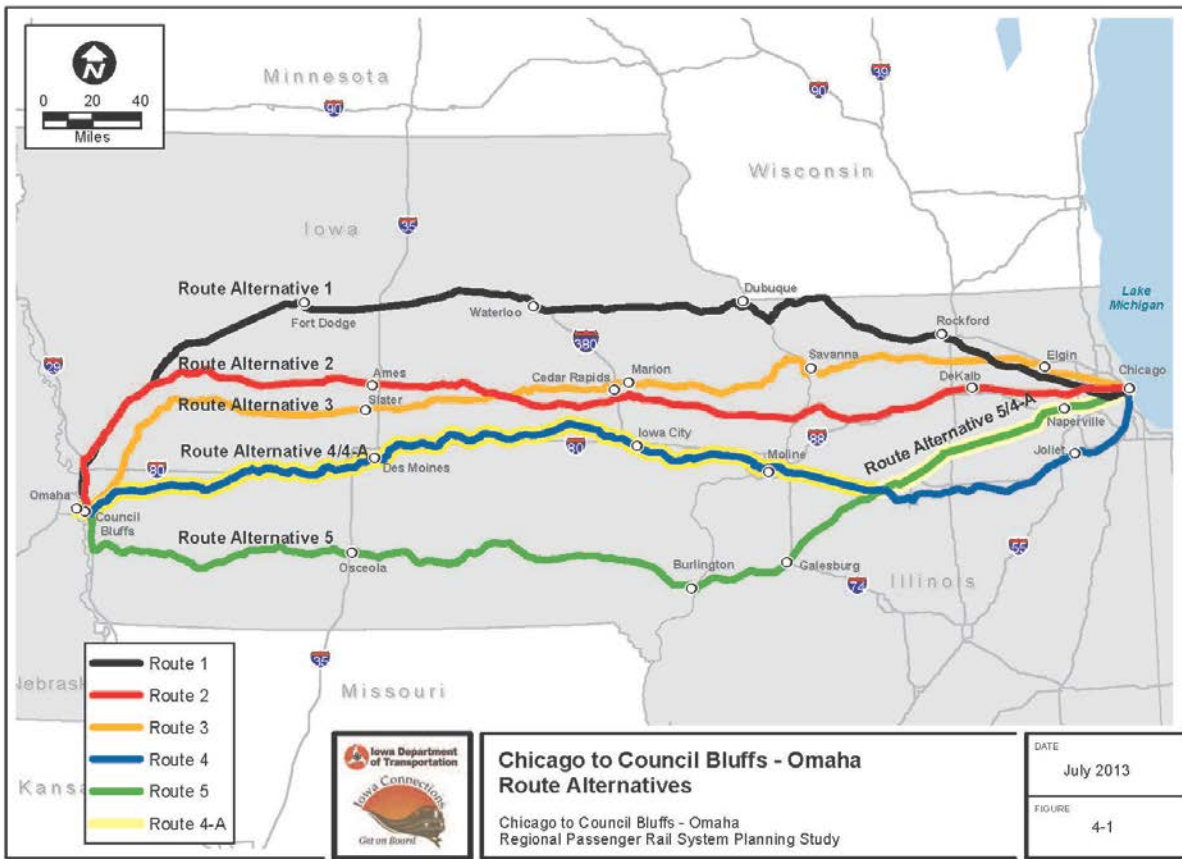
Table 4-1. Counties Traversed by Routes Alternatives in the Corridor

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

#### 4.1 Alternatives Considered and Dismissed

Five previously established passenger rail routes in the Corridor (Route Alternatives 1 through 5) and the combination of Route 4 and Route 5 (Route Alternative 4-A) composed the initial range of route alternatives proposed for consideration and evaluated for the Project. These route alternatives are shown in Figure 4-1, including the major cities through which they travel.





#### 4.1.1 Coarse-Level Screening of Route Alternatives

Coarse-level screening was conducted to compare the merits and drawbacks of each route alternative against broad screening criteria. These criteria and their factors for evaluation for coarse-level screening were as follows:

- Purpose and Need: Travel Demand (travel demand based on population served)
- Purpose and Need: Competitive and Attractive Travel Modes (providing a time-competitive route)
- Technical Feasibility (major construction efforts and freight train traffic conflicts)
- Economic Feasibility (benefit/cost ratio and project costs)
- Environmental Concerns: Major Challenges (natural and human environment)
- Environmental Concerns: Sensitive Areas (wetlands, wildlife and waterfowl refuges, cultural resources, and park and recreation lands)
- Environmental Concerns: Right-of-Way (potential right-of-way (ROW) acquisition)

A conservative 500-foot wide buffer was applied to each of the route alternatives analyzed in the coarse-level screening. The coarse-level screening process eliminated Route Alternative 3 from further consideration because it would: have the highest cost; require a substantial permitting

effort; result in unacceptably high impacts on landowners because of the ROW needs; and cause extensive impacts on communities, infrastructure, wetlands, streams, and wildlife habitat.

#### 4.1.2 Fine-Level Screening of Route Alternatives

Fine-level screening was conducted to determine which remaining route alternatives would be carried forward for detailed evaluation in the Tier 1 EIS. During fine-level screening, route alternatives carried forward from the coarse-level screening were further screened for: their ability to offer the highest potential ridership; the least potential construction, operation, and maintenance cost; and the least potential impact on the natural and human environment. This screening relied on broad screening criteria and the factors for evaluation noted below:

- Purpose and Need: Travel Demand (potential ridership)
- Purpose and Need: Competitive and Attractive Travel Modes (running times that are time-competitive)
- Technical Feasibility: Passenger and Freight Capacity (general infrastructure improvements required)
- Technical/Economic Feasibility: Alignment (alignment or grading problems to meet speed and capacity requirements)
- Technical/Economic Feasibility: Structures (conceptual costs of major structures)
- Technical/Economic Feasibility: Grade Crossings (at-grade and grade-separated crossings)
- Economic Feasibility: (high-level project costs, including operating and maintenance costs)
- Environmental Concerns: Environmental Impacts (substantial impacts on key environmentally sensitive areas in the categories listed below)
  - Streams
  - Floodplains
  - Wetlands
  - Farmland
  - Threatened and endangered species
  - Cultural resources
  - Potential Section 4(f)/6(f) protected properties
  - Environmental justice
  - Noise and vibration
  - Hazardous materials
- Environmental Concerns: Right-of-Way (refining conceptual ROW acquisition in relation to demolition/disruption of homes, businesses, farms, and historic properties)

In order to estimate potential impacts during fine-level screening, a preliminary impact area was identified for each route alternative. Existing ROW was assumed to be 100 feet wide throughout each route alternative. A buffer ranging from 25 to 50 feet wide was then applied where necessary to accommodate additional track needs, to promote efficient track maintenance, and to mitigate any operating disruptions generated by passenger trains.



The fine-level screening process eliminated Route Alternatives 1, 2, 4, and 5 from further consideration because they were neither reasonable nor feasible, as discussed below. During fine-level screening, the route alternatives were compared to the base case for two criteria. The base case represents the lowest cost or shortest travel time and varies depending on the criterion. Route Alternative 4 had the lowest estimated cost and was considered to be the base case for the preliminary cost estimate, and Route Alternative 2 had the shortest travel time and was the base case for the comparison of travel times. Route Alternatives 1, 2, 4, and 5 were eliminated for the following reasons:

- **Route Alternative 1** did not meet the purpose and need because it would not attract the necessary ridership to generate adequate revenue, would not offer a competitive travel time (longest and slowest alternative), would have excessive operations and maintenance costs, would require a major new structure over the Mississippi River, and its costs were excessive compared to the base case.
- **Route Alternative 2** has the shortest travel time, but did not meet the purpose and need because it would not attract adequate ridership or generate the necessary revenue, would require extensive new ROW and a major new structure over the Mississippi River, would have excessive capital cost requirements (costing approximately \$1 billion more than the base case) without providing any additional service or ridership benefits.
- **Route Alternative 4** did not meet the purpose and need because the Chicago terminus of Route Alternative 4 is at La Salle Street Station instead of Chicago Union Station, which provides the connection to the MWRRI high-speed network. Building a connection between LaSalle Street Station and Chicago Union Station would be costly, would have impacts on urban areas through which the connection would be constructed, and is not practical.

Route Alternative 4 was the least costly (not accounting for a connection from La Salle Street Station to Chicago Union Station), would attract adequate ridership, and would generate adequate revenue. However, Route Alternative 4 currently does not have a direct connection to Chicago Union Station and does not have adequate capacity for the Chicago to Council Bluffs-Omaha passenger trains to travel on the shared commuter train routes in the Chicago urban area. Extensive track upgrades and additional ROW would be needed for an additional connection track and main track, and would require extensive acquisitions of adjacent homes and businesses. Based on the lack of an existing connection from La Salle Street Station to Chicago Union Station and the lack of capacity on the existing Metra commuter rail line as well as the associated cost and impacts of constructing a connection and providing additional capacity, the Agencies determined the Route Alternative 4 to be neither reasonable nor feasible.

Following publication of the Tier 1 Draft EIS for the Project, FRA issued a ROD for the Tier 1 Chicago to St. Louis High-Speed Rail Corridor Program (FRA, December 2012) FRA issued signed by FRA. That ROD indicated that a connection is planned from Metra's Rock Island District track to Chicago Union Station along Route Alternative 4. However, a FRA-required Tier 2 site-specific NEPA document will



need to be completed to evaluate the section of the alignment that includes the connection before the Project plans would be implemented.

The proposed connection would require land acquisition in an urban setting. In addition, the capacity and level of service of the proposed connection is yet unknown, and requires modeling. Consequently, the potential exists that the connection might not be present, or may not have adequate capacity, which would affect planning and design for the Project.

**Route Alternative 5** did not meet the purpose and need because it would not attract adequate ridership or generate the necessary revenue, would require extensive new ROW and a major new structure over the Mississippi River, would have excessive capital cost requirements (approximately \$1.2 billion more than the base case) without providing any additional service or ridership benefits.

**Route Alternative 4-A** was the only route alternative carried forward for further analysis in the Tier 1 EIS. Route Alternative 4-A consists of Route Alternative 5 between Chicago Union Station and Wyanet, Illinois, where Route Alternative 5 and Route Alternative 4 cross, and Route Alternative 4 between Wyanet and Omaha.

Route Alternative 4-A has four distinct differences from either Route Alternative 4 or 5, individually: it reduces the distance between Chicago and Omaha compared to either Route Alternative 4 or Route Alternative 5; it incorporates direct access to Chicago Union Station provided by Route Alternative 5, whereas Route Alternative 4 terminates at La Salle Street Station, which would require construction of a rail link within the Chicago urban core to transfer trains from Route Alternative 4 to Chicago Union Station to avoid loss of connectivity to Amtrak long-distance and regional trains and the proposed MWRRRI hub; the alignment of Route Alternative 5 between Chicago Union Station and Wyanet has fewer curves and broader curves, fewer at-grade crossings with other railroads, fewer movable bridges, and more multiple main track within the Chicago urban core, than Route Alternative 4; it provides service to the larger intermediate population base of Route Alternative 4, which passes through the Quad Cities, Iowa City, and Des Moines, than Route Alternative 5.

Below is a summary providing the rationale for carrying forward Route Alternative 4-A. When compared to the other route alternatives considered, Route Alternative 4-A:

- Meets Project purpose and need
- Has relatively low construction complexity and relatively low construction costs (technical and economic feasibility)
- Has grade-crossing complexity similar to all route alternatives (technical feasibility)
- Is the shortest route alternative (purpose and need)
- Has a competitive passenger-train travel time (purpose and need)
- Serves the largest population (purpose and need)
- Has the highest ridership and farebox revenue forecast (purpose and need, and economic feasibility)
- Has direct access to Chicago Union Station (technical and economic feasibility)
- Has no unreasonable environmental resource issues (environmental concerns)

## **4.2 Alternatives Carried Forward for Detailed Study in the Tier 1 EIS**

The No-Build Alternative and the Build Alternative (Route Alternative 4-A) were carried forward for further analysis in the Tier 1 EIS and are described below.

### **4.2.1 No-Build Alternative**

The No-Build Alternative was included to provide a basis of comparison (40 CFR 1502.14; 64 FR 28545) and would consist of the current track and operations with the present level of maintenance and no appreciable change to current track configuration or operations.

The No-Build Alternative would not involve construction and operation of intercity passenger rail service from Chicago to Omaha, but independently planned construction of passenger rail service from Chicago to Moline would still occur. This independently planned construction project is referred to as the Chicago to Quad Cities Expansion Program (Program) and includes operation of two round-trips per day between Chicago and the Quad Cities at speeds of up to 79 mph.

This Program includes improvements to the BNSF line at Eola Yard; a new connection track in Wyanet, Illinois connecting the BNSF to the IAIS; associated track and ballast improvements to the IAIS corridor, including the construction of sidings, a new passenger station in Geneseo, Illinois, reconfiguration of the Colona BNSF/IAIS interlocking; a possible layover facility and track improvements at the station in Moline, Illinois; and the alterations at the Silvis and Rock Island Yards, with the reinstatement of the IAIS mainline track between Silvis and Rock Island Yards. Construction for the Chicago to Quad Cities Expansion Program is anticipated to commence in 2013, and service is intended to be operational by 2015.

Under the No-Build Alternative, other transportation projects in the vicinity of the Chicago to Council Bluffs-Omaha Regional Passenger Rail System Project could occur independently, with or without Project implementation.

Other intercity passenger rail services that currently operate within or adjacent to the Chicago to Omaha Corridor, including Amtrak's *California Zephyr* and *Southwest Chief* (both long distance trains) and Illinois' state-supported, Amtrak-operated *Illinois Zephyr* and *Carl Sandburg* services (regional trains with daytime schedules), are assumed to continue to operate under the No-Build Alternative. Table 4-2 provides the stations and cities served by the aforementioned passenger train services and the frequency of operations.

**Table 4-2. Intercity Passenger Rail Services Operating Within or Adjacent to the Corridor**

Train	Type of Service	Frequency	Route and Principal Stations Served
<i>California Zephyr</i>	Long distance	One train each way daily	Chicago, IL – Omaha, NE – Lincoln, NE – Denver, CO – Salt Lake City, UT – Reno, NV – Sacramento, CA – San Francisco Bay Area, CA
<i>Southwest Chief</i>	Long distance	One train each way daily	Chicago, IL – Galesburg, IL – Kansas City, MO – Topeka, KS – Santa Fe Area, NM – Albuquerque, NM – Flagstaff, AZ – Los Angeles, CA
<i>Illinois Zephyr</i>	Intercity	One train each way daily	Chicago, IL – Naperville, IL – Mendota, IL – Galesburg, IL – Macomb, IL – Quincy, IL
<i>Carl Sandburg</i>	Intercity	One train each way daily	Chicago, IL – Naperville, IL – Mendota, IL – Galesburg, IL – Macomb, IL – Quincy, IL

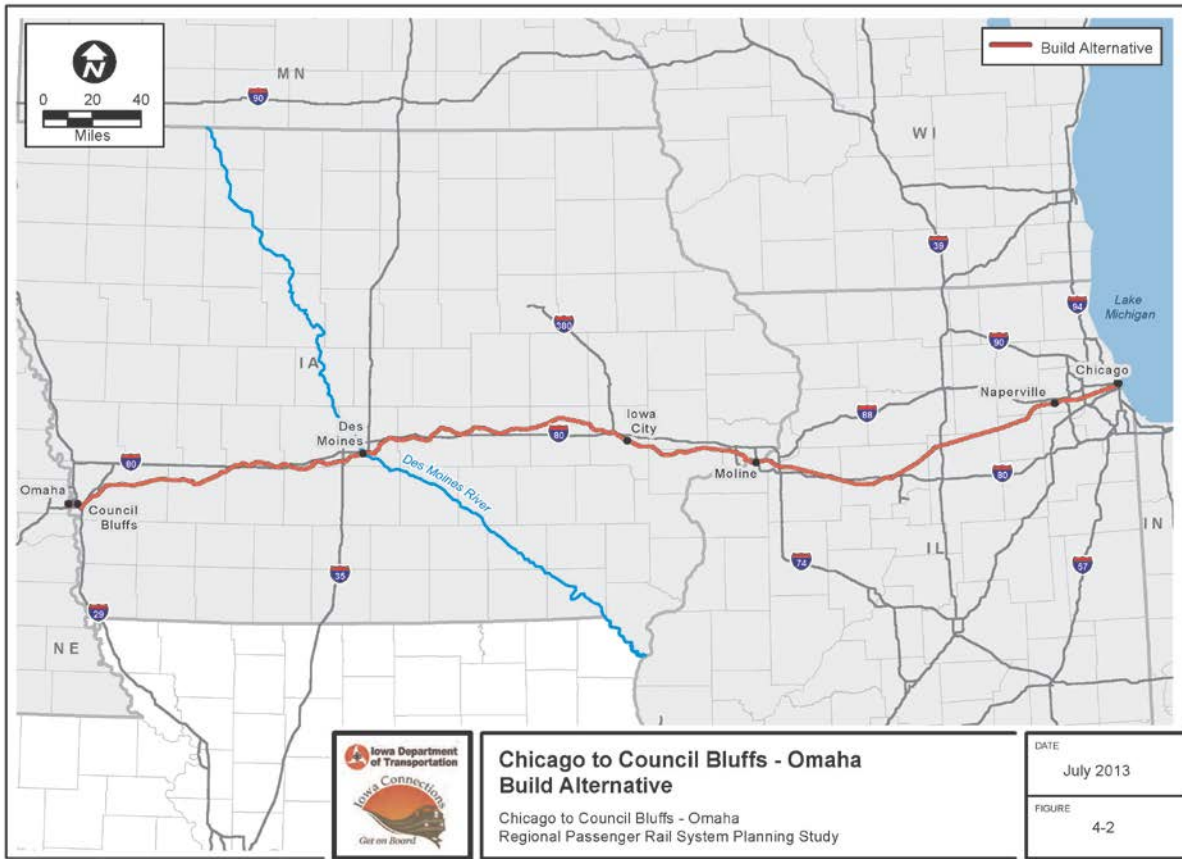
*Source: Amtrak, January 14, 2013, California Zephyr, Chicago and San Francisco Bay Area, available online at <http://www.amtrak.com/ccurl/644/343/California-Zephyr-Schedule-011413,0.pdf>.*

Under the No-Build Alternative, other forms of long-distance and regional transportation, such as commercial airline and bus services, are assumed to continue operating within the Corridor in the same manner as current operations.

#### 4.2.2 Build Alternative

The Build Alternative consists of the improvements associated with Route Alternative 4-A to accommodate up to seven round-trip passenger trains per day at maximum speeds of up to 110 mph. The Build Alternative, shown in Figure 4-2, is approximately 475 miles long and consists of tracks currently owned and operated by four rail carriers between Chicago and Omaha. The BNSF and IAIS railways own and operate the vast majority of trackage in the Study Area, while Amtrak and UP own and operate relatively short distances within the metropolitan areas of Chicago, Des Moines, and Council Bluffs/Omaha.

For the Build Alternative to function efficiently, improvements would be required, including infrastructure upgrades, at-grade roadway crossings, stations, and layover and maintenance facilities.



The Build Alternative would include: construction of new main track, sidings, and connection tracks; upgrades to existing track to enable faster passenger train speeds and the desired passenger train service reliability; and installation of wayside signaling systems.

Throughout the Corridor, connections to the existing main track would be required for meet/pass events, access to industries, and capacity for maintenance-of-way activities. Detailed capacity modeling will be conducted during Tier 2 analysis to identify more specific requirements for revisions of and improvements to the wayside signal system, crossovers and interlocking plants, and connection tracks in order to provide adequate capacity for passenger trains.

In consideration of existing infrastructure, train traffic, roadways, urban land uses, and abandoned rail corridors, a few alignment options within Build Alternative were identified at the Tier 1 level. There are multiple alignment options through East Des Moines, Iowa, and across the Missouri River between Council Bluffs, Iowa, and Omaha, Nebraska, as well as multiple station location options in Des Moines, Council Bluffs, and Omaha that will be further identified during Tier 2 studies.

The Project's passenger rail service would continue to use existing Amtrak long-distance or Illinois-state-sponsored service stations at Chicago Union Station, La Grange Road, Naperville, Plano, Mendota, and Princeton, Illinois; and potentially at Omaha, Nebraska. New stations or

reuse and modification of existing or past stations are proposed at Geneseo and Moline, Illinois; Iowa City, Grinnell, Des Moines, Atlantic, and Council Bluffs, Iowa; and potentially Omaha, Nebraska.

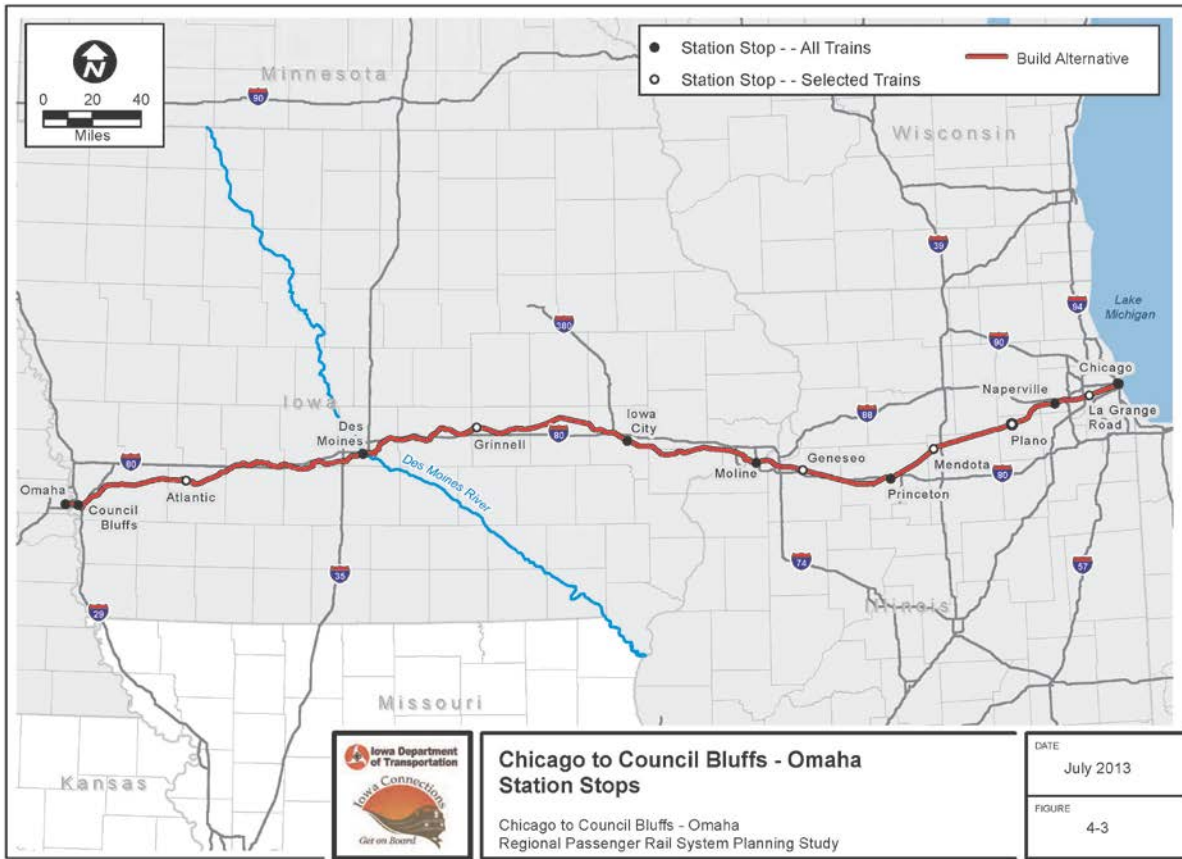
An overnight train layover and light maintenance facility would be required in the Des Moines and Omaha/Council Bluffs metropolitan areas, and interim layover and light maintenance facilities may be required at Moline or Iowa City depending on implementation strategies. Specific sites for layover and light maintenance facilities will be evaluated in subsequent Tier 2 NEPA documents. In addition to light maintenance, heavy maintenance for locomotives and train sets would be required. The aforementioned Des Moines and Omaha/Council Bluffs locations for light maintenance could potentially be selected to also support heavy maintenance activities.

There are approximately 850 highway-rail at-grade crossings along the Build Alternative. Grade crossing surfaces and warning systems would need to be improved to meet safety standards for passenger trains traveling at 110 mph. All grade crossings would undergo diagnostic studies during Tier 2 analysis for identification of improvement needs. The grade crossing analysis would evaluate all grade crossings with the potential for closure under the Build Alternative. Warning devices would be installed based on speed-dependent criteria. Existing warning devices would be reused where practical if they conform to the speed-dependent criteria.

An iterative process was conducted for determining the optimum number of round-trips per day, train speeds, and types and numbers of station stops for the Build Alternative. Operations under the Build Alternative would ultimately include a combination of standard-stop and selected-stop service. Selected-stop station stops would be Chicago Union Station, Naperville, Princeton, and Moline, Illinois; Iowa City, Des Moines, and Council Bluffs, Iowa; and Omaha, Nebraska. Standard-stop service would include the selected-stop locations as well as station stops at La Grange Road, Plano, Mendota, and Geneseo, Illinois, and Grinnell and Atlantic, Iowa.

Figure 4-3 shows the locations of all station stops. There would be up to seven round-trip passenger trains per day travelling between Chicago and Des Moines, with five of these round-trips continuing to Omaha. The passenger trains would travel at speeds of up to 110 mph, with travel time averaging under 7 hours from Chicago to Omaha and under 5 hours from Chicago to Des Moines. These travel times are competitive with the personal automobile.





### 4.3 Selected Alternative

The Selected Alternative is the alternative which the FRA finds would most closely align with FRA’s statutory mission and responsibilities, giving consideration to economic, environmental, technical and other relevant factors. FRA has selected the Build Alternative (Route Alternative 4-A), which will utilize portions of the BNSF, IAIS, Amtrak, and UP railroad lines from Chicago to the Council Bluffs/Omaha metropolitan area.

FRA rejected the No Build Alternative because it would not meet the project purpose and need, intercity passenger rail service would not be reestablished in Iowa City or Des Moines, there would not be an attractive alternative to highway or airline travel, and congestion of these modes of transportation in the Corridor would not be reduced.

Based on experience with other passenger rail projects, and on service development planning for this Project, FRA and Iowa DOT anticipate that the Chicago to Council Bluffs-Omaha Project would be incrementally funded and that construction and operations would be implemented in phases.

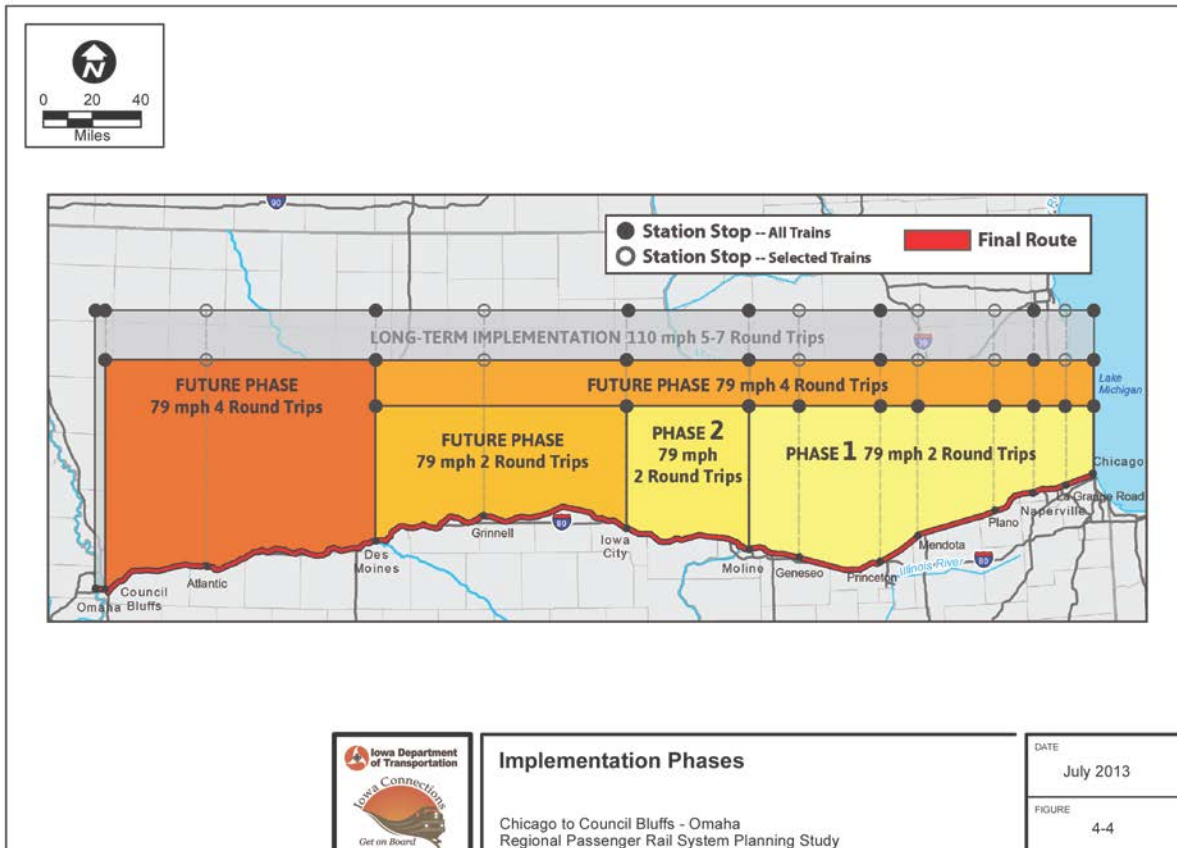
Iowa DOT is developing a Service Development Plan (SDP) for the Project, addressing the rationale for and details of the Project’s passenger rail service, including a plan for phased implementation of the service, an operating plan for each phase of service, and a capital and

financial plan for determining the types and amounts of funding needed for each phase of service. The SDP has an approximate 20-year planning horizon, but under phased implementation, full implementation of the Project would extend beyond 20 years. Therefore, the SDP focused on the interim implementation phase, which is the phase of the Project that would be implemented within this 20-year planning horizon. The interim implementation phase would likely include four round-trips per day at 79 mph between Chicago and Council Bluffs. Full implementation would be five to seven round-trips per day at 110 mph between Chicago and Omaha, and would be realized over many years of phased implementation as federal and state funds are allocated to the Project. The specific phasing of the Project is not known at this time but will be determined as funding is allocated to the Project. Figure 4-4 illustrates the implementation phases for the Project.

Based on current service development planning, the Project is anticipated to commence with two round-trips per day from Chicago to Moline at a maximum speed of 79 mph (Phase 1); Phase 1 is funded and would occur independently as part of the Quad Cities Expansion Program passenger rail project. Phase 2 would include two round-trips per day between Chicago and Iowa City. The Project would then be extended westward to Des Moines, with two and then four round-trips per day between Chicago and Des Moines. The last phase of the Project that would be implemented within the 20-year planning horizon of the SDP would be four round-trips per day between Chicago and Council Bluffs. The schedule developed for the Project's SDP for these phases includes the following estimated timeframes:

- Chicago to Moline (two round-trips) – construction 2014-2015; service begins December 31, 2015
- Chicago to Iowa City (two round-trips) – construction 2015-2016; service begins 2017
- Chicago to Des Moines (two round-trips) – construction 2020-2021; service begins 2022
- Chicago to Des Moines (four round-trips) – equipment procurement 2024; service begins 2025
- Chicago to Council Bluffs (four round-trips) – construction 2028-2029; service begins 2030

After additional service development planning is completed in the future, the service would be extended to Omaha; currently estimated to commence in 2040. Ultimately, the speed and the frequency of round-trips would increase with subsequent implementation phases up to a maximum of 110 mph and up to seven round-trips per day from Chicago to Des Moines, with five of the round-trips extending from Chicago to Omaha. Full implementation would be realized over many years of phased implementation as federal and state funds are allocated to the Project.



#### 4.4 Environmentally Preferable Alternative

CEQ regulations implementing NEPA require that a ROD specify the alternative or alternatives considered to be environmentally preferable. “Environmentally preferable” is defined as “the alternative that will promote the national environmental policy as expressed in the NEPA, Section 101.” In most cases this means the alternative that causes the least damage to the biological and physical environment, but it can also mean the alternative that best protects, preserves, and enhances historic, cultural, and natural resources. The impacts assessed for this Tier 1 EIS were based on a Tier 1 level of analysis, which does not involve detailed design and field surveys. The subsequent Tier 2 studies for this Project will further evaluate impacts and measures to avoid and minimize the impacts identified, and will be at a greater level of detail.

The Selected Alternative is the environmentally preferable alternative based on a broad Tier 1 review and analysis, which outlined that the Project is not anticipated to result in substantial adverse impacts to environmental justice populations, public health related to air pollutants and air toxins or substantial contributions to greenhouse gas emissions, or critical habitat of federally listed threatened or endangered species. In addition, impacts to park land, natural habitats, and cultural resources are anticipated to be minimal because of utilizing existing rail lines, thereby minimizing ROW acquisition.

The adverse environmental effects associated with the Selected Alternative were considered to be less substantial than the consequences associated with the No-Build Alternative in terms of air quality, energy, and increased traffic congestion, and thus identified the Selected Alternative as environmentally preferable.

## 5.0 Summary of Potential Effects and Measures to Avoid and Minimize Harm

This section summarizes the potential impacts of full implementation of the Selected Alternative based on the detailed analysis of the social, economic, and environmental resources documented in Chapter 3 of the Tier 1 EIS. The potential impacts associated with each resource are listed in Table 5-1 and are described in more detail in the text that follows the table.

The potential impacts reported in Table 5-1 are based on construction occurring within the entire Potential Impact Area. For analysis in this Tier 1 EIS, the area along all alignment options under consideration was evaluated as if it would be impacted, and the Potential Impact Area also includes a buffer to account for future flexibility in design to avoid or minimize environmental impacts. Consequently, the potential impacts predicted to be caused by construction are overestimated. For example, although 104,150 linear feet of streams are present within the Potential Impact Area, many feet of streams would be undisturbed where no new bridges or widening of existing bridges would be required. Specific resource impacts, such as whether there would be an adverse effect under Section 106 of the National Historic Preservation Act, a use of property under Section 4(f) of the U.S. Department of Transportation Act, or an adverse effect under Section 7 of the Endangered Species Act, would be determined during Tier 2 analyses.

**Table 5-1. Summary of Potential Impacts**

Resource Topic	Selected Alternative
Transportation	Competitive transportation alternative; reduced freight traffic interference; safety improvements; changes in travel patterns where unsafe at-grade crossings are closed; temporary construction impacts (delays, detours)
Land Use, Zoning, and Property Acquisitions	Impacts on land use, primarily on industrial and farmland
Agricultural Resources	3,190 acres prime farmland; 840 acres statewide important farmland
Socioeconomic Environment	Economic benefits provided through job creation, joint development, improved accessibility, and increased economic activity (Chicago to Omaha)
Title VI and Environmental Justice	Beneficial economic and mobility impacts; potential impacts on Environmental Justice population area in Des Moines
Elderly and People with Disabilities	New accessible service between Chicago and Omaha
Public Health and Safety	Improvements to at-grade crossings and signals (Chicago to Omaha)
Noise and Vibration	1.7 new noise impacts per mile; 7.0 new vibration impacts per mile
Air Quality	Decrease of most pollutant emissions due to increased modal shifts
Hazardous Waste and Waste Disposal	Minor impacts on 3 Superfund (NPL) sites, 34 leaking underground storage tanks, 27 Non-National Priorities List sites, and 1 wastewater treatment facility site
Cultural Resources	60 historic properties (37 buildings, 1 structure, 3 bridges, and 19 historic districts)

Resource Topic	Selected Alternative
Parks and Federally or State-Listed Natural Areas	44 parks, 24 recreation areas, and 22 natural areas
Section 4(f) and 6(f) Properties	44 public parks, 21 public recreation areas, 8 public refuges, and 60 historic properties
Visual Resources and Aesthetic Quality	Impacts on visual resources (parks, natural areas, riparian corridors) and sensitive receptors in Des Moines
Waterways and Water Bodies	Streams: 104,150 linear feet Lakes: 32 acres Ponds: 33 acres
Wetlands	238 acres (1 acre aquatic bed, 84 acres emergent, 33 acres scrub-shrub, and 120 acres forested)
Water Quality	24 streams on 303(d) list of impaired water bodies; more impacts than No-Build Alternative
Floodplains	1,657 acres
Topography, Geology, and Soils	More impacts than No-Build Alternative, but minor impacts on Loess Hills
Natural Habitats and Wildlife	178 acres of natural terrestrial habitat; aquatic habitat impacts; potential impacts from train/animal collisions; potential stormwater runoff pollution
Threatened and Endangered Species	Suitable habitat for federally and state-listed species with potential for impact from constructing a new Missouri River crossing
Energy Use and Climate Change	Long-term decrease in energy consumption and greenhouse gas emissions due to increased modal shifts
Construction Impacts	Substantially more impacts than No-Build Alternative, but temporary in nature
Irreversible and Irrecoverable Commitments of Resources	Substantial commitments of land, construction materials, financial resources, and energy consumption
Short-Term Use versus Long-Term Productivity	Short-term construction impacts (including benefit of construction employment) and reduction in air pollutant emissions and long-term productivity of natural resources beyond that of the No-Build Alternative; improved long-term socioeconomic productivity through transportation network enhancement
Indirect and Cumulative Impacts	Reduced traffic congestion and vehicle emissions; reduced ridership of other transportation modes; improved air quality and safety; indirect impacts on parks, natural areas, and wildlife; increased chance of hazardous material incidents and water pollution; transit-oriented development near stations

*Note: All potential impacts shown are preliminary and have been evaluated at a Tier 1 level of analysis. Impacts will be reviewed and revised as necessary within future Tier 2 NEPA documents.*

## 5.1 Transportation

According to travel demand and diversion forecasts for 2040, the Project would attract a projected ridership of approximately 1,922,800 passenger trips per year. The Project is projected to divert 1,366,300 automobile trips, 324,700 bus passenger trips, and 40,900 plane passenger trips per year, and would also generate an induced demand estimated to be approximately 190,900 passengers per year; reducing fuel usage, air pollutants, and non-passenger rail transportation system congestion in the Study Area.

Unsafe highway-rail at-grade crossings may be eliminated, where alternate access can be reasonably provided, resulting in some changes to the travel patterns of the existing transportation system. In some locations, where appropriate and feasible, implementation of grade-separated highway-rail crossings would improve the safety, traffic flow, and efficiency of the transportation system. Construction activities for improvements related to grade crossings would result in temporary impacts on the vehicular transportation system; including traffic congestion, delays, detours, and disrupted access to properties and neighborhoods.

Typical travel times between Chicago and Omaha, if operated at maximum speeds of up to 110 mph, would be approximately 6.5 hours. The average speed over the approximately 475-mile distance would be 73 mph accounting for station stops and permanent speed restrictions for curves, bridges, and other railroad infrastructure characteristics. This would provide a competitive transportation alternative to the automobile and bus service, and would be competitive in fares compared to air service. A one-way trip between Omaha and Chicago would take about 8 hours by automobile at posted interstate speeds, approximately 9.5 hours by bus, and approximately 1.5 hours by plane. If the Project weren't constructed, traffic congestion, air pollutants, and fuel usage would continue to worsen.

## **5.2 Land Use, Zoning, and Property Acquisitions**

Within the Study Area, the majority of land uses within urbanized areas are industrial in nature and currently adjacent to existing freight rail lines. As a result, few direct or indirect impacts on sensitive uses are anticipated from the Build Alternative. Most improvements would be located adjacent to existing rail lines and stations. The stations along the rail line are anticipated to enhance transportation-oriented development. New ROW would be acquired for the Selected Alternative at station locations, maintenance facilities, and in areas where a new parallel track would be required. The Selected Alternative would also include an optional alignment (Des Moines Design Option 3) through Des Moines, Iowa, that would require substantial property acquisition, and would run parallel to the Southeast Connector. Although this area is industrial in character, sensitive land uses that would be directly impacted include an established residential neighborhood and Chester Field Park.

## **5.3 Agricultural Resources**

Impacts of the Selected Alternative within rural areas primarily include impacts to agriculture, including approximately 3,190 acres of prime farmland and approximately 840 acres of farmland of statewide importance. These impacts would be relatively minor linear amounts that would be needed for adding parallel track and siding to the existing railroad grade. No severances of existing farmland would occur.

## **5.4 Socioeconomic Environment**

Although the Selected Alternative would cause some temporary disruptions to existing businesses and neighborhoods during construction, it would provide long-term economic benefits to communities through job creation, potential for joint development, and increased economic activity.

## **5.5 Title VI and Environmental Justice**

Throughout most of the Study Area, there would be no anticipated disproportionate adverse human health or environment effect on minorities or low-income populations because a majority of the Project improvements would be within or adjacent to existing ROW. However, the Selected Alternative includes an optional alignment through Des Moines (Des Moines Design Option 3) that would impact both minority and low-income populations. During Tier 2 analyses, refinements in the design options could avoid or minimize impacts on adjacent minority and low-income populations. The Selected Alternative would provide benefits for these populations through improved accessibility, mobility and employment opportunities.

## **5.6 Elderly and People with Disabilities**

There would be no anticipated permanent adverse impacts on the existing transportation services and general mobility of elderly persons and persons with disabilities because a majority of the Project improvements would be within or adjacent to existing ROW. The Selected Alternative would provide an additional means of accessible public transportation for the elderly and disabled populations, support expanded transit operations for efficient use of the transit system, and increase the availability of transportation options that connect to other cities beyond their immediate region.

## **5.7 Public Health and Safety**

The Selected Alternative would include additional track and substantial track and signal upgrades, to address public health and safety, and to limit conflicts with existing freight rail service. A centralized traffic control (CTC) system, with positive train control (PTC) integration, including a wayside signal system and remote control switches, would also be installed where needed. The Selected Alternative would provide a safe and efficient mode choice for travel from Chicago to Omaha.

## **5.8 Noise and Vibration**

Analysis results for the Build Alternative show 5,172 moderate and 2,373 severe noise impacts compared to existing conditions. Compared to the No-Build Alternative, a low incremental increase in new noise impacts per mile associated with the Build Alternative would occur: 569 moderate and 271 severe noise impacts over an approximately 500-mile corridor. The Build Alternative is projected to result in approximately 1.1 new moderate noise impacts per mile, 0.6 new severe noise impact per mile, and a combined total of 1.7 new noise impacts per mile over approximately 500 miles. On this basis, the incremental increase in train noise is not significant.

Of the 7,545 new noise impacts predicted to occur under the Selected Alternative, 3,260 of them are attributed to locomotive horn use, and they occur in areas where locomotive horns are currently in use outside of designated quiet zones. The analysis does not account for any change in at-grade intersections to grade-separated intersections where horns would not be required. Implementing quiet zones has the potential to further reduce these impacts. Because of the preliminary nature of this Tier 1 analysis and the acknowledgement that upgrade of some at-grade intersections would be known during Tier 2, these grade-crossing impacts are not

considered significant. The remaining 4,285 noise impacts attributable to the Selected Alternative are associated with wayside noise and are spread throughout the corridor (equivalent to less than one noise impact per mile), which makes mitigation challenging and potentially impractical in some areas based on the consideration of feasibility and reasonableness of noise barriers for a few receptors. Given the minimal number of noise impacts per mile, and the potential that many of the impacts may not occur either through conversion of at-grade intersections to grade-separate intersections or through use of quiet zones, noise impacts, whether the Project is built or not, are not considered significant.

The ground-borne vibration analysis identified approximately 7.0 vibration impacts per mile associated with the Selected Alternative. On a Project-wide basis, approximately 7.0 additional vibration impacts (due to 14 daily pass-by events) per mile are not considered significant. However, the number of vibration impacts is projected to dramatically increase in more densely populated portions of the study area, particularly where train speeds may reach 100 mph. The magnitude of the increase in vibration impacts attributable to the Project is considered to be significant.

During the Tier 2 NEPA process, measures to mitigate ground-borne vibration would be evaluated. Minimizing locomotive horn use would be the greatest opportunity to mitigate potential noise impacts. Other mitigation measures could include upgrading of some electronic circuitry through installation of constant time circuitry (warning lights) at public at-grade roadway-rail crossings. Municipalities can choose to initiate the process of developing quiet zones to take advantage of the infrastructure provided by the Project.

## 5.9 Air Quality

Impacts on air quality are unavoidable because the Selected Alternative would include new train service. However, impacts on emissions, energy consumption, and climate change would be beneficial overall because this additional rail service is anticipated to replace some passenger vehicles, and bus and plane trips along a similar route. Trains produce fewer emissions per passenger than other modes of transportation. Year 2040 projections indicate that operation of the Selected Alternative would directly impact the air quality by reducing hydrocarbon (HC) emissions by approximately 142 tons per year and sulfur dioxide (SO<sub>2</sub>) emissions by approximately 2.7 tons per year. In addition, carbon dioxide (CO<sub>2</sub>), the main greenhouse gas (GHG) emission, would decrease by approximately 23,513 tons per year. Nitrogen oxides (NO<sub>x</sub>) emissions, the only GHG emission that would increase with the Selected Alternative, would increase by approximately 420 tons/year.

A general conformity analysis included the assessment of air quality impacts of the Selected Alternative in the counties which are currently designated as maintenance or nonattainment, all of which are in the Chicago area. The slight increase in NO<sub>x</sub> emissions is balanced by a reduction in emissions of HC, particulate matter smaller than 10 microns in diameter (PM-10), and particulate matter smaller than 2.5 microns in diameter (PM-2.5). This reduction would help the counties and states with their air quality management. Although the resulting net emissions are below the *de minimis* threshold, this general conformity analysis would need to be verified in the Tier 2 NEPA analyses. If the Project were not built, emissions of pollutants generated by vehicles and planes are expected to increase due to anticipated worsening traffic congestion.



## 5.10 Hazardous Waste and Waste Disposal

Because of track and crossing upgrades, the safety of hazardous material transportation by freight trains would improve under the Selected Alternative along the entire Corridor, and would experience minor improvements under the No-Build Alternative between Chicago and the Quad Cities as a result of the Chicago to Quad Cities Expansion Program. The Selected Alternative would impact three National Priority List (NPL) Superfund sites, 27 non-NPL sites, 34 Leaking Underground Storage Tank (LUST) sites, and one wastewater treatment facility.

Although the Selected Alternative is within the contamination areas of three NPL sites, specific impacts would not be determined until the Tier 2 NEPA studies. The potential for exposure to hazardous waste contamination during construction may vary. The Des Moines TCE Site, and the Railroad Avenue Groundwater Contamination Site (in Des Moines), have both gone through cleanup activities. However, the cleanup of contaminated soils in the Omaha Lead Site includes only residential yards, public parks, playgrounds, and child care facilities. Consequently, the Corridor, extending primarily through industrial use areas within the boundaries of the Omaha Lead Site, could have some residual lead contamination in the soil at that location.

## 5.11 Cultural Resources

The Potential Impact Area, which accounts for the area potentially disturbed by construction, includes 60 historic resources (37 buildings, 1 structure, 3 bridges, and 19 historic districts) either listed on the National Register of Historic Places (NRHP) or eligible for listing on the NRHP. Direct impacts on NRHP resources could occur within the Potential Impact Area, and indirect impacts (such as visual and noise impacts) on historic resources could occur within the APE. As the Project proceeds into the Tier 2 NEPA process, avoidance of these properties would be considered.

Based on a review of cultural resources within the Area of Potential Effect (APE), resources outside but near the Potential Impact Area were also reviewed for indirect impacts, such as visual intrusion or audible impacts, as a result of construction activities and future operation of the passenger rail system. Depending on the proximity of cultural resources to operating trains, structures may be identified for protection from noise and vibration impacts and incompatible visual intrusions. If the Project would have potential adverse effects on historic properties, further Section 106 consultation would be carried out during the Tier 2 process to determine the preferred method of treatment (mitigation).

## 5.12 Parks and Federally or State-Listed Natural Areas

The Potential Impact Area includes 44 parks, 24 recreational resources, and 22 natural areas. In most instances, only a very small portion of the resources are within the Potential Impact Area, which was developed with a sufficient buffer to facilitate design refinement and likely reduction of the area during Tier 2 NEPA analysis. There are three parks (Tiffin City Park in Tiffin, Iowa; Twin Creek Park in Pleasant Hill, Iowa; and Waterworks Park in Des Moines, Iowa) and two natural areas (Zoo Woods Forest Preserve in Riverside, Illinois, and Correll Wildlife Area near Adair, Iowa) that are transected by the Selected Alternative. In addition, there are six locations where there are parks, recreation areas, or natural areas on opposite sides of the Selected

Alternative. Avoidance of these properties would be considered in the Tier 2 analysis and unavoidable impacts will be further analyzed in the Tier 2 and Section 4(f) NEPA documents.

### **5.13 Section 4(f) and 6(f) Properties**

The Potential Impact Area, which includes land likely to be disturbed during construction and thereby resources on which the Project would have direct effects, includes 44 public parks, 21 public recreational resources, 8 public refuges, and 60 private and public historic properties. In most instances, only a very small portion of the resources are within the Potential Impact Area, which was developed with a sufficient buffer to facilitate design refinement and likely reduction of the area during Tier 2 NEPA analysis. In some cases, resources protected by Section 4(f) would be transected by the Potential Impact Area, including three parks and two natural areas. Further evaluation of the potential impacts will be addressed during Tier 2 analysis when more details of the design and operation are known.

As the Project proceeds into Tier 2 analysis, avoidance of these properties would be considered and unavoidable potential impacts would be further analyzed.

The Potential Impact Area also includes three individual parks and five park districts or community park departments that received Land and Water Conservation Funds (LWCF). During Tier 2 analysis, coordination will occur with the administering agencies to determine if lands within the Potential Impact Area were improved with LWCF funding. If any areas are considered to be LWCF lands, potential impacts will be addressed during Tier 2 analysis.

### **5.14 Visual Resources and Aesthetic Quality**

Only small portions of visual/scenic resources would be within the Potential Impact Area because additional ROW would be abutting the existing ROW rather than being on new alignment. As a result, alteration of these resources and effects on the views of those resources would most likely be minimal. In addition, the expansive Mississippi and Missouri Rivers would provide unique scenic views as the passenger trains travel on the bridges over these water resources. Views of scenic resources would also be provided by adjacent parks, recreation areas, natural areas (including the Loess Hills), perennial stream corridors, historic buildings, and views of urban and rural small town character. The Selected Alternative follows existing railroad alignments and would travel by residential areas containing sensitive visual receptors. However, those residents are currently accustomed to views of the railroad facilities. Des Moines Design Option 3 would result in visual impacts to the sensitive visual receptors in the neighborhood that it would bisect.

### **5.15 Waterways and Water Bodies**

The Selected Alternative would cross, or otherwise impact, approximately 104,150 linear feet of waterways. In addition, 32 acres of lakes and 33 acres of ponds would potentially be impacted.

## **5.16 Wetlands**

Based on National Wetlands Inventory mapping, there would be potential impacts on approximately 1 acre of aquatic bed wetland, 84 acres of emergent wetlands, 33 acres of scrub-shrub wetlands, and 120 acres of forested wetlands, totaling 238 acres of potential wetland impacts within the Potential Impact Area. As the Project proceeds into the Tier 2 NEPA analyses, wetland impacts will most likely be reduced as actual ROW requirements are determined and minimized where practicable.

## **5.17 Water Quality**

The Selected Alternative would cross 24 of the 28 streams on the 303(d) List of Impaired Waters (water quality limited waters) within the Study Area. The Selected Alternative could potentially affect the water quality of several water resources. Potential water quality impacts could be caused by soil erosion from stormwater runoff, fill material placed in water resources, and construction of bridges and culverts or culvert extensions. In addition, potential pollutant runoff and spills from operation and maintenance activities could potentially reach adjacent water resources. The avoidance or minimization of water quality impacts would be accomplished in appropriate areas by the use of stormwater Best Management Practices (BMPs) and adherence to federal and state water quality requirements.

## **5.18 Floodplains**

The Selected Alternative would cross and permanently encroach on several 100-year floodplain areas as a result of adding track and siding, bridge additions or replacements, and culvert replacements or extensions. Approximately 1,657 acres of 100-year floodplains would be within the Potential Impact Area. During the Tier 2 NEPA process, coordination with the State Emergency Management Agencies (SEMAs), the Department of Natural Resources of each state, and local floodplain administrators would be initiated to discuss floodplain development permitting and potential mitigation measures. In accordance with Executive Order 11988, discussions would include avoidance and minimization measures such as restoring natural and beneficial floodplain values, significant changes in flooding risks or damage, and the potential for incompatible floodplain development.

## **5.19 Topography, Geology, and Soils**

The topographic conditions are not expected to pose an adverse challenge to the Selected Alternative since it is adjacent to an existing railroad grade, and minimal cut and fill would be required. Bedrock encountered in the Potential Impact Area would increase construction costs, but would not be an insurmountable challenge for the Project. In addition, the Selected Alternative would not impact the underground mining entrances located in the Des Moines, Iowa area. The Selected Alternative would have minor impacts on the Loess Hills landform area as a result of adding track and siding in the northeast portion of Council Bluffs, Iowa. The grading operations of the Selected Alternative would impact various soil types, most of which are silt loams and silty clay loams, which would not pose adverse construction challenges.

## 5.20 Natural Habitats and Wildlife

It is estimated that approximately 178 acres of natural terrestrial habitat areas would be directly impacted by the Selected Alternative, in addition to the aquatic habitats (waterways, water bodies, wetlands) previously discussed. Because the proposed widening activities about the existing ROW, impacts from the Selected Alternative would be relatively minimal and linear, and would not further fragment remaining large parcels of natural habitat areas.

The wildlife species that are present along the Corridor have been continually exposed to train traffic in varying degrees. However, improvements of the Build Alternative—including new continuously welded rail track, and new trains and equipment having less overall weight than freight trains—would result in less noise and vibration than the existing train noise and vibration that the resident and migratory species have been experiencing. It is therefore anticipated that impacts from noise and vibration would be negligible. The potential effects of noise and vibration, and potential train collisions with migratory birds and other wildlife, which can vary considerably among species, will be further analyzed during the Tier 2 NEPA analysis, in coordination with the US Fish and Wildlife Service (USFWS) and state resource agencies. During the Tier 2 NEPA analysis, coordination with USFWS, the Illinois Department of Natural Resources (Illinois DNR), Iowa Department of Natural Resources (Iowa DNR), and Nebraska Game and Parks Commission (NGPC) will take place to determine potential locations of migratory bird and/or eagle occupancy within the Study Area, in addition to determining seasonal nesting, roosting, and foraging requirements of potentially affected wildlife species. The increase in train traffic and railroad ROW could also increase the chances of water quality/pollutant-related impacts on wildlife and their habitats.

## 5.21 Threatened and Endangered Species

The Selected Alternative would have no impacts on designated critical habitats (DCHs) of any federally listed threatened or endangered species. It is also possible that one or more new bridge structures could be needed across the Missouri River, which is suitable habitat for the federally endangered pallid sturgeon (*Scaphirhynchus albus*) and piping plover species (*Charadrius melodus*). In addition, it is likely that the upland and riparian woodland areas in the Iowa counties of the Study Area may potentially provide suitable foraging and roosting habitat for the endangered Indiana bat (*Myotis sodalis*), although there is no DCH for this species in the Study Area. The Selected Alternative would result in minimal linear impacts to wooded areas, rather than fragmenting large parcels of woodlands. The Selected Alternative would also result in minor linear impacts on the Eola Road Marsh, which contains habitat for four state-listed endangered species.

The potential for train collisions with threatened or endangered species, and potential effects of noise and vibration, which can vary considerably among various species, will be further analyzed during the Tier 2 NEPA process for the Selected Alternative, in coordination with USFWS and state resource agencies. The potential for impacts from erosion and sedimentation, pollutant runoff and spills, and temporary construction impacts will also be further analyzed in the Tier 2 NEPA documents.

Field surveys and coordination with USFWS, Illinois DNR, Iowa DNR, and NGPC will take place during the Tier 2 NEPA studies to determine the potential for the existence of, and impacts on, threatened or endangered species in the Study Area.

## **5.22 Energy Use and Climate Change**

Implementation of the Selected Alternative would have the potential to provide energy savings and would reduce the transportation system's impact on GHG emissions. Based on a preliminary passenger rail forecast, the Selected Alternative would provide a net reduction on energy consumption and GHG emissions through diverted trips from automobiles, buses, and trains to new passenger rail service. Ridership and modal diversion forecasts indicate that the Selected Alternative would decrease automobile traffic by approximately 646.3 million passenger-miles per year and reduce bus travel by approximately 153.6 million passenger-miles per year. CO<sub>2</sub>, the main GHG emission, would decrease by approximately 23,513 tons per year. Although new passenger trains would consume approximately 17.1 million gallons of fuel per year, automobile fuel consumption would decrease by approximately 17.8 million gallons per year. If the Project were not built, passenger train service would not be as readily available to the public west of Moline, resulting in the continued reliance of automobiles, buses, and planes for transportation for this portion of the Study Area. As a result, energy consumption and GHG emissions would likely continue to steadily increase.

## **5.23 Construction Impacts**

Typical main line improvements for the Selected Alternative include construction of an additional track through much of the Study Area to increase rail capacity and limit conflicts with existing rail operations. Other construction activities include an upgrade of the rails, cross ties, signalization, and grade crossing protection throughout the Potential Impact Area. Construction of these improvements would result in temporary construction impacts, including increases in waste disposal, potential impacts to water quality, air quality, increased noise levels, vibration, dust, traffic congestion, visual changes, disrupted access to properties and neighborhoods, and safety issues.

## **5.24 Irreversible and Irrecoverable Commitments of Resources**

Construction of the Selected Alternative would result in the irreversible and irretrievable commitment of land where additional ROW is needed. The land would be converted from its current condition to a railroad grade and track. Construction materials would consist largely of steel, concrete, ballast rock, and wood. Whereas the use of these materials would be largely irretrievable, these resources are not in short supply and many of the materials could be recycled for other projects when they no longer meet the design needs for passenger rail service. Several energy resources would be committed to the Project, including petroleum, natural gas, electrical, and manpower expenditures for construction, operation, and maintenance. These resources are generally irretrievable.

## **5.25 Short-Term Use Vs. Long-Term Productivity of the Environment**

The Selected Alternative could contribute to potential short-term construction impacts related to hazardous materials and waste disposal, water quality, air quality, noise and vibration, property

access, and traffic and pedestrian delays/detours. In addition, short-term employment, use of materials to construct the Project, and purchases of goods and services generated by Project construction could create a short-term increase in the local economy that would end once the construction phase is completed.

In the region between Chicago and Omaha, the addition and enhancement of passenger rail service would contribute to improvements in the transportation network and access within the region by providing competitive passenger rail service that would meet the needs of increased future travel demand and more efficient travel between major urban centers. With the Selected Alternative, long-term benefits would include a reduction in air pollution emissions as a result of passenger rail service replacing automobile, bus, and plane trips; and decreased congestion on local streets and highways. Other long-term benefits would include improved accessibility within the region, economic benefits through employment opportunities, potential for transit-oriented development, increased economic activity, improvements in safety for at-grade crossings.

In addition to some permanent impacts to waterways, water bodies, wetlands, floodplains, plant communities, natural habitat, and wildlife; other long-term losses/effects on the productivity of the environment would include the following:

- Removal of existing farmland from productivity
- Reduction of the local tax base as a result of acquiring farmland, commercial, and industrial property for additional railroad ROW
- Potential economic impacts on other modes of public transportation
- Potential acquisition of park land, recreation land, and natural areas
- Noise and vibration impacts on sensitive receptors
- Collision impacts on wildlife

## **5.26 Indirect and Cumulative Impacts**

Construction and operation associated with any phase of the Selected Alternative has the potential to cause indirect impacts. The following is a summary of potential indirect impacts identified through evaluation of various environmental resources:

- Increased noise and ground vibration, as well as air emissions, and visual and aesthetic impacts could potentially result in indirect impacts of reduced use of nearby parks, recreation areas, and natural areas. Section 4(f) properties could be indirectly affected by noise, ground vibration, aesthetics, and access issues. Additionally, there could be indirect impacts on wildlife through reduced use of areas near train operations. Threatened or endangered species could potentially be indirectly affected by air emissions and water quality impacts affecting habitat.
- Indirect effect of reducing ridership on current transportation services, such as intercity bus and flight service, by offering a competitive alternative to these modes. Diverted trips from these modes to passenger rail service may have implications to the viability of these modes in the future.



- Potential indirect positive impacts include a slight reduction in vehicular congestion on I-88 and I-80 within the Study Area. This would have positive impacts on air quality, safety and reduce future delays due to congestion.
- Commencement of passenger service and modification of at-grade crossings could indirectly affect traffic flow from previous traffic conditions.
- Increased chance of a hazardous material incident, which could also affect water quality as railway contaminants or accidental chemical/fuel spills from operations and maintenance activities could reach water resources adjacent to, or downstream of the project area.
- Noise and vibration from passenger rail traffic could cause indirect impacts to cultural resources by affecting visitor experience. Induced transit-oriented development in the vicinity of station areas may indirectly affect nearby cultural resources.
- Potential indirect impacts to downstream water bodies and wetlands could occur from culvert and/or bridge replacements.
- Transit-oriented development could result indirectly from the construction and use of station locations.
- Indirect impacts on adjacent land uses from changes in traffic flow at rail crossings and near future station sites. Temporary traffic indirect impacts would occur through closings during construction and rerouting traffic through adjacent neighborhoods and business areas. Increased travel time and delay for local residents and potential economic impacts to businesses that depend on convenient accessibility. Potential increased congestion and traffic delays near crossings with new passenger rail service.
- Temporary increase in GHG emissions from construction activities from on-site equipment as well as increased delays and congestion from automobile and bus traffic.
- Indirect positive impacts on air quality from contributing to the development of a more complete multi-modal transportation system within the Study Area and encouraging changes in long-term travel behavior and advocacy for more energy efficient modes of transport that improve air quality.
- Upgrades to rail infrastructure may indirectly benefit existing freight service.

Cumulative impacts from other projects in the region would also occur. The majority of projects are linear transportation projects, often occurring either in existing ROW or adjacent to existing ROW. It is likely that many of these projects would be affecting drainage and could involve impacts to wetlands and other waters of the U.S. In rural areas, it is likely that the other projects may be affecting farmland, natural areas, and wildlife habitat primarily through expansion of existing corridors.

When considered collectively with other projects in the region, the Selected Alternative would have a slight beneficial contribution to cumulative impacts by improving overall air quality and reducing roadway congestion and would have the potential for increased transit-oriented development. Should construction of this Project occur simultaneously with some of the other projects in the region, existing passenger and freight rail services could see temporary increases in delays and congestion, but overall train traffic would be maintained throughout construction.

Many of the other transportation projects are improvements along existing alignments, with reconstruction or other modifications occurring either within or adjacent to existing ROW. Therefore, new impacts of the other projects outside existing ROW would be relatively narrow and linear. Consequently, cumulative impacts on resources within a designated area, such as a watershed or ecosystem, would likely be minor.

The majority of the Selected Alternative corridor is in rural areas dominated by farmland uses. Highly developed areas are also present along the corridor. Land use throughout the Corridor is likely to remain unchanged with the implementation of the Selected Alternative and other projects. Suburban areas associated with large cities such as Chicago and Des Moines are likely to incur the most change in land use with a potential for cumulative impacts because of the land available for modification in areas where population is increasing.

Given the numerous planned transportation projects, air quality, mobility, and safety would cumulatively benefit. Minimal cumulative negative impacts associated with these projects would likely occur on farmland, habitat, wetlands, and streams along the Selected Alternative.

Station development associated with the Project has the potential to result in induced development in close proximity to the stations. However, station locations will be selected through coordinated efforts with local city/county/metropolitan area planners to help ensure that the sites and opportunities presented for growth development are suitable to handle increased traffic and other demands, minimizing the potential for adverse cumulative impacts.

## **5.27 Interim Implementation Phase Impacts**

As discussed previously, the interim implementation phase of the Project is the last phase that would be implemented within the 20-year planning horizon of the SDP. A qualitative review was performed for the impacts that the interim implementation phase would have on each resource previously reviewed for impacts under full implementation of the Selected Alternative.

The interim implementation phase was evaluated based on two main categories of activities likely to cause environmental impacts: 1) ROW acquisition and construction (footprint-dependent impacts); and 2) operation and maintenance of the system. Some resources were evaluated individually, and some were addressed in aggregate. In addition, some resources would be affected by only one category, and some resources would be affected by both categories. For example, natural habitats and wildlife can be directly affected by vegetation removal as a result of ROW acquisition and construction impacts, and can also be affected by train operations as a result of animal collision impacts. The interim implementation phase would be a step toward full implementation (which would have the greatest Project impacts), less ROW acquisition and construction would be required in this phase, and fewer operations and slower speeds would occur. Consequently, adverse environmental impacts would be less than for full implementation of the Project, and are discussed qualitatively in comparison to the estimated impacts of full implementation (previously described in the sections above). In addition, any beneficial impacts that would result from the interim implementation phase, such as reduced cumulative air emissions from more efficient transportation of people, would not occur to the same extent as under full implementation of service. A more detailed discussion of the impacts on each resource is presented in Section 3.28 in Chapter 3 of the Tier 1 EIS.



## 5.28 Summary of Potential Mitigation Measures

Table 5-2 introduces potential mitigation for impacts to resources that would result from full implementation of the Project, as identified through the Tier 1 NEPA process. Specific mitigation measures, to the extent required, will be identified and discussed during Tier 2 analysis after design details are known, recorded in NEPA documents as specific impacts are identified, and implemented prior to construction.

Table 5-2. Potential Mitigation

Impacted Resource	Potential Mitigation
Transportation	Signal upgrades to address safety concerns at intersections and to limit disruption of existing freight rail service. Traffic Control and Safety plan for construction. Specific mitigation measures, to the extent required, will be discussed in Tier 2 NEPA documents.
Land Use, Zoning, and Property Acquisition	Where property acquisition cannot be avoided, the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act will be followed. During Tier 2 analyses, the extent of land use, zoning, and property acquisition impacts will be analyzed for potential mitigation issues that may be identified through agency coordination and public involvement.
Agricultural Resources	As part of the Tier 2 NEPA process, coordination would take place with the NRCS. Form NRCS-CPA-106, Farmland Conversion Impact Rating for Corridor Type Projects, would be required to determine if farmland impacts are above the threshold level for consideration of farmland protection measures.
Socioeconomic Environment	In the Tier 2 analysis, strategies to avoid, minimize, or mitigate potential impacts on socioeconomic conditions (neighborhoods, community facilities, businesses, employment) will be considered. In addition, public involvement and agency coordination activities may result in identification of potential mitigation needs.
Title VI and Environmental Justice	Potential mitigation measures will be determined in the Tier 2 NEPA studies, if it is determined that adverse human health or environmental effects occur to minority and/or low-income populations, and if those effects are determined to be disproportionately high.
Elderly and People with Disabilities	Adverse impacts on the elderly and people with disabilities could be mitigated by providing beneficial ADA compliant services and facilities for those populations. A more detailed analysis of adverse impacts on the elderly and disabled populations, mitigation measures, and the public involvement process will be provided in the Tier 2 NEPA documents.
Public Health and Safety	The Tier 2 NEPA studies will address safety measures and strategies to protect the health and safety of passengers, as well as motor vehicles and pedestrians, at existing or new at-grade crossings.
Noise and Vibration	Minimizing locomotive horn use would be the greatest opportunity to mitigate potential noise impacts. Other mitigation measures could include upgrading of some electronic circuitry through installation of constant time circuitry (warning lights) at public at-grade roadway-rail crossings. Municipalities can choose to initiate the process of developing quiet zones to take advantage of the infrastructure provided by the Project. During the Tier 2 NEPA process, measures to mitigate ground-borne vibration would be evaluated.

Impacted Resource	Potential Mitigation
Air Quality	During the Tier 2 NEPA studies, mitigation to reduce NO <sub>x</sub> emissions would be considered and investigated, such as converting fleet vehicles from diesel fuel to alternative fuels, or the feasibility of implementing idling restrictions for locomotives at station stops and maintenance facilities. All emissions are below their <i>de minimis</i> thresholds for the nonattainment and maintenance areas. General air quality conformity analysis modeling may be required in Tier 2 NEPA documents to verify these findings.
Hazardous Waste and Waste Disposal	Potential impacts on or from NPL Superfund sites and other non-NPL sites will be further evaluated in the Tier 2 NEPA studies, to determine level of risk and potential mitigation or cleanup procedures. Mitigation requirements may include safety procedures and protection of human health and the environment to help ensure that there would be no further contamination of adjacent sites, and to provide a safe working environment during construction. In addition, solid waste materials generated during construction could be recycled or properly disposed of.
Cultural Resources	If, during the preparation of Tier 2 NEPA documents, it is determined that the project will adversely affect NRHP-eligible historic resources, mitigation measures may be developed in accordance with the terms of a Programmatic Agreement or Memorandum of Agreement between FRA and consulting parties, including the Advisory Council on Historic Preservation and State Historic Preservation Officers.
Parks and Federally or State-Listed Natural Areas	Specific mitigation measures, to the extent required, will be discussed in Tier 2 NEPA documents as specific impacts are identified.
Section 4(f) and 6(f) Properties	During the preparation of Tier 2 NEPA documents, minimization and mitigation measures for adverse impacts and uses of protected resources will be determined, to the extent required, through consultation with the official of the agency owning or administering the resource. Minimization of harm could include alternative design that lessens the impact on Section 4(f) resources and/or mitigation measures that compensate for residual impacts. For 6(f) LWCF lands that cannot be avoided, mitigation would include replacement property that is of at least equal fair market value as the impacted property, and of reasonably equivalent usefulness for recreation purposes.
Visual Resources and Aesthetic Quality	Through continued public involvement, residents' concerns about the potential views of the railroad facilities will be identified. Mitigation and impact minimization efforts will be addressed in more detail in the Tier 2 NEPA documents. Mitigation could include consideration of potential measures such as appropriate re-vegetation of disturbed areas of the scenic resources, visual screening of railroad facilities from adjacent residential areas, appropriate design of aesthetic features, and landscaping that would complement and blend with the context of the surrounding visual environment.
Waterways, Water Bodies, and Wetlands	Mitigation options for unavoidable impacts on waterways, water bodies, and wetlands will be discussed in more detail during the Tier 2 NEPA documents. Mitigation measures could include mitigation banking, in-lieu fees, and on-site or off-site mitigation. During the design process, coordination will take place with the USACE and appropriate state resource agencies to develop mitigation strategies. The mitigation strategies to be identified and selected would account for the fact that not all mitigation options are available to all states and USACE Districts.

Impacted Resource	Potential Mitigation
Water Quality	The Tier 2 NEPA documents would address mitigation measures and control of pollutants and sediments in regard to the National Pollutant Discharge Elimination System (NPDES) permitting, Storm Water Pollution Prevention Plans (SWPPPs), and stormwater Best Management Practices (BMPs). In addition, each state's required Section 401 Water Quality Certifications would be addressed. Mitigation for impacts on mapped or unmapped water wells, including proper abandonment of the wells (such as plugging and sealing) to prevent groundwater pollution would also be addressed.
Floodplains	During the Tier 2 NEPA process, coordination with the State Emergency Management Agencies (SEMAs), the DNRs of each state, and local floodplain administrators would be initiated to discuss floodplain development permitting and potential mitigation measures. In accordance with Executive Order 11988, discussions would include avoidance and minimization measures such as restoring natural and beneficial floodplain values, significant changes in flooding risks or damage, and the potential for incompatible floodplain development.
Topography, Geology, and Soils	No requirements for mitigation related to topographic, geologic, and soil conditions are anticipated, with the exception of impacts on the Loess Hills, which could include buffer zones and re-establishing native vegetation. Specific impacts and potential mitigation measures will be investigated and evaluated in further detail in the Tier 2 NEPA documents.
Natural Habitats and Wildlife	During the Tier 2 process, avoidance and minimization of impacts would be assessed, and unavoidable impacts to natural habitats and migratory birds would be coordinated with USFWS and state resource agencies to determine compliance with regulatory requirements and potential mitigation measures to offset impacts, which could include restrictions on construction activities in specific areas during the breeding/nesting seasons. Coordination with Iowa DNR would also take place regarding mitigation of woodland impacts, which require replacement according to Iowa Code 314.23, Environmental Protection.
Threatened and Endangered Species	During the Tier 2 process, Section 7 consultation with USFWS would take place to determine whether or not the Project could have the potential to affect a federally listed species, and if so, whether or not the activity would adversely affect (jeopardize the continued existence of) a listed species. Mitigation measures for unavoidable adverse impacts would be determined as part of the formal Section 7 consultation. Avoidance and minimization of impacts on state-listed species would also be assessed during the Tier 2 NEPA documents. If it is determined that unavoidable impacts on state-listed species would occur, coordination with the Illinois DNR, Iowa DNR, and NGPC, as appropriate, would take place to determine potential mitigation measures.
Energy Use and Climate Change	Mitigation may not be required for energy and climate change due to the positive impact and the diverted trips from other modes of transportation, lowering the overall amount of CO <sub>2</sub> emissions along the Study Area. Verification will be made during the Tier 2 NEPA studies.

Impacted Resource	Potential Mitigation
Construction Impacts	<p>Impacts from construction activities will be reviewed and mitigation will be considered during the development of the Tier 2 NEPA documents. The potential for Project construction impacts may be mitigated through measures such as the following:</p> <ul style="list-style-type: none"> <li>• Waste Disposal – Recycling and properly disposing of construction debris.</li> <li>• Water Quality – Management of stormwater runoff through implementation of BMPs.</li> <li>• Air Quality – Adherence to construction permit conditions and all state and local regulations in regard to emissions and exhaust, fugitive dust, and burning of debris.</li> <li>• Noise and Vibration – Equipping and maintaining muffling equipment for construction machinery, and limiting times of day for various construction activities.</li> <li>• Access – Development of a traffic mitigation plan for construction sequencing.</li> <li>• Traffic and Safety –developing and implementing a traffic control and safety plan.</li> </ul>
Indirect and Cumulative Impacts	<p>Specific mitigation measures, to the extent required, will be discussed in Tier 2 NEPA documents as specific indirect and cumulative impacts are identified.</p>

## 6.0 Permits

Construction of the Project would likely require the following federal, state, and local permits and approvals:

- Section 404 Permit – USACE (Waters of the U.S. impacts)
- Section 401 Water Quality Certification – Illinois EPA, Iowa DNR, Nebraska Department of Environmental Quality (NDEQ)
- Section 9 Bridge Permit – USCG (navigable waters)
- Section 10 Permit – USACE (impacts in navigable waters)
- Section 402 NPDES Permit – Illinois EPA, Iowa DNR, NDEQ (land disturbance and stormwater runoff)
- Section 408 Approval – USACE (impacts to levees/flood control structures)
- Floodplain Development Permit – DNRs of each state, and local jurisdictions
- Air Pollution Control Permits – Illinois EPA, Iowa DNR, NDEQ
- National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 61 – Illinois EPA, Iowa DNR, NDEQ
- Iowa Sovereign Lands Construction Permit – Iowa DNR
- Formal Notice and Airspace Review – Federal Aviation Administration

## 7.0 Summary of Comments on the Tier 1 Final EIS

During the 30-day waiting period following the publication of the Tier 1 Final EIS, FRA received one letter from the USEPA. The letter is attached in Appendix A:

### Summary of Final EIS Comments U.S. Environmental Protection Agency – Region 7

Issue	Comment	Response
Agency Coordination, EIS Process, Rail (Operations), Tier 2	1. Region 5 has expressed concern with the Wyanet area that is planned to be developed for ancillary facility and the location of a new rail-to-rail connection. This area is slated as potentially having a rail yard, passenger station, train idling area, parking, etc. In the Draft Tier 1 EIS, we asked that additional information be included in the next phase of analysis. The Final Tier 1 EIS does not provide any further details, only stating that this facility will be further analyzed in the “Chicago to Quad Cities Expansion Program Tier 2 NEPA document.” This NEPA document was not mentioned in the Chicago to Omaha Draft Tier 1 EIS that was submitted. Since the Chicago to Quad Cities project is part of the Chicago to Omaha rail line project, why is it going to be analyzed in a different, never before referenced document? We also ask that these environmental and health concerns relevant to the Wyanet area be addressed for both direct and indirect impacts.	The Chicago to Quad Cities route was introduced in Section 1.1 of the Tier 1 Draft EIS, and the Expansion Program was discussed in Section 2.2.1 of the Draft EIS as part of the definition of the No Build Alternative. The Chicago to Quad Cities service would be initiated as a section of a separate, stand-alone project (Chicago to Iowa City), independent of but along the same alignment as the Chicago to Council Bluffs-Omaha Project. Page 3-2 of the Tier 1 Draft EIS indicated that the Chicago to Quad Cities Expansion Program was being evaluated at a Tier 2 level of analysis in three separate projects. Page 3-2 also noted that impacts of the Chicago to Quad Cities Expansion Program were being accounted for in both the No-Build Alternative and Build Alternative for the Chicago to Council Bluffs-Omaha project at a Tier 1 level of analysis, and potential environmental and health concerns along the entire corridor were documented in the Tier 1 EIS. Illinois DOT and FRA are currently conducting Tier 2 studies for the Chicago to Quad Cities Expansion Program and will assess impacts based on detailed design and facility decisions not yet made during Tier 1. The Wyanet area will include a new rail-to-rail connection, but no other facilities.
Cumulative Impacts, Tier 2	2. Union Station in Chicago, Illinois is a major hub for existing Metra commuter rail and Amtrak services, and is proposed to be the hub for many new high speed rail services. This Final Tier 1 EIS does not discuss the cumulative effects on Union Station from multiple new rail services. Currently, there are plans for high-speed rail lines from Chicago Union Station to Detroit, St. Louis, and Minneapolis, in addition to Omaha. Cumulative analysis of environmental and health impacts within and around Union Station will need to be considered, as well as the impact that the additional routes, passengers, traffic and usage will have on Union Stations Metra daily commuters and Amtrak services. Impacts to train operations, train storage, platform capacity and Amtrak support services all need to be analyzed in Tier 2. Union Station is already congested handling the current capacity of passengers and trains. Tier 2 should discuss how Union Station will accommodate expanded future use.	Chicago Union Station (CUS) is critical to a number of routes for various proposed passenger rail projects. FRA and Illinois DOT recognize that the evaluation of congestion at and capacity of Union Station would need to be addressed in a separate study. The findings of the study would be used to help characterize cumulative impacts at CUS for the Tier 2 document including CUS.
Right-of-Way, Alternatives Screening, Impact Assessment	3. EPA’s previous comments on the Draft Tier 1 EIS pertaining to Right of Way were not addressed. “Coarse and Fine level screening occurred within corridors that were 500 foot wide and 100 foot wide (plus a buffer of 25-50 feet), respectively (ES. 3.2.1, ES. 3.2.2.2). However the table of impacts (ES-1) does not clearly indicate at what scale the potential impacts are accounted. EPA recommends that the Tier 2 EIS more clearly describe the study envelopes of: existing Right of Way, Right of Way (plus and additional included study area) for the fine screening, and the 500 foot study area in the coarse screening.	The Potential Impact Area used to estimate impacts summarized in Table ES-1 and Table 2-4 was described on page 3-1 of the Tier 1 Draft EIS; the dimensions vary throughout the approximately 475-mile-long corridor to account for flexibility in optimizing the design of the railroad system as more is learned during Tier 2. The Potential Impact Area boundaries are shown on figures in Appendix B. During development of detailed design as part of future Tier 2 work, the current right-of-way boundaries and future ROW needs will be better defined, shown, and described in Tier 2 NEPA documents. The Study Area boundaries will be revisited during Tier 2 if necessary to account for design optimization.

Issue	Comment	Response
Air Quality, Tier 2	<p>4. The document states that high speed rail will decrease the amount of air pollution as compared to air travel. The Final Tier 1 EIS does not substantiate this statement by including any data or data analysis. EPA recommends the inclusion of such data and/or a summarization of data comparing the two modes of travel and their impacts to air quality in future documents.</p> <p>5. Furthermore, with the increased spending in infrastructure and transportation, EPA suggests working with Department of Energy to determine if projects can be combined to provide common corridors for high speed rail and electric transmission. Several large projects are already underway to build solar, wind, and hydropower plants in the Midwest and West. DOE and the U.S. Department of Agriculture (Rural Development) are looking for ROW to bring this electricity to cities and rural communities. Could future rail projects combine the acquisition of land to include right-of-way for electrical transmission lines and rail?</p>	<p>Section 3.9 of the Tier 1 Draft ES and Tier 1 Final EIS both provide air emissions estimations for general conformity determination purposes, and for changes in air pollutants from diversion of passenger vehicle, bus, and plane trips. Additional estimation of air quality impacts will be performed for Tier 2 studies as warranted.</p> <p>Thank you for your suggestion concerning an integrated approach to future corridor development. USDA was involved in early coordination on the project and received copies of the Tier 1 Draft EIS and Final EIS. Based on your input, FRA has sent a copy of the Final EIS to DOE.</p>
Project Integration, Agency Coordination	<p>The Tier 1 Final EIS does not explain how the proposed Chicago to Omaha high-speed rail service will be integrated with existing Amtrak service west of Omaha, to and from California. Will trains to and from the West Coast use the existing Amtrak route to Chicago via Burlington, Iowa, or will West Coast service be routed on the proposed Chicago to Omaha high-speed rail line via Des Moines and the Quad Cities? If the latter, how will high-speed and non-high-speed train services be integrated?</p>	<p>Section 2.2.2.7 of both the Draft EIS and Final EIS note current passenger service including the long-distance <i>California Zephyr</i> and regional railroads discussed in Section 2.2.1. Section 2.2.2.7 further notes that those rail services, as well as other forms of long-distance and regional transportation such as bus and airplane services would continue to operate in the same manner as current operations. There is no plan at this time to change the route or timing of the long-distance train from Chicago through Omaha in response to the Project. Specific integration of regional and local transportation modes with the proposed Project services would be speculative at this time. As planning continues and if the system moves forward, the operator of the system will be defined and opportunities for integration will be evaluated and implemented as warranted.</p>

## 8.0 Corrections to the Tier 1 Final EIS

There are no changes to the Final EIS.

## 9.0 Decision

Iowa DOT proposes to implement intercity passenger rail service between Chicago and the Omaha/Council Bluffs metropolitan 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, and improving reliability and safety.

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. The majority of automobile travelers, as well as truck drivers, use I-80 and I-88, contributing to substantial safety and congestion concerns on those roadways and in adjacent communities. Vehicle miles traveled in Iowa on I-80 are projected to increase substantially, and 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, resulting in stop-and-go traffic conditions in Chicago, Des Moines, and Omaha. There is an increase in travel demand resulting from a population that is increasing and becoming more urbanized, and that is

aging and is increasingly seeking competitive and attractive modes of transportation. Implementation of the Project would help address these needs.

In addition, the Passenger Rail Investment and Improvement Act of 2008 established high-speed rail corridor development as an important component of the Nation's transportation policy. Implementation of the Chicago to Council Bluffs-Omaha Regional Passenger Rail System is consistent with the Department of Transportation and FRA's vision of the important role high-speed intercity passenger rail can play in certain travel markets (see Vision for High-Speed Rail in America, April 2009, <http://www.fra.dot.gov/eLib/Details/L02833>).

The Alternative selected in this ROD will utilize tracks currently owned and operated by four rail carriers between Chicago and Omaha: BNSF, IAIS, UP, and Amtrak. Sections 4.3 and 4.4 of this ROD present the considerations and factors balanced by FRA in arriving at this decision.

FRA, in accordance with CEQ's regulations implementing NEPA and FRA's Procedures for Considering Environmental Impacts, finds that the requirements of NEPA have been satisfied for the Tier 1 EIS for the Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study.

The environmental record for Tier 1 of the Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study includes the Draft EIS dated October 2012, the Final EIS dated May 2013, and this ROD, which includes comments from the circulation of the Final EIS. These documents represent the detailed analysis and findings required by NEPA on the following:

- Environmental impacts of the Project
- Alternatives to the Project
- Irreversible and irretrievable commitments of resources on the environment that may be involved in the Project should it be implemented

On the basis of the evaluation of social, economic, and environmental impacts contained in the Tier 1 Draft EIS and Tier 1 Final EIS, as well as the written and oral comments offered by the public and by other agencies, FRA determines that:

- Adequate opportunity was afforded for the presentation of views by all parties with a significant economic, social, or environmental interest, and fair consideration was given to the preservation and enhancement of the environment and to the interest of the communities in which the Project is located.
- All reasonable steps were taken to minimize potential adverse environmental effects of the Project, and where potential adverse environmental effects remain, they have been fully reported in the Tier 1 Draft EIS and the Tier 1 Final EIS and will be further evaluated during Tier 2 studies.

The extensive opportunities provided for public and other stakeholder involvement in planning and decision-making are described in the Tier 1 Final EIS and summarized in this ROD. The reasonable steps to minimize potential adverse environmental effects are described in the Tier 1 Final EIS and are detailed as Measures to Avoid and Minimize Harm in this ROD. As outlined in Section 5.0 of this ROD, the findings for Section 106, Section 4(f)/6(f), Section 7 endangered species, wetlands, floodplains, floodways, and environmental justice will be determined during

the Tier 2 studies when more detailed analysis will be conducted, and when coordination will take place with resource agencies to address obligations to minimize and mitigate impacts.

## 10.0 Conclusion

FRA has reached a decision based on the information contained in the Tier 1 Draft EIS and Final EIS. FRA approves the Selected Alternative identified in this ROD. FRA has selected this alternative because it 1) best satisfies the Purpose and Need for the Project; and 2) minimizes impacts on the natural and human environment by using existing transportation corridors where practicable and incorporating mitigation.



\_\_\_\_\_  
Joseph C. Szabo  
Administrator  
Federal Railroad Administration

\_\_\_\_\_  
Date

8/2/13





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 7

11201 Renner Boulevard  
Lenexa, Kansas 66219

JUL 8 2013

Andréa Martin  
Environmental Protection Specialist  
Federal Railroad Administration  
1200 New Jersey Avenue Southeast (Mail Stop 20)  
Washington D.C. 20590

Dear Ms. Martin:

RE: Final Environmental Impact Statement for Chicago to Council Bluffs – Omaha, Regional Passenger Rail System Planning Study: Tier 1 Service Level, CEQ Number 20130149.

In accordance with our responsibilities under Section 309 of the Clean Water Act and the National Environmental Policy Act, the U.S. Environmental Protection Agency Regions 5 and 7, have reviewed the Federal Railroad Administration's Final Environmental Impact Statement for Chicago to Council Bluffs – Omaha, Regional Passenger Rail System Planning Study: Tier 1 Service Level.

To assist the FRA in enhancing the project, the EPA provides the following comments:

1. Region 5 has expressed concern with the Wyanet area that is planned to be developed for ancillary facility and the location of a new rail-to-rail connection. This area is slated as potentially having a rail yard, passenger station, train idling area, parking, etc. In the Draft Tier 1 EIS, we asked that additional information be included in the next phase of analysis. The Final Tier 1 EIS does not provide any further details, only stating that this facility will be further analyzed in the "Chicago to Quad Cities Expansion Program Tier 2 NEPA document." This NEPA document was not mentioned in the Chicago to Omaha Draft Tier 1 EIS that was submitted. Since, the Chicago to Quad Cities project is part of the Chicago to Omaha rail line project, why is it going to be analyzed in a different, never before referenced document? We also ask that these environmental and health concerns relevant to the Wyanet area be addressed for both direct and indirect impacts.
2. Union Station in Chicago, Illinois is a major hub for existing Metra commuter rail and Amtrak services, and is proposed to be the hub for many new high speed rail services. This Final Tier 1 EIS does not discuss the cumulative effects on Union Station from multiple new rail services. Currently, there are plans for high-speed rail lines from Chicago Union Station to Detroit, St. Louis, and Minneapolis, in addition to Omaha. Cumulative analysis of environmental and health impacts within and around Union Station will need to be considered, as well as the impact that the additional routes, passengers, traffic and usage will have on Union Stations Metra daily commuters and Amtrak services. Impacts to train operations, train storage, platform capacity and Amtrak support services all need to be analyzed in Tier 2. Union Station is already congested handling the current capacity of passengers and trains. Tier 2 should discuss how Union Station will accommodate expanded future use.

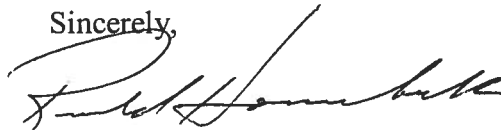


3. EPS'S previous comments on the Draft Tier 1 EIS pertaining to Right of Way were not addressed. "Coarse and Fine level screening occurred within corridors that were 500 foot wide and 100 foot wide (plus a buffer of 25-50 feet), respectively (ES. 3.2.1, ES. 3.2.2.2). However the table of impacts (ES-1) does not clearly indicate at what scale the potential impacts are accounted. EPA recommends that the Tier 2 EIS more clearly describe the study envelopes of: existing Right of Way, Right of Way (plus any additional included study area) for the fine screening, and the 500 foot study area in the coarse screening.
4. The document states that high speed rail will decrease the amount of air pollution as compared to air travel. The Final Tier 1 EIS does not substantiate this statement by including any data or data analysis. EPA recommends the inclusion of such data and/or a summarization of data comparing the two modes of travel and their impacts to air quality in future documents.
5. Furthermore, with the increased spending in infrastructure and transportation, EPA suggests working with Department of Energy to determine if projects can be combined to provide common corridors for high speed rail and electric transmission. Several large projects are already underway to build solar, wind, and hydropower plants in the Midwest and West. DOE and the U.S. Department of Agriculture (Rural Development) are looking for ROW to bring this electricity to cities and rural communities. Could future rail projects combine the acquisition of land to include the right-of-way for electrical transmission lines and rail?

The Tier 1 Final EIS does not explain how the proposed Chicago to Omaha high-speed rail service will be integrated with existing Amtrak service west of Omaha, to and from California. Will trains to and from the West Coast use the existing Amtrak route to Chicago via Burlington, Iowa, or will West Coast service be routed on the proposed Chicago to Omaha high-speed rail line via Des Moines and the Quad Cities? If the latter, how will high-speed and non-high-speed train services be integrated?

Thank you for the opportunity to review and provide comments on the Tier 1 FEIS. If you have questions or require additional clarification, please contact Shanna Horvatin at 312-886-7887, or me at 913-551-7029.

Sincerely,



*for* Jeffery Robichaud  
Deputy Director  
Environmental Services Division

cc: Illinois Department of Transportation, Peoria, IL  
Iowa Department of Transportation, Ames, IA  
Nebraska Department of Roads, Lincoln, NE