Section

7 IMPLEMENTATION PLAN

7.0 Implementation Plan

The Tier 1 Final EIS has presented several improvements along the Chicago to St. Louis corridor to meet the purpose and need of the program. A corridor program of this size and scope is rarely implemented at once, and, instead, typically requires incremental steps to logically advance the program. As such, the State of Illinois has developed an implementation plan to help guide the identification and selection of staged improvements within the corridor that can be advanced as part of the corridor wide development plan. Ahead of any future construction projects, should federal funding be utilized, Tier 2 environmental documents must be completed to assess the individual component projects of the Selected Alternative carried forward from the Tier 1 EIS. Within these Tier 2 environmental documents, design alternatives will be evaluated, potential environment impacts will be identified, and measures to avoid, minimize, and mitigate those identified impacts will be documented.

7.1 Continuation of Current Investment

As discussed in Section 3.2, a $1.45 billion program is under way by the State of Illinois, including $1.3 billion provided by the Federal Railroad Administration, to raise top speeds to 110 miles per hour, improve ride quality, increase reliability to 85 percent on-time performance, improve stations, and provide new rolling stock for improved passenger service between the East St. Louis area and Joliet, Illinois. Construction began in 2010. Most work between Dwight and East St. Louis area is scheduled to be complete by 2015 and work between Joliet and Dwight is scheduled to be complete in 2017. This program will support the operation of three of the existing round trip passenger trains at speeds of up to 110 mph on these segments. Construction includes new rail, ballast, concrete ties, and related improvements including 13 passing sidings and 24 miles of new double track at three locations.

At the conclusion of these improvements, passenger train service on the Chicago-St. Louis corridor will consist of three 110 mph "Lincoln Service" ("LS") round trips, a 79 mph "Lincoln Service" round trip and the 79 mph (non-State-supported) "Texas Eagle" ("TE") round trip (Table 7.1-1).

The implementation of the proposed improvements included with the Preferred Alternative (see Section 3.5) will be staged to help ensure the continued success of passenger train service on the corridor while maintaining effective freight and commuter rail operations.

Table 7.1-1. Expected Timetable after Completion of Current Program

301	303	21	305	307	Stations	300	302	22	304	306
"LS" 110	"LS" 79	"TE" 79	"LS" 110	"LS" 110		"LS" 110	"LS" 110	"TE" 79	"LS" 79	"LS" 110
0700	0925	1345	1715	1900	Chicago	0920	1125	1352	2040	2215
1130	1500	1921	2200	2345	St. Louis	0435	0640	0755	1500	1730
4:30	5:35	n/a	4:45	4:45	One-way time	4:45	4:45	n/a	5:40	4:45

7.2 Development of Staged Improvements

Whether funding for the improvements described in the Tier 1 Final EIS is available in a single package, or is stretched over a number of years and from a number of sources, the construction of the improvements requires a phased approach. This section describes the process with which to determine possible phases, and identifies rationale for these stages and the resulting benefits. As a complex corridor integrating freight, intercity passenger, and commuter service, additional rail capacity modeling of the Tier 2 projects will be required before implementation.

In addition, IDOT and its partner Union Pacific will monitor and evaluate the operation of the system following completion of the current improvements. This may well result in information suggesting refinements to the locations and type of the next round of improvements, which will be examined in Tier 2 environmental documents. Additionally, adjustments may need to be made for freight service growth over time, as the corridor program is implemented. While the public investments in this corridor are not designed for freight benefit, the state's passenger initiative does have the obligation to maintain the freight railroads' ability to provide freight service.

For these reasons, this section will focus on the process for refining the identified future investments, followed by a discussion of the anticipated improvements.

7.2.1 Process

The use of the corridor ridership model will be critical in determining the necessity of implementing additional trips along the corridor. Amtrak and IDOT developed ridership models to support corridor development planning and the EIS analysis. Going forward, existing corridor capacity estimates will be compared yearly with historical ridership data, future growth trends and future ridership projections. Ridership triggers will be put in place to identify key growth milestones that would start the additional study for the corridor. This process will ensure an appropriate level of

planning and Tier 2 environmental analysis to support the necessary improvements to meet projected demand.

Growth of other rail service (intercity passenger, commuter and freight) in the corridor will also be monitored. Yearly reviews of growth and projected increases will be used to identify targets levels that would require additional study for the corridor, in anticipation of infrastructure requirements necessary to accommodate both these increases and the sustainable capacity and reliability of the High-Speed Rail (HSR) passenger service.

A short term (5 or 6 year) program that follows the typical IDOT project development process will be created for project specific needs within the corridor development plan that includes the following items scheduled and updated on a yearly basis:

- Preliminary Engineering and Environmental Clearance Projects
- Final Design Projects
- Land Acquisition Projects
- Construction Projects
- Funding need to meet specific on-time performance targets

Because of the number of operating railroads throughout the corridor, any adjustment to the existing schedule and/or number of trips will be modeled to determine the available capacity along the corridor without adversely impacting existing freight or commuter operations and without hindering the ability of the additional passenger service to meet on-time reliability requirements. IDOT, Amtrak and the UP are in agreement that additional operation simulations will need to be conducted during the Tier 2 studies.

A corridor wide rail capacity model based on the completion of the current program will be utilized as the starting point for future modeling. The model will be used to analyze five and ten year freight traffic growth with existing passenger frequencies in order to determine project priorities and scheduling, ensuring the phased implementation provides sufficient capacity and maintains and improves on-time performance. This model will be the basis for determining funding needs throughout the corridor as well as to schedule pre-construction work based on the phasing of the anticipated infrastructure improvements.

7.2.2 Staged Improvements – Additional Service

While it is difficult to plan for the phasing of specific improvements given uncertainties around funding availability and timing, historical data provides a logical sequence of service implementation to meet projected needs. The order, size and scope of the identified improvements to support increased service may need to be modified in Tier 2 analysis prior to implementation.

A possible first step in the service improvement program would be to operate Trains 303 and 304 at speeds of up to 110 mph in addition to the first three round trips. These trains are envisioned to be 110 mph "locals" with the 4:45 timing per the table below

(Table 7.2-1). Although no additional trips are involved, additional infrastructure improvements are expected to be required because this improved operation will consume additional corridor capacity.

Table 7.2-1. Expected Timetable after 303/304 Upgrade

301	303	21	305	307	Stations	300	302	22	304	306
"LS" 110	"LS" 110	"TE" 79	"LS" 110	"LS" 110		"LS" 110	"LS" 110	"TE" 79	"LS" 110	"LS" 110
0700	0925	1345	1715	1900	Chicago	0920	1125	1352	1945	2215
1130	1410	1921	2200	2345	St. Louis	0435	0640	0755	1500	1730
4:30	4:45	n/a	4:45	4:45	One-way time	4:45	4:45	n/a	4:45	4:45

Based on historical station boarding data, nearly 80 percent of the riders along the corridor board between Springfield and Chicago, with Chicago and Normal having the top two numbers of riders boarding and alighting, with St. Louis third and Springfield fourth. In order to best accommodate service along this section before the full contingent of eight round trips in the corridor is implemented, it is anticipated that a short-turn train could be added between Chicago and Springfield to provide additional service. An early morning express (departing 0530) could run from Springfield to Chicago, stopping at Normal and Dwight, and be scheduled to arrive in Chicago around 0800 for the start of the business day, or to facilitate connections to other commuter trains. The return could be at 1545, arriving in Springfield by about 1814. The addition of this short-turn train also isolates the infrastructure improvements to the section north of Springfield and fits the schedule in between current runs, minimizing the scheduling impact, though additional infrastructure would be required. As previously mentioned, further simulations would be required to analyze benefits and impacts from the necessary infrastructure.

The addition of a fifth round trip, which could be the conversion of the short-turn train or an additional service based on need, would begin the process of a transition to the full-build out of eight round trips. This service would serve to specifically close the gap between the existing service times, such as the four hour interval between southbound trains 303 and 21, and the seven hour interval between northbound trains 22 and 304. Additional round trips for the corridor would be added as needed and schedules for all trips would be modeled and adjusted as necessary.

7.2.3 Staged Improvements – Additional Infrastructure

As previously discussed, to accommodate increased service levels on the corridor, additional infrastructure investments will be necessary. It is likely that several of the

improvements included with the Preferred Alternative could be implemented incrementally to achieve discreet benefits before the completion of the program. The sequence of implementing these improvements will need to be modeled and coordinated with any additional incremental service. As with the process for implementing incremental service levels, the order, size and scope of any of these improvements may need to be modified in Tier 2 analysis prior to implementation.

It is recommended that the highest priority section be between Chicago and Joliet. This segment serves significant numbers of riders and is currently a bottleneck because of freight rail traffic conflicts on the current route. It is a key segment for early improvement to bring adequate reliability not only for additional frequencies but also for current frequencies. On January 19, 2012 Amtrak filed a complaint with the Surface Transportation Board alleging CN freight interference has reduced on-time performance between Joliet and Chicago. This filing noted Lincoln Service trains missed on-time performance standards 50 percent to 60 percent of the time. This identifies the restrictions currently occurring along the corridor and the difficulty trying to add more service.

Between Chicago and Joliet, the Rock Island District route has been identified as part of the Preferred Alternative. This route can provide on-time performance enhancements within a shorter timeframe and for a reduced cost compared to the existing route. The simulations along this route will have to consider not only additions of HSR traffic, but also the expected increases to freight and Metra traffic as well. A key to the success of this section will be the continued coordination with the CREATE projects, the additional track capacity, the capacity and alignment near and over the Chicago River near 21st Street (nearly 100 trains per day) and the reduction of rail to rail crossing interference through the construction of a railway flyover at the EJ&E crossing east of Joliet (currently 24 cross trains per day).

Another high priority will be construction of additional capacity across the Mississippi River at St. Louis. MacArthur Bridge (currently 45 trains per day) currently has high volumes of freight traffic and may not be able to accommodate both future freight growth and HSR service with only two tracks. Improvements to the Merchants Bridge may also be warranted to support the rail traffic in the St. Louis area. The UP has estimated on-time performance over the next 20 years of less than 40 percent due to projected traffic increases. As freight traffic continues to grow across the Mississippi River, on-time HSR performance will deteriorate. Just north of the St. Louis area, the Venice diamond (currently 20+ cross trains per day) would be another location where infrastructure improvements could be made to provide additional reliability in the corridor.

The construction of the UP/NS flyover south of Springfield to preserve reliability is also a critical infrastructure priority. The interlocker (currently 16 cross trains per day) at this location is controlled by the NS, and the construction of the flyover would provide the independence to operate through Springfield unimpeded by the cross traffic. The

Springfield location is critical because of the number of railroads that use the crossover location and the expected increase in freight traffic that could interfere with HSR trains.

As described previously, additional potential improvements will be considered and modeled. These include an analysis of the single track locations remaining following the completion of the ongoing current improvements along the corridor. Based on a review of the projected station ridership, these might include:

- Construct portions of remaining double track and siding sections as needed for meets/passing requirements.
- Construct double track locations in Dwight, Pontiac, Lincoln and Alton to allow for dual boardings or single boardings with freight movement operations concurrently operating at the stations.
- Construct double track in Springfield along EIS recommended corridor to allow for dual boardings or single boardings with freight movement operations concurrently operating at the station.

7.2.4 Staged Improvements – Environmental Documentation

Before additional improvements along the corridor can be implemented using Federal funds, Tier 2 environmental documents will be prepared for the specific projects. Following the process outlined in this implementation plan, ridership demand analysis will initiate the need for modeling simulations to support the sequencing of Tier 2 studies.

The following is a list of anticipated Tier 2 environmental studies. The list is organized from north to south. Each section has independent utility with logical termini based on the extent of major infrastructure improvements and station locations. Tier 2 project limits will be identified using train operation modeling where additional improvements are necessary to support service level increases (Exhibit 7.2-1). The sequence of construction will be based on the results of train traffic modeling. The scope of each Tier 2 environmental document may change depending on future funding implementation decisions and additional design. Upon initiation of each Tier 2 project, IDOT, in coordination with FRA, will determine the environmental class of action: Categorical Exclusion (CE), Environmental Assessment (EA), or Environmental Impact Statement (EIS)

- Chicago to Joliet – This Tier 2 environmental document (EIS) will include additional track, sidings, culvert and bridge improvements, signal improvements, commuter rail station improvements, HSR station improvements, rail flyovers, rail connections and a parallel structure across the Chicago River at 21st Street to improve capacity and reliability for identified incremental service additions.

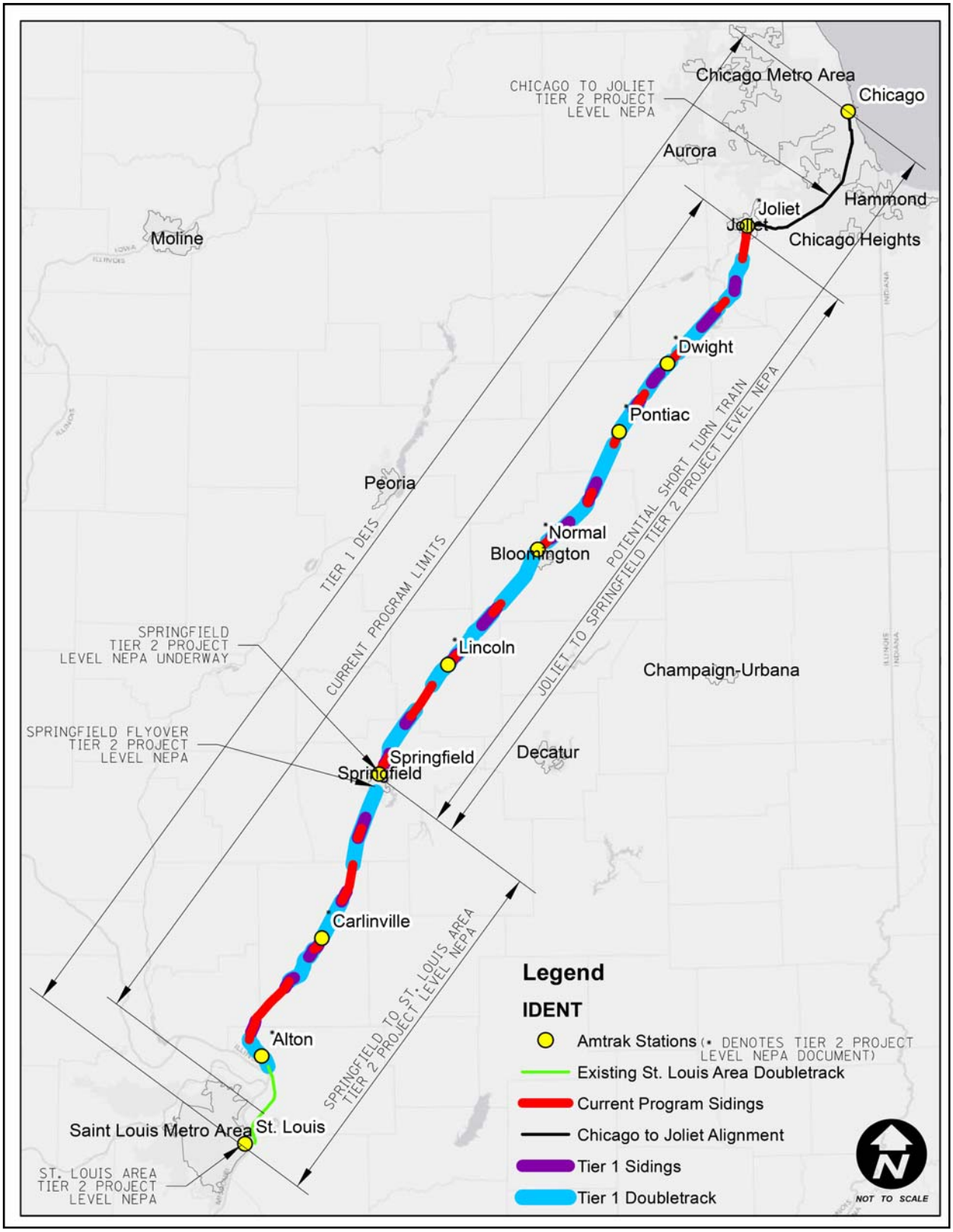

Exhibit 7.2-1. Staged Improvements

- Joliet to Springfield - This Tier 2 environmental document (EIS) will include additional track, sidings, culvert and bridge improvements and roadway grade separations to improve capacity and reliability for identified incremental service additions. It is possible that this approximately 140-mile section would be divided into smaller sections in advance of initiating Tier 2 studies through this area. These smaller sections could potentially be advanced as CEs or EAs.
- Springfield - This Tier 2 environmental document is part of the overall Chicago to St. Louis Tier 1 Final EIS (included as Volume II of this document).
- Springfield Flyover - This Tier 2 environmental document (EA) will include new track alignment and a railway flyover structure to separate the UP and NS at-grade crossover to improve capacity and reliability along the corridor.
- Springfield Flyover to St. Louis Area - This Tier 2 environmental document (EIS) will include additional track, sidings, culvert and bridge improvements and roadway grade separations to improve capacity and reliability for identified incremental service additions. It is possible that this approximately 100-mile section could be divided into smaller sections in advance of initiating Tier 2 studies through this area. These smaller sections could potentially be advanced as CEs or EAs.
- St. Louis Area - This Tier 2 environmental document (EIS) will include new double track approaches to an increased capacity Mississippi River crossing to improve capacity and reliability for identified incremental service additions. The Tier 2 environmental document will evaluate alternatives for an increased capacity Mississippi River crossing. A new double track connection to the Merchants Bridge will also be considered to provide redundant access in the system for the Mississippi River crossing and to provide construction staging and future maintenance routes.
- Station Improvements – Tier 2 environmental documents (EAs) will be prepared for proposed improvements at the HSR stations in Joliet, Dwight, Pontiac, Normal, Lincoln, Carlinville, and Alton. Each station would be a separate project. Proposed station improvements include pedestrian grade separation structures to provide access to both platforms and to avoid pedestrians crossing tracks at-grade, additional parking requirements, and additional station capacity requirements for identified incremental service additions.