

Section
2

**PURPOSE AND NEED FOR
THE SPRINGFIELD RAIL
IMPROVEMENTS PROJECT**



2.0 Purpose and Need for the Springfield Rail Improvements Project

This Tier 1 Draft Environmental Impact Statement (DEIS), including the Tier 2 evaluation of the Springfield Rail Improvements Project, has been prepared to satisfy the requirements of the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.), and Council on Environmental Quality (CEQ) NEPA regulations (40 CFR 1500-1508). This DEIS is being prepared by IDOT and the Federal Railroad Administration (FRA) in cooperation with the Federal Highway Administration, the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the Illinois Department of Natural Resources.

This chapter describes the purpose and need for the Springfield Rail Improvements Project. In addition, this chapter provides information on project history, previous and current rail studies along the corridor. Finally, this chapter identifies major authorizing laws and regulations, discusses the relationship of the proposal to statutes, regulations, policies, programs and plans, and lists federal permits, licenses, and other requirements for project implementation. An overview map of the proposed project is shown in Exhibit 2-1A and 2-1B.

2.1 Project Purpose

2.1.1 Chicago to St. Louis High Speed Rail

The purpose of the proposed Chicago to St. Louis High Speed Rail (HSR) Program is to enhance the passenger transportation network in the Chicago to St. Louis corridor by improving high speed passenger rail service, resulting in a more balanced use of different corridor travel options by diverting trips made by automobile and air to rail. Volume 1 covers the Tier 1 analysis of this project.

2.1.2 Springfield Rail Improvements Project

The purpose of the Springfield Rail Improvements Project is to enhance rail line capacity to accommodate and reduce the effects of the increasing high-speed passenger and freight train traffic on the three north-south rail corridors that pass through Springfield: the Union Pacific (UP), Norfolk Southern (NS), and Canadian National (CN)/Illinois & Midland (I&M), see Exhibit 2-2. The purpose includes reducing rail line effects by improving safety, reducing congestion, and enhancing community livability and supporting commercial activity.

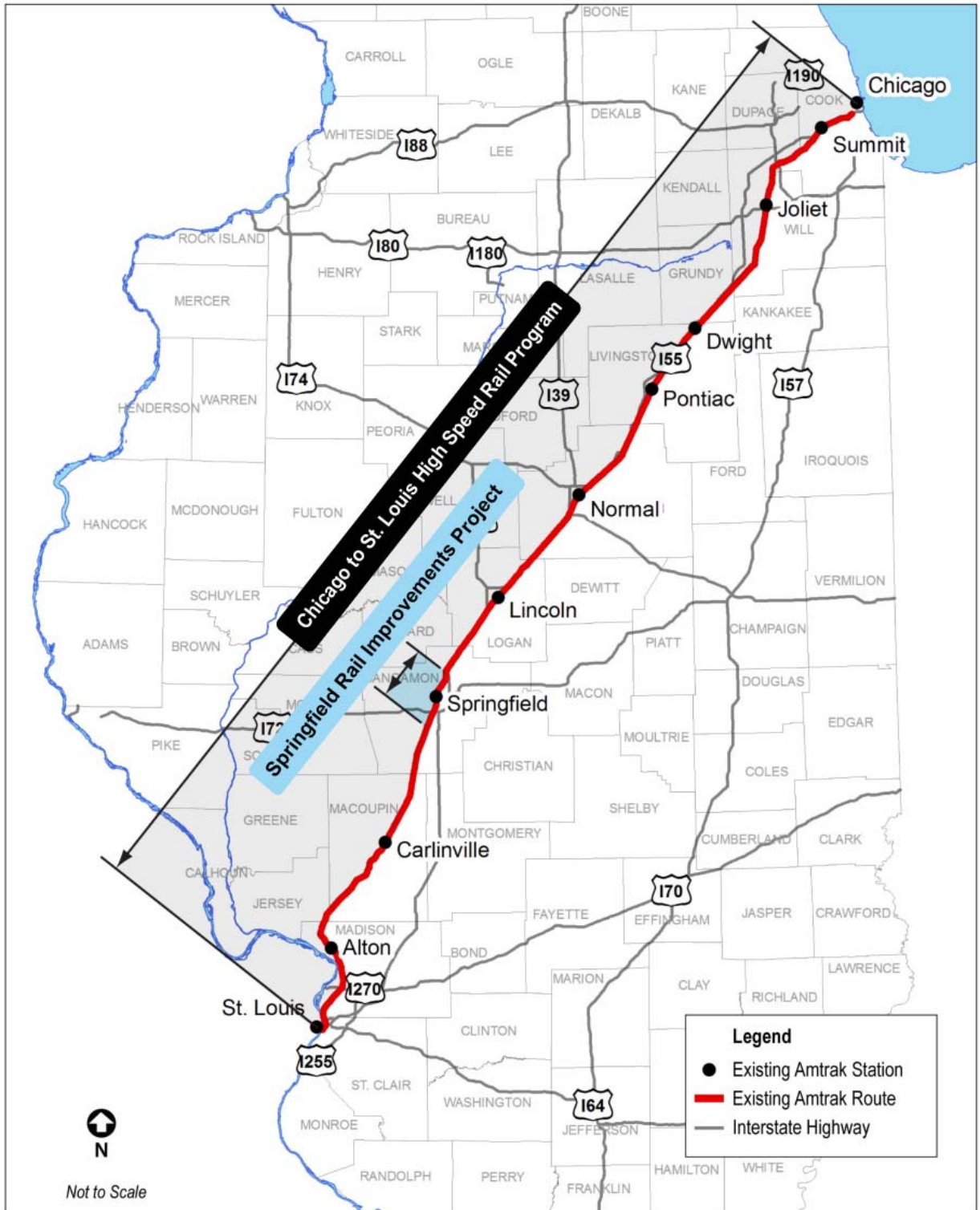


Exhibit 2-1A. Project Location

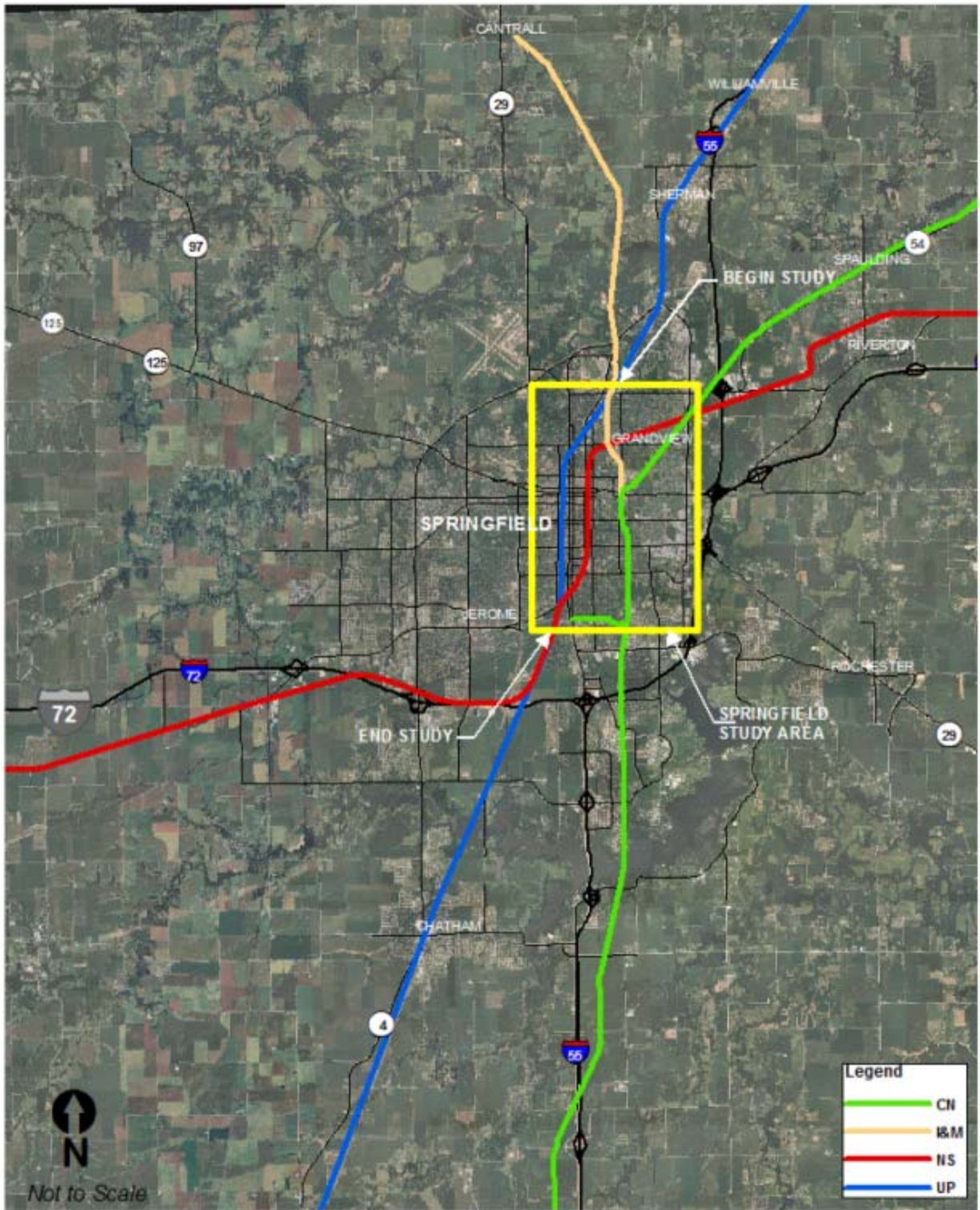


Exhibit 2-1B. Project Area Location



Exhibit 2-2. Existing Railroad Corridors

2.2 Project Need

2.2.1 Chicago to St. Louis Need

As discussed in the Volume 1, the following items summarize the need for the Chicago to St. Louis High Speed Rail Program:

- There is currently a modal imbalance within the corridor. Rail travel represents only 1.1 percent of the 35 million annual person trips within the Chicago-St. Louis corridor.
 - Automobile and bus travel between Chicago and St. Louis is limited primarily to I-55. Travel by this one route can often be unreliable because of traffic congestion, weather, roadway construction, and accidents, which can significantly increase travel times.
 - Automobile travel, which represents 95.5 percent of the trips within the corridor, is the least safe mode of transportation when compared to air, rail, and bus travel.
- The sections of single track between St. Louis and Joliet cannot accommodate existing and projected freight and passenger trains.
 - The new Joliet Intermodal Terminal would double the number of freight trains using the Chicago-St. Louis corridor from six to 12. The number of freight trains is projected to increase to 22 by the year 2017, which could affect the performance and capacity for high-speed passenger rail.
 - On time performance from 2007 to 2010 for rail passenger service between Chicago and St. Louis ranged from 38 to 75 percent.

Proposed High Speed Rail improvements in the Chicago to St. Louis corridor, including the section through Springfield are consistent with the Illinois State Transportation Plan (ISTP) and the individual policies in ISTP (IDOT, 2007).

2.2.2 Springfield Rail Improvements Project Need

The need for the Springfield Rail Improvements Project reflects the need for the Chicago to St. Louis High Speed Rail Program and includes project needs to address safety, congestion, and community livability and commercial activity in Springfield.

2.2.2.1 Capacity

The UP anticipates an increase in freight traffic on its line through Springfield. The number of daily freight trains would increase from about five to about 27 by 2030. The existing single track does not have sufficient capacity to carry these freight trains and the high speed trains and meet the minimum service requirements.

The other freight rail carriers through Springfield also anticipate increases in traffic on their rail lines. The current and projected number of trains on each of the rail lines through Springfield is shown in Table 2-1. Current rail traffic is based on field counts of the number and duration of trains in late 2009. The Railroads furnished projected 2020 rail traffic.

Table 2-1. Number of Trains through Springfield

	Current (2010) Rail Traffic	Projected (2030) Rail Traffic² (No-Build)	Projected (2030) Rail Traffic³ (Build)
Union Pacific	10 Passenger 5 Freight	10 Passenger 27 Freight	18 Passenger 27 Freight
Norfolk Southern	16 Freight	27 Freight	27 Freight
Canadian National ¹	4 Freight	9 Freight	9 Freight
TOTAL	35 Trains	73 Trains	81 Trains

¹ Includes I&M and KCS traffic on CN.

² Projected 2020 rail traffic was furnished by each railroad company. UP- 22F, NS-24F, CN-8F

³ Projected 2030 rail traffic for NS and CN assumes a freight growth of 1.2 percent per year between 2020 and 2030. The UP projected rail traffic assumes a freight growth of two percent per year between 2020 and 2030.

As shown above, the total projected trains through Springfield would more than double.

Freight and passenger train traffic is anticipated to continue growing. The UP currently operates approximately five freight trains per day in the 3rd Street corridor. Growth in UP operations and from a new intermodal yard near Joliet would increase their anticipated freight traffic to 27 freight trains per day by 2030. Amtrak currently operates 10 passenger trains per day on the UP track. Implementation of the High Speed Rail Program would increase the number of passenger trains per day to 18 by 2030. This total of 45 trains per day will require a second track as discussed in Volume 1.

The NS currently operates 16 freight trains per day in the 10th Street corridor, and projects future traffic will grow to 27 trains per day by 2030.

The CN currently operates four freight trains per day in the 19th Street corridor and projects future traffic will grow to nine trains a day by 2030.

2.2.2.2 Safety

In addition to the needs for enhanced safety of the Chicago to St. Louis corridor there are unique needs inherent to the Springfield Project study area. There are 68 at-grade crossings in the Springfield study area. Each one of these represents a dangerous point of conflict between passenger and freight rail traffic and roadway traffic. Each crossing is a safety concern for the railroads, the public, and the authorities who maintain them. Table 2-2 below shows the at-grade crossings and grade separations in the Springfield study area by railroad.

Table 2-2. Springfield At-Grade Crossings and Grade Separations

	UP	I&M	CN	NS	Total
At-Grade	24	6	18	20	68
Grade Separations	4	0	6	5	15
Total	28	6	24	25	83

Illinois Commerce Commission (ICC) records show the total number of crashes at highway grade crossings for Springfield for all years (1955-2010) is:

Table 2-3. Springfield Illinois ICC Accident Data for all Years (1955-2010)

Crashes	Fatalities	Injuries
339	26	139

There are 24 miles of unfenced railroad right-of-way in the study area providing numerous opportunities to trespass in dangerous areas. ICC records (ICC, 2001-2010) show trespassing incidents in Springfield for the last 10 years are:

Table 2-4. Springfield Illinois ICC Trespassing Incidents, 2000-2010

Incidents	Fatalities	Injuries
23	8	15

While each of the corridors passes through residential and commercial areas, the UP (3rd Street) (Amtrak) corridor is most subject to trespassing because 3rd Street is parallel and immediately adjacent to the tracks.

As shown on Exhibit 2-3, the UP tracks are centered in 3rd Street and the public street exists on one or both sides and immediately adjacent to the tracks through much of the city. Numerous homes and businesses front on 3rd Street. Aside from a periodic curb, there is little physical separation between the street and the railroad. North of South Grand Avenue and through downtown, the UP right-of-way is only approximately 30 feet wide. Pedestrians can easily and unknowingly infringe on railroad clearance, putting them in danger of being struck by a train.

Since most of the 3rd Street corridor is in dense commercial and residential areas there are numerous pedestrians using the area at all times. The presence of 3rd Street adjacent to the tracks results in pedestrians crossing the tracks at locations other than at cross



Exhibit 2-3. Existing Tracks on 3rd Street

streets. Many people frequently find friends, family, jobs, parking, services, and shopping right across the tracks and are reach them without walking the extra distance to the next intersection. In addition to numerous homes, apartments, churches, and businesses, the public buildings immediately along 3rd Street that are attractions to pedestrians are:

- Supreme Court Building
- State Library
- Amtrak Passenger Station
- Dana-Thomas House Historic Structure
- YMCA
- Memorial Medical Center
- Illinois Public Health Association
- Numerous parking lots and ramps

2.2.2.3 Congestion

All major east-west streets across Springfield have an at-grade railroad crossing. Many busy streets such as North Grand Avenue, Carpenter, Adams, Washington, Laurel, and Ash Streets cross all three railroads at-grade (see Exhibit 2-4). A long train on any of these tracks can delay vehicle traffic through much of the city since it can simultaneously block almost all of the crossings on that track, and traffic queues can block vehicles on intersecting north-south streets. The I&M, NS and CN all have active rail yards in the City. Switching operations in these yards frequently block adjacent crossings with stopped trains or trains involved in back and forth movements (Wheeland, et al, 2009).

Vehicle delays can result in a number of problems which reduce livability and inhibit economic activity, especially in an urban area. These include:

- Blocked traffic may interfere with emergency vehicles traveling to their destinations.
- As a lost time non-productive activity for most people, congestion reduces regional economic health.
- Increased air pollution and carbon dioxide emissions owing to increased idling, acceleration and braking.
- Late arrival for employment, meetings, and education, resulting in lost business or other personal losses.

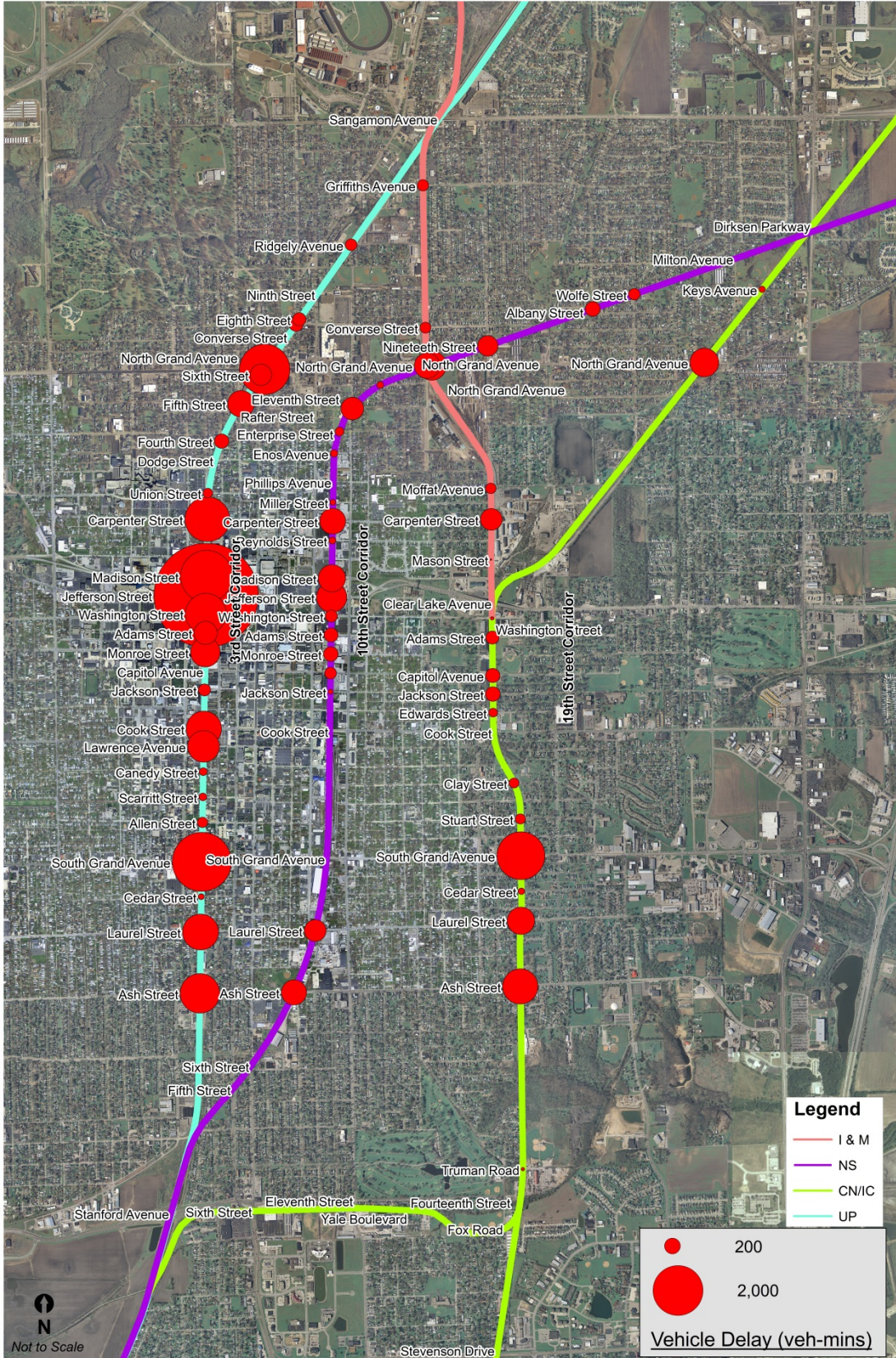


Exhibit 2-4. Location and Magnitude of Crossing Delays

- Drivers allocating more time for travel and less time on productive activities because of an inability to forecast travel time.
- Congested main arteries lead to increased use of secondary roads and side streets as alternative routes which may negatively affect neighborhoods with unwanted additional vehicle traffic on local streets.

Based on train volume data provided by the railroads, including passenger trains, and traffic volume data from IDOT and the City of Springfield, the existing and projected No-Build vehicle delays per day in the study area are:

- Existing (2010 train and vehicle traffic) – 13,800 vehicle-minutes
- Projected (2020 train and 2010 vehicle traffic) – 30,600 vehicle-minutes
- Projected (2030 train and 2030 vehicle traffic) – 47,500 vehicle-minutes

Vehicle delay was calculated by multiplying the number of vehicles delayed by a blocked crossing by the average delay per delayed vehicle. This calculation was done for all trains at all grade crossings in Springfield to determine the total vehicle delay per day. The projected delay using 2020 train volumes and 2010 vehicle traffic was developed to isolate the effect of increased trains.

2.2.2.4 Livability and Commercial Activity

Train noise comes from the locomotive engines, air brakes, side to side car movement, slack and bunch car movement, wheels on rail joints, and locomotive horns blown by trains as they approach at grade crossings. This noise is generated by both freight and passenger (including high speed) trains. Of these, train horns are the most disturbing. Because of the short distances between at-grade crossings in the rail corridors, trains must blow their horns almost constantly when moving through Springfield. The total duration of train horn noise in the study area is 207 minutes per day. Federal regulations provide public authorities the option to maintain and/or establish quiet zones provided certain supplemental or alternative safety measures are in place. There are no quiet zones in Springfield.

The existing noise environment measured in L_{dn} values (the day-night sound level, which over-weights night-time noise levels to generate this daily average to reflect night-time listener sensitivity) ranged from around 73 dBA L_{dn} to 80-81 dBA L_{dn} at locations near grade crossings where horns were being blown. The locations near grade-crossings have very high L_{dn} values, and would be comparable to living directly next to a major highway, or just off the end of the runway at a busy airport. The HUD threshold for an unacceptable outdoor house environment is 75 dBA L_{dn} .

Each of the existing corridors passes through some residential areas, but the CN (Nineteenth Street) and UP (3rd Street) corridors have the most adjacent residential development. The UP corridor passes near many sensitive receptors in the Mid-Illinois Medical District (see Exhibit 2-5).



Exhibit 2-5. Springfield's Medical District

The UP, NS, and CN/I&M railroads operate on separate north-south corridors through the city, at 3rd Street, 10th Street and 19th Street, respectively. These rail lines present physical and psychological barriers that split downtown and divide neighborhoods. These barriers have created a set of development patterns that work against a healthy downtown and neighborhoods by isolating portions of the community and restricting access. Attracting residential and commercial redevelopment adjacent to the tracks is also very difficult. Home buyers see neighborhoods that are frequently blocked from access to schools, shopping and services by rail traffic as less desirable. The rail corridors, especially when the crossings are occupied by trains, inhibit neighborhood connectivity (Walker, et al, 2009).

Important community buildings exist along each of the three corridors. While some of these buildings provide services on a city wide basis, many are neighborhood specific. Closed streets and blocked crossings inhibit access to these buildings and places or make access less safe by requiring the crossing of tracks or encouraging walking along the tracks.

Table 2-5. Business Types along 3rd Street and 10th Street Corridors

Type	3 rd Street Corridor	10 th Street Corridor
Medical	14	9
Government	44	18
Infrastructure	13	5
Schools & Educational	7	3
Residential	4	1
Gathering Places	7	2
Parks	5	6
Other	2	6
Total	96	50

The 3rd Street corridor runs directly through Springfield’s Medical District cutting between the campuses of the city’s major hospitals. This can delay emergency vehicles traveling to the hospitals, and delay physicians moving from one hospital to the other for both routine and emergency purposes.

St. John’s and Memorial Hospitals provide emergency services for a multi county area, and provide the only Class One Trauma Center in the region, rotating the Trauma Center between them on an annual basis.

The Mid-Illinois Medical District was created by Illinois Public Act 95-693 in 2003. The Illinois General Assembly recognized that the health and medical care sector of the local economy represents the greatest potential for creating jobs, tax base and other economic benefits for the citizenry of the Springfield area for many years to come. The Act specifically defines the District’s charge as follows: “... to attract and retain academic centers of excellence, viable health care facilities, medical research facilities, emerging high technology enterprises, and other facilities and uses as permitted by this act.”

Given the setbacks from active rail lines typically expected by developers to minimize noise and vibrations for medical, academic, and research related structures, finding suitable building sites for medical development is severely hindered because of the rail traffic on the UP rail line.

The 3rd Street corridor also passes through the midst of the downtown area. Development and redevelopment in Springfield's downtown is currently restricted by the 3rd Street corridor. Previous studies have noted this limitation, the most recent being the independent Regional/Urban Design Assistance Team (R/UDAT) study of the downtown (R/UDAT, 2002). Because of its location and use, the 3rd Street rail corridor creates a barrier to redevelopment moving west, and creates an additional hurdle for residential redevelopment throughout the downtown.

Downtown residential redevelopment is seriously impeded because of the congestion, noise and vibrations caused by rail traffic. Expected future increases in rail traffic on the 3rd Street corridor would most likely further limit opportunities for residential redevelopment, resulting in a loss of opportunity for new retail-commercial development that would be expected to be drawn to the downtown area to serve additional residential growth.

2.2.3 Goals and Objectives

Based on the purpose and need for the Springfield Rail Improvements Project, the following goals and objectives were established.

- Provide a route through Springfield that achieves the purpose of the Chicago to St. Louis High Speed Rail Program as documented in Volume 1.
- Provide for future capacity needs to accommodate passenger train traffic.
- Improve safety and reduce congestion by reducing the number of at-grade street crossings in the study area with a focus on those streets with the highest traffic volumes.
- Improve livability and commercial activity by reducing train horn noise throughout the City and reducing the barrier effect of the rail lines on neighborhoods, Downtown and the Medical District.
- Minimize rail operational issues, impacts to existing development, lifecycle and capital costs, and impacts to social and economic resources due to the recommended alternative.

2.3 Project Background

For more than two decades, the Illinois Department of Transportation (IDOT) has pursued improvements to passenger rail service between Chicago and St. Louis, Springfield has been included as a component of these studies. The Chicago to St. Louis corridor is part of the Midwest Regional Rail Initiative Program's intent to develop and

implement a 21st-century regional passenger rail system and passenger traffic through Springfield is a component of these studies.

Because of the additional needs for improved intercity passenger services, IDOT proposes the provision of a full double-track corridor between Chicago and St. Louis, including the section through Springfield. The Tier 1 DEIS addresses broad, corridor-wide issues and alternatives and includes detailed information on project history and previous studies, as well as the Springfield Rail Improvements Project, which considers the alternatives from the Tier 1 DEIS in more detail.

2.3.1 Springfield Rail Improvements Project

In 2002 the City of Springfield and the Springfield Section of the American Institute of Architects invited the Regional/Urban Design Assistance Team (R/UDAT) to Springfield to focus on *“New Dimensions for Downtown Springfield: preserving the past and building the future”* (R/UDAT, 2002). The goals included better planning in downtown, improving directional and visual cohesiveness, and improving the linkages between downtown Springfield and its surrounding neighborhoods. The R/UDAT study provided a series of recommendations for the revitalization of downtown Springfield. This included an urban design framework for the downtown and connected areas, specific recommendations for the Capitol Complex area, and recommendations for transportation and parking programs.

Among its transportation proposals, R/UDAT recommended that consolidation of the UP and NS in the NS corridor through central Springfield should be a long term objective. In response to this recommendation, the City of Springfield applied for and received an Illinois Tomorrow Corridor Planning Grant in 2005 to study consolidation of all three north-south corridors.

The 2005 study was an evaluation of the 3rd Street (UP), 10th Street (NS), and 19th Street (CN/I&M) corridors to explore options of consolidating them into a unified corridor. It also examined the resulting development, redevelopment, open space, and recreational opportunities that could result from abandoning currently active track. The study also evaluated anticipated project costs, identified an implementation strategy, and formulated options for public-private partnerships to advance the plan.

The study determined that consolidating the railroads into a single unified corridor has the potential to provide a number of benefits including:

- Reduce traffic congestion. Train blockages produce delays and congestion and contribute to air pollution. Some of the city’s most heavily traveled arterials have at-grade crossings. Stopped trains can result in gridlock on intersecting streets.
- Reduce the barrier effect that the railroad corridors have on the city.
- Allow redevelopment of abandoned corridors into bicycle and pedestrian paths, greenways, and recreation corridors. These corridors could connect other bike trails

in the city. The corridors that currently serve as barriers could transform into paths that link diverse areas of the community.

- Eliminate at-grade railroad crossings and the hazards associated with them.
- Allow for crossing improvements to create a quiet zone for rail traffic by eliminating train horns in the city.

The consolidation feasibility study recommended that the railroads be consolidated in the 10th Street corridor (Hanson Professional Services Inc., 2005).

2.4 Major Authorizing Laws and Regulations

Several laws are pertinent to the proposed project.

Under 49 U.S.C. 20101 et seq., the FRA has authority over railroad safety. Additionally, under Chapter 244, Section 24105, and Section 24106 of Title 49, United States Code, the FRA has authority to administer capital investment grants to support intercity passenger rail service.

Under 42 U.S.C. 4601 et seq., if federal assistance is provided to a project, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and its implementing regulations detailed in 49 CFR Part 24 would apply.

2.5 Scoping

NEPA requires scoping and encourages early and frequent coordination with the public and resource agencies throughout the project development process. Scoping facilitates public and agency participation and provides the opportunity for their input during preparation of the EIS. The scoping process for this project is following the scoping guidelines within the CEQ Regulations, 40 CFR § 1501.7, which provide that “there shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to the proposed action.” Formal scoping meetings have been held for this project, as noted below.

- Notice of Intent: February 2011
- Public Meetings on Scoping: March 2011
- Draft Scoping Report: July 2011
- Public Meetings on Draft Scoping Report and Alternatives: October 2011

In addition, FRA and IDOT invited agencies with jurisdiction by law, special expertise, or potential interest in the project to be cooperating agencies in the EIS. These include the U.S. Army Corps of Engineers, U.S. Coast Guard, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Federal Highway Administration, U.S.

Department of Agriculture, U.S. Department of Interior, Illinois Department of Agriculture, Illinois Department of Natural Resources, Illinois Environmental Protection Agency, and the Illinois Historic Preservation Agency.

IDOT and the FRA hosted five Public Open House meetings along the study corridor March 1-9, 2011. Along with two Resource Agency and five Local Officials meetings, the Public Open House meetings commenced the scoping phase of the environmental study. Held from 4:00 p.m. to 7:00 p.m. in Joliet, Bloomington, Springfield, Carlinville and Alton, the meetings' primary objectives were to educate attendees on the EIS process and timeline, while introducing them to the project team and official Illinois High-Speed Rail contacts. Stakeholders were also encouraged to share their thoughts and get answers to high-speed rail related issues and concerns. Two hundred fifty-four (254) participants registered at the meetings. In Springfield 116 participants registered.

In late October and early November 2011, five public meetings were held to present the preliminary alternatives for each section of the corridor and the criteria that will be used to evaluate them. Attendees were asked to review the information and submit their comments. These meetings were held in the cities of Joliet; Bloomington; Springfield; Carlinville; and Alton from 4:00 p.m.-7:00 p.m. A total of 368 people signed in at the meetings with the most, 251 (68 percent) attending the Springfield meeting.

Below are the alternatives that were presented for the Springfield area:

- Keep passenger and freight rail traffic on 3rd Street and keep freight traffic on 10th and 19th Streets. Grade separations either at Jefferson Street and 3rd Street only, additional grade separations on 3rd Street, or additional grade separations on 3rd, 10th and 19th Streets.
- Shift 3rd Street rail traffic to 10th Street and keep traffic on 19th Street.
- Shift both 3rd and 19th Street rail traffic to 10th Street.
- Keep passenger rail traffic on 3rd Street and shift 3rd Street freight rail traffic to 10th Street and keep traffic on 19th Street.
- Keep passenger rail traffic on 3rd Street. Shift 3rd Street freight traffic and 19th Street traffic to 10th Street.

Of the 179 comments received at this meeting, 95 percent support consolidating rail traffic onto 10th Street. Most respondents wrote that this consolidation would be the most beneficial to the City of Springfield and the least disruptive to existing neighborhoods and businesses.

Respondents were most concerned about the alternatives' impact on social and economic resources. Eighty-six (86) percent of the people who commented about this particular criterion attended the Springfield meeting. They expressed concern about increasing freight and passenger traffic on the 3rd Street corridor alternative saying that

it would negatively impact downtown Springfield businesses and residential neighborhoods.

Minimizing impacts to existing and planned development received the second largest number of comments. Once again, the majority of respondents (94 percent) were from the Springfield meeting. Most of their comments referred to the medical district's expansion plans and how rail traffic must avoid destroying this district. Respondents said that the district provides jobs and generates tax revenue.