

NICTI Draft Environmental Assessment

Prepared for:



*Northern Illinois
Commuter Transportation Initiative*

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Preface

The following working draft represents an 80% complete Environmental Assessment NEPA document. At this time, there is not currently a federal sponsoring agency identified. To keep the federal funding option viable, the NEPA process has been the guide for the development of this document that evaluates the environmental effects of a potential federal undertaking including its alternatives, yet to advance it further a federal sponsoring agency needs to be identified.

This draft is intended for discussion and preliminary review as a continuum from the selection of the locally preferred alternative (LPA) through a screening process performed with directives from the Federal Transit Administration (FTA). These activities have been carried out as part of the metropolitan system planning and the NEPA review process.

Because FTA is a likely partner for a project such as this proposed commuter rail project, FTA would ultimately evaluate and rate candidate projects as an input to federal funding decisions at specific milestones throughout the project's planning and development. Upon review and revision of this working draft document, it would be appropriate to re-initiate contact with Region 5 FTA representatives to discuss the potential next steps for advancing the project. This draft documentation cannot be finalized until the viability of the federal funding scenarios are determined and indicate the appropriate level of involvement, if any, by FTA. Should a federal funding source be deemed viable, FTA, as the project sponsor, would re-engage in the environmental documentation process prior to moving forward into public involvement.

The working draft of this environmental assessment offers some areas of discussion where reengineering of some locations could reduce the potential environmental impacts for consideration, namely impacts to the HUM Railroad and Ipsen Prairies. Upon the completion of any refinements to the conceptual plans, agency coordination documentation (e.g. SHPO, IDNR, USFW) could progress should the project be funded either locally or federally or any combination therein.

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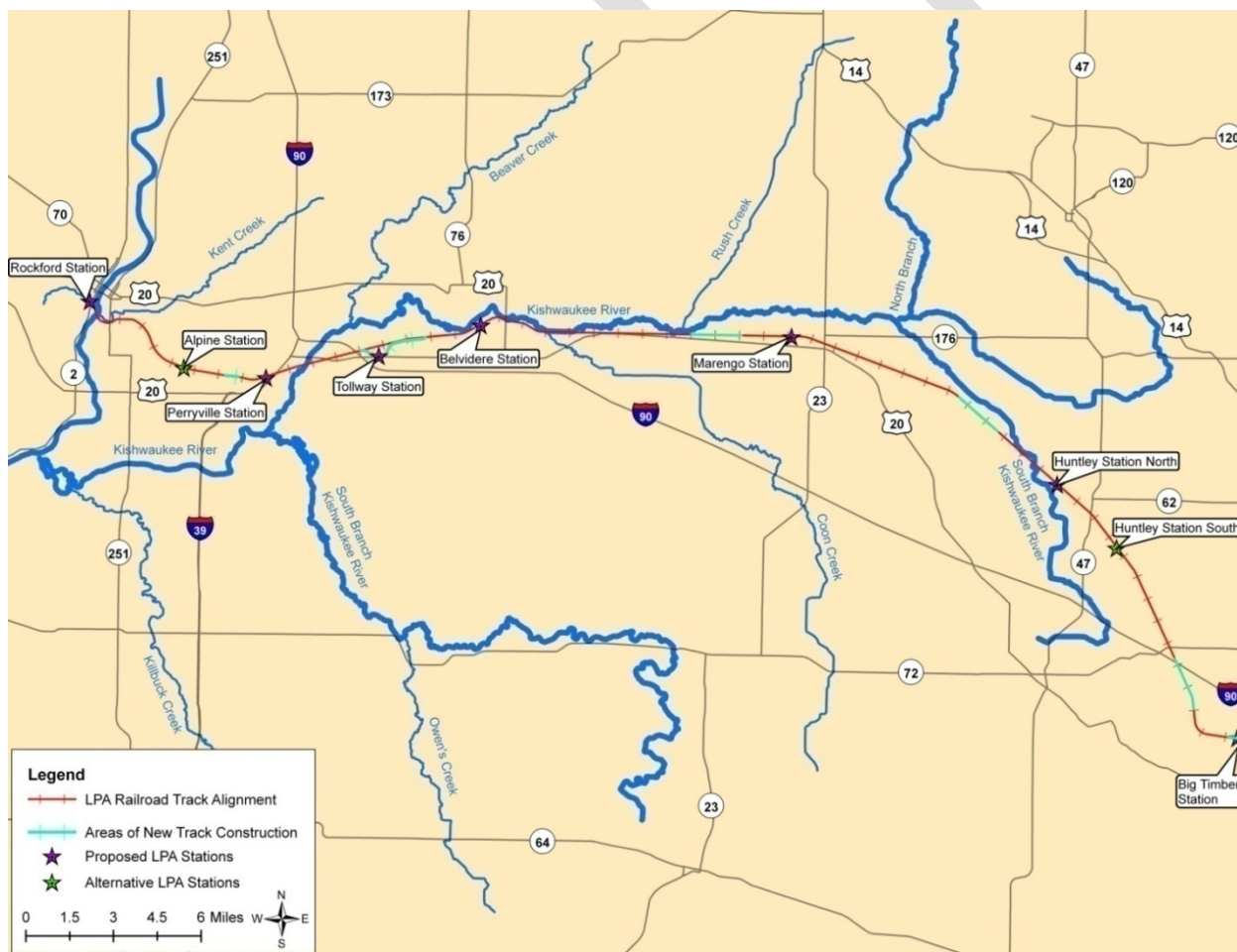
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Appendix

S.0 Executive Summary

This draft Environmental Assessment (EA) is the next step in progressing the proposed Rockford to Elgin commuter rail project. The purpose of the proposed commuter rail alternative is to address the current and projected growth of the Rockford Region and its effect on development and travel patterns between the northwestern suburban area of the City of Chicago and the City of Rockford. These two major population and business centers lack an efficient modal connection between their existing transit systems. In addition to the employment, several large activity centers (high-density housing, mixed use, hospitals, retail and commercial and entertainment centers) generate significant daily trips causing increased congestion and contribute to the lengthy travel times for commuters. A commuter rail between the Rockford Region and the Chicago metropolitan area could elevate the attractiveness of public transit to commuters.

A three-tiered approach to the selection of the locally preferred alternative (LPA) evaluated in this document included the evaluation of alternatives, advancement of effective alternatives for further screening and the elimination of poor performers. The LPA shown below was unanimously selected to be forwarded for assessment in this EA.



Estimated corridor trip flows and potential ridership levels suggest that service should be planned to operate weekdays with three morning peak period inbound and outbound trains and three evening peak period inbound and outbound trains forecasted to serve just over 5,000 daily boardings (one-way trips). The proposed operating plan has

two of the three trains operate as shuttle trains terminating in Elgin where a cross-platform transfer will link riders to a scheduled inbound Metra train. The third train would operate as a through-route train continuing east of Big Timber Road servicing the existing Elgin-Chicago Street, Medinah, and Bensenville Stations. Anticipated commuter rail travel time from Rockford to Elgin is 1 hour 5 minutes / Rockford to Bensenville is 1 hour 35 minutes. The capital cost is estimated at approximately \$247 million (approximately \$3 million per mile).

The environment potentially affected by the LPA was assessed for socio-economics, environmental justice, land use, historic and archaeological resources, air quality, noise, hazardous materials, threatened/endangered species, parklands and natural areas, water resources, wetlands, and visual quality. Safety and security, traffic and parking, and consistency with local plans were also addressed in this document. The area of potential effect (APE) was evaluated along the corridor from Rockford to Elgin including the seven station locations. A summary of the findings are as follows:

- The LPA does not require any residential or commercial displacements or relocations so no adverse impacts to the human environment were anticipated to this population.
- The only land use impacts anticipated involve the incremental loss of prime farmland or farmland of statewide importance associated with station footprints in agricultural areas.
- There are no direct impacts to historic or archaeological resources associated with the LPA.
- The LPA does not present any adverse impacts to air quality.
- Field verification may eliminate the only predicted noise impact (Belvidiere Station).
- Exposure of the public to solid or liquid hazardous waste is not anticipated by the LPA; however, Phase 1 Environmental Site Assessments are recommended.
- While no federal critical habitats were designated in the APE, some suitable habitats may be affected by the project. Field verification at specific sites will be required as well as agency coordination for confirmation.
- Parklands adjacent to the existing rail line should not be impacted by the LPA proposed within the existing ROW. However, the LPA does present potential direct impacts to recorded prairies which may require mitigation unless the alignment is re-engineered.
- The only impact to water resources anticipated within the APE may be impacts to the bank of the Kishwaukee River to be determined beyond this conceptual design phase.
- Total wetland impacts will not exceed 5.45 acres throughout the entire APE.

1.0 Introduction

1.1 Study Detail

This document, presented as an environmental assessment, details a locally preferred alternative (LPA) for public transit services between the Chicago and Rockford, Illinois regions. The LPA is a commuter rail alternative which has been defined in a conceptual manner. Some support facilities, such as crossover tracks, sidings and a few station areas, have been defined in general locations as part of the study; specific footprints for these facilities will be developed as the study progresses. However, the environmental assessment has addressed alternative site placement for each of these undefined location so that a collective plan can be drafted which selects the least impacts as the study moves forward. Where appropriate, alternative site placement is discussed in the environmental consequences section.

1.2 Chronology

In 1979 the City of Belvidere, Boone County and the Chamber of Commerce established a not-for-profit corporation, known as Growth Dimensions, in order to implement strategies identified in the Belvidere – Boone County Economic Development Strategic Plan. Public involvement, public coordination and environmental planning for the proposed project began at this time.

As transportation strategies were identified for the region and in consideration of potential federal funding opportunities, Growth Dimensions initiated a comprehensive public involvement, public coordination and environmental planning program at the outset which continued through selection of the LPA. The following is a chronological summary of these activities and the federal policies providing guidance for their implementation.

(1979) Growth Dimensions - Growth Dimensions was incorporated as a not-for-profit corporation and organized January 30, 1979, by the City of Belvidere, Boone County and the Chamber of Commerce as a 501 C(6) public-private corporation for economic development. The purpose of Growth Dimensions is to coordinate and manage the strategic initiative projects that are identified in the Belvidere-Boone County Economic Development Strategic Plan. This plan includes the proposed LPA of the Northern Illinois Commuter Transportation Initiative.

(2001) Tollway Station Point Project Management Team - In June of 2001, Growth Dimensions formed the Tollway Station Point Project Management Team, in response to Boone County's newly completed Comprehensive Plan and its economic development recommendations. The Management Team was comprised of leaders from Boone and Winnebago Counties and other entities throughout Northern Illinois.

From this original Tollway Station Point Project group, a subcommittee, the Northern Illinois Commuter Rail Initiative (NICRI) was formed. Their objective was to gain community support and obtain funding for a feasibility study to investigate commuter rail options within the Rockford Region.

(2002) Northern Illinois Commuter Rail Initiative - In September of 2002, thirty-five north central Illinois cities, villages, counties and economic development agencies signed resolutions supporting the initiative of NICRI. Area legislators such as Senator Durbin, Senator Fitzgerald and Congressman Manzullo supported the efforts of NICRI. As a result of the resounding support for NICRI and its directive, approximately \$200,000 in federal funding was received for the completion of the first step in the process, a feasibility study.

(2004) Northern Illinois Commuter Rail Initiative Feasibility Study - The *Northern Illinois Commuter Rail Initiative Commuter Rail Feasibility Study*, completed by the NICRI consultant in November 2004, concluded that the proposed transportation project had: feasibility, community support, cost effectiveness (minimal

capitol needs), operational acceptability, potential as a catalyst for regional development, and potential for effective and successful service.

On the basis of the feasibility study, over \$1,000,000 of federal funds were earmarked for conducting an alternatives analysis beginning in federal fiscal year 2006. Approximately \$2,000,000 in additional state and local funds were also identified for the alternatives analysis.

(March, 2006) Northern Illinois Commuter Transportation Initiative - NICRI changed its name on March 15, 2006 to the Northern Illinois Commuter Transportation Initiative (NICTI) to better reflect the goals of the planned transportation alternatives analysis. NICTI is a subcommittee of the Rockford Metropolitan Agency for Planning (RMAP) at the time known as the Rockford Area Transportation Study (RATS)), which is leading the Elgin to Rockford corridor alternatives analysis in conjunction with the cities of Rockford and Belvidere, counties of Winnebago and Boone, and the Rockford Mass Transit District. NICTI members recognized that growth in population and changes in travel patterns would negatively impact existing transportation infrastructure and a viable regional connection from Boone and Winnebago counties to the Chicago metropolitan area needed to be identified.

(July, 2006) Northern Illinois Commuter Transportation Initiative Alternatives Analysis (July, 2006) - In July, 2006 NICTI contracted with a consultant and initiated the alternatives analysis to identify the LPA. This report, known as the *NICTI Alternatives Analysis*, was completed by TranSystems in May, 2007, with final revisions in 2008. The analysis considered those potential alternatives for public transportation “which would provide an efficient, affordable, and attractive link.” A three-tiered approach to the selection of the LPA included the evaluation of alternatives, advancement of effective alternatives, and the elimination of poorer performers.

(2008) Locally Preferred Alternative - On April 30, 2008 NICTI voted unanimously to recommend the Commuter Rail Alternative 6 (CR6) as the LPA for the proposed project. The metropolitan planning area for the LPA alignment is defined as an approximately 48 mile corridor between the cities of Elgin and Rockford, Illinois, including station locations. RMAP is the designated Metropolitan Planning Organization for the metropolitan planning area.

2.0 Purpose and Need

2.1 Purpose

The purpose for the proposed project is to address the current and projected growth of the Rockford Region and its effect on development and travel patterns that have occurred over the preceding decades between the northwestern suburban area of the City of Chicago and the City of Rockford, two major population and business centers in the northwestern Illinois study area. Much of the region's growth is occurring along highway corridors outside Chicago, particularly along the I-90 Tollway between Chicago and Rockford. This growing travel market is not well served by the region's existing transit system. This document introduces, explains, and substantiates the benefits in improved connectivity between activity centers that can be derived and the problem(s) that can be solved by the LPA while avoiding or minimizing adverse community and environmental impacts.

2.2 Need

Future job growth in the study area is projected to substantially and steadily increase between 2000 and the alternatives analysis horizon year of 2030. The population is anticipated to increase from 7.5 to 8.9 million residents over the same period. Based on growth expectations, more trips will have origins or destinations in growing regional employment and activity centers located west of the City of Chicago. The potential demand for transit services is expected to increase as growth expands in these surrounding suburbs of Rockford and Chicago.

The location of several large activity and employment centers, including concentrations of high-density housing, mixed use, hospitals and commercial centers generate significant daily trips and attract many visitors from the Rockford region. These activity centers include the Schaumburg Convention Center, Woodfield Mall, O'Hare Airport, and growing employment, commercial and entertainment districts in the Northwest suburbs of Chicago. O'Hare and Schaumburg employment levels are projected to steadily increase over the 2000 to 2030 period. Transit access to these areas from the Rockford Region is currently limited to a privately owned shuttle service along I-90 Tollway.

As a result of historic travel patterns focused on downtown, Chicago's Metra rail transit network has developed in a radial manner, with multiple lines radiating from a relatively small geographic area from downtown Chicago out to the suburban areas. While this radial network has for more than a century made transit a high quality and efficient mode for accessing the central business district, the existing Metra network does not serve the increasing demand for efficient transportation to and from the Rockford Region.

The lack of efficient modal connectivity between transit systems in the vicinity of employment centers in the Rockford Region with employment centers in the Chicago metropolitan area causes lengthy travel times for commuters. Traffic congestion and travel times continue to increase throughout the Chicago and Northwestern Illinois region. Chicago is ranked third in the nation for lengthy commute time, and is ranked fourth highest in congestion levels with 72% of its freeway and lane miles congested during the peak-periods. The average Chicago commuter spends 50.1 hours additional travel time annually compared to the national average (U.S. Census Travel Time Data). Average commute time for travelers using I-90 in the vicinity of Rockford Region is lengthening.

Once accessing the I-90 Tollway, the majority of travelers do not transfer to the existing Chicago area transit services provided by Metra, Chicago Transit Authority (CTA) rail and Pace buses at existing transit stations in the study area. Direct transit connections between Rockford Region and the Chicago metropolitan area could elevate the attractiveness of public transit to commuters. Direct connections would reduce travel times and provide an effective alternative to automobile travel. According to the Rockford Long Range Transportation Plan, many people in the Rockford Region are reliant on public transit for mobility and access to jobs.

3.0 Alternatives

An initial screening analysis of project alternatives was conducted on February 27 – 28, 2007 in the form of public meetings. At that time, a total of 13 alternatives were displayed for public comment. These 13 alternatives may be referenced in the *First Level Screening Report* prepared by TranSystems in 2007. After review and consideration of public comment, the Federal Transit Administration (FTA) determined that 4 specific alternatives warranted further analysis. At the directive of the FTA, TranSystems prepared the *Second Level Screening Report* in 2008. Both reports may be referenced for further details of the study alternatives.

3.1 Locally Preferred Alternative

The LPA, named CR6, is a 48 mile rail line that connects Rockford to the existing Metra Milwaukee District West Line service at the Elgin/Big Timber Station. The alternative utilizes the Union Pacific Railroad (UPRR) – Belvidere Subdivision and a small segment of the Canadian National (CN) Freeport Subdivision. Proposed stations would directly service the communities of Elgin, Huntley, Marengo, Belvidere and Rockford. A total of seven stations are considered for the LPA: Rockford, Alpine or Perryville (one location will be selected), Tollway Station Point, Belvidere, Marengo, Huntley (north or south- one location will be selected) and Big Timber.

Estimated corridor trip flows and potential ridership levels suggest that service should be planned to operate weekdays with three morning peak period inbound and outbound trains and three evening peak period inbound and outbound trains. Future service could expand to include more trains in the future for peak periods, the reverse commute, and increased ridership during weekends and holidays.

An operating plan is proposed where two of the three trains operate as shuttle trains terminating in Elgin where a cross-platform transfer will link riders to a scheduled inbound Metra train. The third train would operate as a through-route train continuing east of Big Timber Road servicing the existing Elgin-Chicago Street, Medinah, and Bensenville Stations. Anticipated commuter rail travel time from Rockford to Elgin is 1 hour 5 minutes / Rockford to Bensenville is 1 hour 35 minutes. The LPA is forecasted to serve just over 5,000 daily boardings (one-way trips).

The capital cost is estimated at approximately \$247 million (approximately \$3 million per mile). Capital costs include rolling stock (locomotives and passenger cars), track upgrades for increased rail speeds, signal system, passing tracks, stations, parking lots, feeder buses and junctions near Big Timber Station to access the UPRR and at Mulford Road to make a connection to the CN into Rockford. Table 3-1 provides a summary cost estimate for the LPA. The estimated annual operating cost is approximately \$10 million. Operating costs include labor, overhead, fuel, right of way (ROW) maintenance, protective bus service and feeder bus operating costs. It is estimated that user fees would generate revenues that would significantly contribute to the annual operating costs. Figure 3-1 provides a schematic of the geographic extent and location of the LPA.

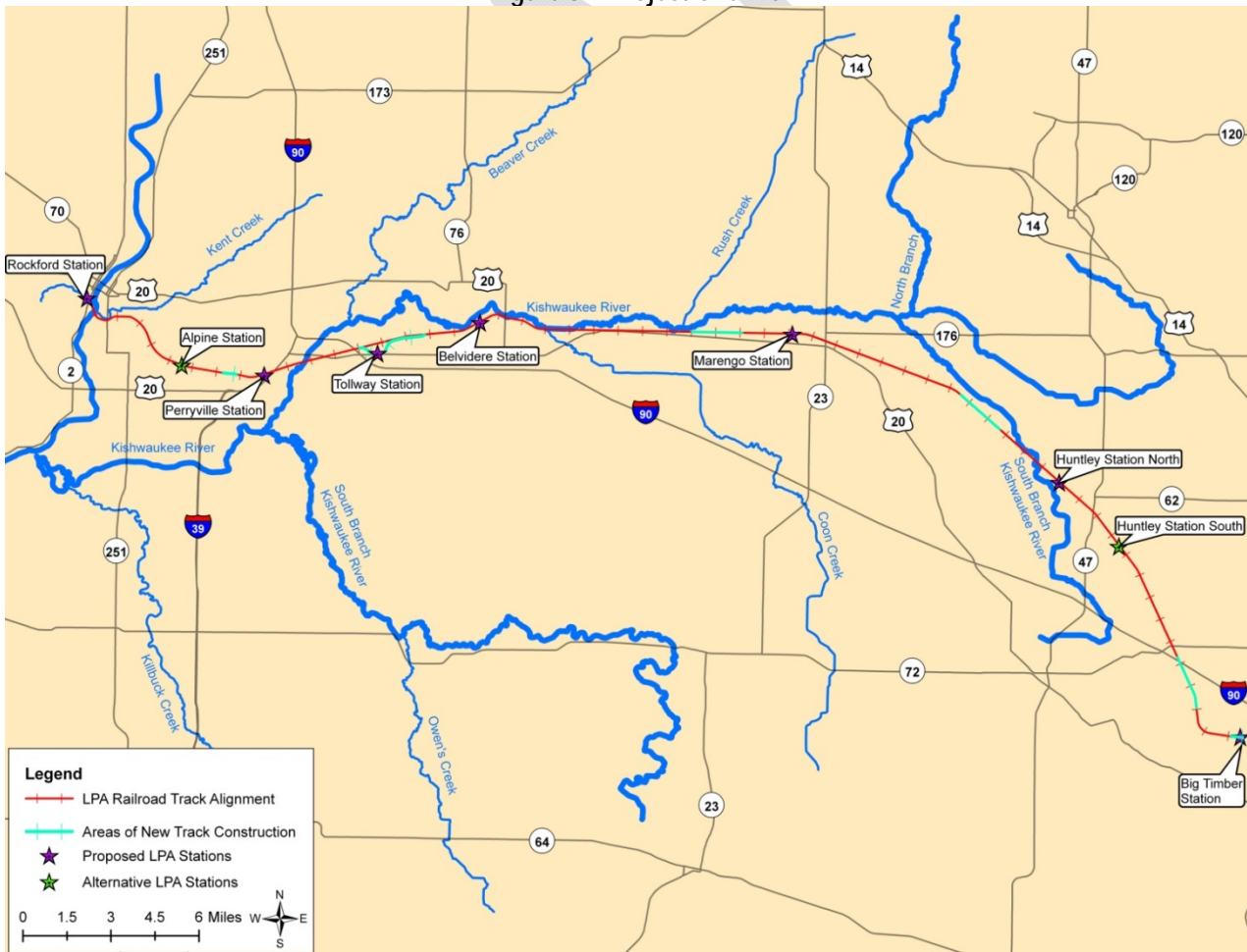
For future consideration, Huntley and Marengo Stations are within the Regional Transportation Authority's territory. The Regional Transportation Authority is the financial oversight and regional planning body for the three public transit operators in northeastern Illinois: the Chicago Transit Authority (CTA), Metra commuter rail and Pace suburban bus. Metra has explored opportunities of expanding their services on the Metra Milwaukee District West Line beyond the Elgin Big Timber Station to serve Huntley and Marengo. Although these studies are currently on hold, future planning, operating, and funding scenarios for the NICTI service could be adjusted to reflect an expanded Metra service.

Table 3-1
Commuter Rail Cost Estimate

| Commuter Rail Element | Capital Cost (in million \$) | Percent of Cost |
|---------------------------------|---------------------------------|--------------------|
| Guideway and Track | \$43.9 | 23% |
| Stations, Stops, Terminals | \$14.3 | 7% |
| Support Facilities | \$4.8 | 2% |
| Sitework and Special Conditions | \$16.6 | 9% |
| Systems | \$43.0 | 23% |
| Right of Way | \$3.2 | 2% |
| Vehicles | \$47.9 | 25% |
| Professional Services | \$16.3 | 9% |
| <i>SUBTOTAL</i> | <i>\$190</i> | <i>100%</i> |
| Contingency | \$57 | |
| TOTAL | \$247 | |

Source: NICTD

Figure 3-1 Project Overview



3.2 Alternatives Considered but Withdrawn

A total of 13 alternatives were presented for public comment. These alternatives went through a first level screening analysis and can be referenced in the *First Level Screening Report* (TranSystems, 2007). The alternatives considered but withdrawn include 3 Bus Rapid Transit (BRT) alternatives, Commuter Rail Transit (CRT) alternatives 1 to 4, and 7, and Light Rail Transit (LRT) alternatives 1 and 2. The four remaining alternatives were brought forward for the secondary screening after considering public input; they include BRT alternatives 1 and 2 and CRT alternatives 5 and 6. The LRT alternatives did not appeal to the public or the FTA and did not move forward. The specific BRT and CRT alternatives studied in the secondary analysis and withdrawn are described below.

Bus Rapid Transit Alternatives provided service between Rockford and Schaumburg, Illinois. Approximately 12 stations were required along the I-90 route to service the needs of riders for each BRT alternative.

BRT1 - Designed to operate using transit priority treatments only, this was a cost effective method to address the need for reducing travel time. The bus would have authority to drive on the shoulder at congestion points. This option was limited in efficiency as maximum speeds on the shoulder were suggested not to exceed 35 mph. This unconventional method of operating on the shoulder also raised safety issues and would require significant public education.

BRT2 - This alternative included the construction of a dedicated busway along I-90. The dedicated busway would be constructed as a reversible lane. The general locations of dedicated busways were identified to be between Huntley and Schaumburg. Use of transit priority treatments would also be employed in congested areas deficient of a dedicated busway. Constructing a dedicated BRT guideway was a costly proposition and it was thought that this option did not best meet the objectives of the study.

Commuter Rail Transit Alternatives utilized existing rail corridor, albeit different service routes. The operating plans for either alternative were similar. The existing Metra Station at Big Timber was a common point of destination as the routes travel from downtown Rockford.

CR5 - This route traveled along the Illinois Railway and the Iowa, Chicago, and Eastern Railroad Corporation (IC&E) Railway. A total of 7 station locations were studied for this route: Downtown Rockford, Chicago Rockford International Airport, I-39/Illinois 72 Interchange, Kirkland, Genoa, Hampshire, and Big Timber. Route length was approximately 52 miles. The IC&E route potentially served only 5 stations between downtown Rockford and Big Timber stations and had a low rating for ridership.

The remaining alternative, CR6, was selected as the alternative that best addressed the purpose and need of the project.

4.0 Affected Environment, Environmental Impacts and Mitigation

4.1 Socioeconomics and Environmental Justice

This section has been completed to better understand the demographic context of the area of potential effect.

4.1.1 *Methods of Evaluation and Coordination*

Executive Order 12898 was enacted in 1993 and requires that each federal agency make achieving environmental justice part of its mission, by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low income populations. This Executive Order builds on the Civil Rights Act of 1964.

Database research, interviews and site reconnaissance was performed to determine the existing socioeconomic factors in the study area. Factors include land use, displacements, demographics, economics, community, environmental justice, safety and visual aesthetics. Impacts for the no-build and LPA were determined during data analysis.

The baseline study area for the LPA is described as the existing track route and those locations of new construction required for sidings, stations and connecting tracks. The area of potential effect (APE) has intuitive boundaries as the disciplines studied in this chapter warrant differing geographical extents of information analysis. For example, wetlands were reviewed within physical ROW, environmental justice was reviewed by analyzing census block group data, etc.

Census block groups adjacent to the project study area provided delineation boundaries for the APE. Minority or low-income communities are subjectively identified by determining if their respective percentages within the APE are meaningfully greater than the percentages of the benchmark. To eliminate contest over the definition of meaningfully greater, any percentages exceeding the benchmarks have been identified as a potential environmental justice issue. Further, Environmental Protection Agency (EPA) guidance details that greater than 50 percent of the APE must meet the meaningfully greater difference criteria to constitute an environmental justice concern.

Applicable laws guiding government actions for acquisitions, displacements and relocations are found at 49 Code of Federal Regulations (CFR) Part 24, Department of Transportation implementing regulations for: The "*Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970*," as amended and the National Environmental Policy Act (NEPA).

4.1.2 *Existing Conditions*

Census 2000 block group demographic characteristics were analyzed for Boone, Kane, McHenry and Winnebago Counties with the aid of geographic information system (GIS) technology. Table 4-1 shows the county averages for percent minority and percent of the population below the poverty level. Table 4-2 shows the number of Census 2000 block groups within the APE per county that have a greater minority percentage and/or a greater percentage of people living below the poverty level than their respective county averages.

Table 4-1
County Averages for Percent Minority and Percent of the Population below the Poverty Level

| County | Percent Minority | Percent Poverty |
|-----------|------------------|-----------------|
| Boone | 9.91% | 7.01% |
| Kane | 20.73% | 6.69% |
| McHenry | 6.09% | 3.66% |
| Winnebago | 17.54% | 9.62% |

Source: U.S. Census Bureau, Census 2000 data

Table 4-2
Number of Block Groups within the APE above the County Averages

| County | Number of Block Groups with a Greater Percent Minority than the County Average | Number of Block Groups with a Greater Percent Poverty than the County Average |
|-----------|--|---|
| Boone | 10 | 9 |
| Kane | 1 | 1 |
| McHenry | 3 | 5 |
| Winnebago | 15 | 14 |

Source: U.S. Census Bureau, Census 2000 data

4.1.3 Environmental Consequences

Rockford Station - The proposed station will be located within an existing rail yard at the site of an abandoned Amtrak station. The Census 2000 block groups within the vicinity of the station have a greater minority percentage and a greater percentage of people living below the poverty level than the Winnebago County average. There will be no residential or commercial relocations associated with the station construction and no adverse impacts to the human environment are anticipated to this population. Minority and low-income populations will likely benefit from the convenient station location.

Alpine Station - The proposed alternative station will be located within undeveloped property north of Ekberg Pine Manor Park. The Census 2000 block group within the vicinity of the station has a greater minority percentage and a greater percentage of people living below the poverty level than the Winnebago County average. No minority or low-income populations occur within the vicinity of the station. There will be no residential or commercial relocations associated with the station construction and no adverse impacts to the human environment are anticipated to this population.

Perryville Station - The proposed station will be located within property that is currently an agricultural field. The Census 2000 block group within the vicinity of the station has a lower minority percentage and a lower percentage of people living below the poverty level than the Winnebago County average. No minority or low-income populations occur within the vicinity of the station. No adverse impacts.

Tollway Station Point - The proposed station will be located within property that is currently an agricultural field. The Census 2000 block group within the vicinity of the station has a lower minority percentage and a lower percentage of people living below the poverty level than the Boone County average. No minority or low-income populations occur within the vicinity of the station. No adverse impacts.

Belvidere Station - The proposed station will be located within an urbanized area. The Census 2000 block groups within the vicinity of the station have a greater minority percentage and a greater percentage of people living below the poverty level than the Boone County average. No residential relocations are associated with the construction of the LPA Belvidere station and no adverse impacts to the human environment are anticipated to this population.

Marengo Station - The proposed station will be located within property that is currently an agricultural field. The Census 2000 block group within the vicinity of the station has a greater minority percentage and a greater percentage of people living below the poverty level than the McHenry County average. No residential relocations are associated with the construction of the LPA Marengo station and no adverse impacts to the human environment are anticipated to this population.

Huntley Station North – (Option 1 Station Location) The proposed station will be located within property that is currently an agricultural field. The Census 2000 block group within the vicinity of the station has a lower minority percentage and a lower percentage of people living below the poverty level than the McHenry County average. No minority or low-income populations occur within the vicinity of the station. No adverse impacts.

Huntley Station South – (Option 2 Station Location) The proposed alternative station will be located within property that is currently an agricultural field. The Census 2000 block group within the vicinity of the station has a lower minority percentage and a lower percentage of people living below the poverty level than the McHenry County average. No minority or low-income populations occur within the vicinity of the station. No adverse impacts.

4.1.4 Secondary and Cumulative Impacts

The proposed LPA would have beneficial secondary and cumulative impacts to socioeconomic resources and environmental justice populations. The secondary impacts would include an increase in permanent employment opportunities resulting from the increased accessibility to and from the area, and the new development that would occur as a result of the increased accessibility. Cumulative impacts would include the increased business and income opportunities for the community. New and existing businesses would be more accessible to patrons, therefore, business in the area would benefit.

4.1.5 Mitigation Measures

- Provide notices of planned construction activities, planned temporary road closures and detours, and changes in other access routes. The schedule for these activities could be mailed periodically to all emergency service providers, public facilities and social services operating in the area of potential effect and the school districts for potential effects to school bus routes and stops.
- Provide advance notice for major utility shut-offs and schedule during low use times.
- Distribute periodic press releases, newsletters, or notices to residents in the APE to advise them of changes in pedestrian, bicycle, or transit routes during construction. These should be prepared in English and for languages that meet or exceed the U.S. Department of Justice's five percent threshold.
- Plan construction activities to allow reasonable access to private residential and commercial properties, and community and social services.
- Time temporary road closures and utility shut-offs to minimize negative effects to area activities.

4.2 Land Use

This section has been completed to better understand how development of the physical ROW locations required of the LPA will alter existing land use.

4.2.1 *Methods of Evaluation and Coordination*

Land use maps were overlaid on aerial photographs using ArcGIS, allowing the land use within the APE (physical ROW for this evaluation) to be accurately reviewed. Figures detailing prime farmland and farmland of statewide importance are located in the appendix, Figures 4A – 4L.

4.2.2 *Existing Conditions*

The predominant land use in the APE west of the edge of urbanized Chicago is agricultural. Areas of concentrated population and employment density between Rockford and the Chicago metropolitan area include the Cities of Belvidere, Elgin, Marengo, Huntley, and Cherry Valley.

The greatest concentration of existing and planned population and employment within the Rockford Region is along the northern edge of the I-90 Tollway corridor, including the communities of Belvidere in Boone County and Marengo and Huntley in McHenry County. The area between Rockford and Belvidere along the I-90 Tollway has been a targeted growth area in the Rockford Region since the 1990s and includes the Chrysler Belvidere Assembly Plant, Ag-Tech Park and other employment centers.

According to the U.S. Census Bureau, Boone, McHenry and Kane Counties were all among the top ten fastest growing counties in the state of Illinois between 2000 and 2006, both in population growth rate and number of new residents. These three counties were on the U.S. Census Bureau's list of the 100 fastest growing counties in the United States between 2000 and 2005.

Future land use plans in the I-90 corridor generally call for continued concentration of population and employment density in these existing urbanized areas coupled with preservation of prime farmland in existing rural areas. The following describes the existing land use in the proposed station areas for the LPA:

Rockford Station - The proposed station is at a former Amtrak Station site, on the west side of Main Street, between Main Street and Winnebago Street. The land uses surrounding the site are primarily industrial and commercial. There is residential to the south and west of the proposed station. The Tinker Swiss Cottage Museum is located just south of the yard facility.

Alpine Road Station - The proposed alternative station is located in an undeveloped area north of Ekberg Pine Manor Park on the south side of the railroad tracks. Swan Hillman Park is located to the north. Residential developments that are within the City of Rockford surround the site.

Perryville Station - The proposed station is located in an area surrounded by parkland, agricultural land and residential. It is proximate to I-39 to the south. Residential developments that are within the Village of Cherry Valley surround the site to the southeast and northeast.

Tollway Station Point - The proposed station is currently agricultural land surrounded by industrial land uses to the north and northwest. Commercial uses are located along US 20 to the east. The Chrysler plant is located to the southeast.

Belvidere Station - The proposed station is located in a traditional downtown area near Main Street. Surrounding land uses are primarily commercial.

Marengo Station - The proposed station is west of the downtown area near the intersection of Ritz Road and Railroad Street. The current land uses in the vicinity of the proposed site are vacant land and agricultural land. There are some industrial properties to the southeast.

Huntley Station North - The proposed station is outside of the downtown area along Coyne Station Road. The current land uses in the vicinity of the proposed station are vacant land and agricultural land. Industrial properties are located to the east.

Huntley Station South - The proposed alternative station is within an area currently agricultural at the southwest quadrant of Kreutzer Road and the tracks. Residential areas occur to the east, commercial businesses to the north and north west and agricultural to the south.

4.2.3 Environmental Consequences

Direct impacts involve the incremental loss of prime farmland or farmland of statewide importance associated with the station footprints in agricultural areas. The United States Department of Agriculture-Natural Resource Conservation Service defines prime farmland as, "land best suited for producing food, feed, forage, fiber, and oilseed crops, and also available for these uses. The land currently could be cropland, pasture land, range land, forest land, or other land but not urban build-up land or water. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods. The criteria for identification of prime farmlands is entirely related to soil characteristics and other physical criteria." Farmland of statewide importance is land in addition to the prime farmland that has been determined by a state agency to be of statewide importance for the production of food, feed, fiber, forage, bio-fuels, and oil seed crops. Generally, additional farmlands of statewide importance include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce as high a yield as prime farmlands if conditions are favorable.

Conversion of agricultural ground to non-agricultural uses at Perryville, Tollway Station Point, Marengo, Huntley North, Mulford Connecting Track, Big Timber Connecting Track, Tollway Station Point Track, and Museum Siding must be coordinated with the local NRCS office.

The designation of soil map units as prime farmland or farmland of statewide importance is overseen by the NRCS. Such data is readily available in electronic files or by contacting the local Natural Resources Conservation Service (NRCS) office. Table 4-3 identifies the acreage of such farmland within the area of potential effect.

**Table 4-3
Acres of Prime Farmland or Farmland of Statewide Importance (Approximate)**

| Location | Prime Farmland (acres) | Farmland of Statewide Importance |
|-----------------------------|------------------------|----------------------------------|
| Rockford Station | 0.0 | 0.0 |
| Alpine Road Station | 0.001 | 5.53 |
| Perryville Station | 8.2 | 0.0 |
| Tollway Station | 12.1 | 0.0 |
| Belvidere Station | N/A | N/A |
| Marengo Station | 14.4 | 0.0 |
| Huntley Station North | 4.0 | 0.0 |
| Huntley Station South | 3.2 | 0.0 |
| Big Timber Station | N/A | N/A |
| Mulford Connecting Track | 10.1 | 0.0 |
| Big Timber Connecting Track | 11.3 | 2.2 |
| Tollway Track | 243.0 | 0.0 |
| Alternative Rockford Track | 0.0 | 2.7 |
| Museum Siding | N/A | N/A |
| Marengo Siding | N/A | N/A |
| Big Timber Siding | N/A | N/A |

Source: <http://soildatamart.nrcs.usda.gov/>

As mentioned previously, future land use plans in the I-90 corridor generally call for continued concentration of population and employment density in existing urbanized areas coupled with preservation of prime farmland in existing rural areas. As shown in Table 4-3 above, the largest farmland impact is due to the location of new track that will be laid in order to access the proposed Tollway Station Point. Once construction limits have been defined, a determination of impact, conducted by the local NRCS office, is required to comply with the Farmland Policy Protection Act prior to conversion of such land to non-agricultural uses.

4.2.4 Secondary and Cumulative Impacts

The proposed LPA would accommodate the projected increase in ridership and would provide more efficient access to the area. This results in secondary impacts to existing and future businesses in the area that would also benefit from the increased ridership, level of access, and additional patrons that would travel to the area.

4.2.5 Mitigation Measures

- Work with property and business owners in the APE to minimize conflicts and inconveniences from construction-related activities.
- Provide property and business owners in the APE with advanced notice of potential access or utility disruptions resulting from construction activities.
- Schedule the most disruptive construction activities during off-peak hours to minimize the effect to traffic.
- Comply with all permit conditions of approval and/or mitigation measures.
- Follow the requirements of the applicable federal, state, and local land use and zoning regulations to ensure protection of land uses, resource lands, and environmentally sensitive areas.
- Provide provisions for the replacement of landscaping elements to the extent possible.

4.3 Historic and Archaeological Resources

This section has been completed to determine if the LPA will impact those resources of historic or archaeological value.

4.3.1 Methods of Evaluation and Coordination

Section 106 of the National Historic Preservation Act of 1966 requires the lead federal agency with jurisdiction over a federal, federally assisted, or federally-licensed action to consider their impacts to historic properties before implementing a project. A historic property is defined as any historic district, archeological site, building, structure, or object currently listed or eligible for inclusion in the National Register of Historic Places (NRHP). The implementing regulation of Section 106, issued by the Advisory Council on Historic Preservation, is 36 CFR Part 800.

The Illinois State Historic Preservation Office (SHPO) was solicited to provide comment on the project in order to obtain a historic and cultural resources records review. The SHPO advised TranSystems to access database records using the Historic Architectural and Archaeology Resources Geographic Information program. Figures detailing the location of listed and eligible NRHP properties in respect to project ROW are located in the appendix, Figures 2A – 2L.

4.3.2 Existing Conditions

Eligible and listed NRHP resources in proximity to the LPA are listed in Table 4-4. Reports for NRHP sites are located in the appendix of this document.

| Table 4-4 National Register of Historic Places Listed and Eligible Properties | | | | |
|--|--|----------------|---------------------|---|
| NRHP Site Name | Address | City | Listed/ Eligible | Proximity to ROW |
| Tinker Swiss Cottage | 411 Kent St. | Rockford | Listed | Directly adjacent to station footprint |
| Bridge over Kent Creek carrying S. Main St. | 0.5 Mi S Of State St. | Rockford | Eligible | Directly adjacent to station footprint |
| Haight Village Historic District | bounded by Walnut, Kishwaukee, & Madison Street | Rockford | Listed | Within line of sight to existing tracks |
| United States Post Office – Belvidere | 200 S. State St. | Belvidere | Listed | Within line of sight to station footprint |
| Bridge over Kishwaukee River carrying County Line Road | 0.4 miles north of US 20 County line (Boone/McHenry) | Not Applicable | Eligible | Within line of sight to existing tracks |
| Orson Rogers House | 19621 E. Grant St. | Marengo | Listed | Within line of sight to existing tracks |
| St. Mary's Church of Gilberts | 10 Matteson St. | Gilberts | Listed | Within line of sight to existing tracks |

Source: Illinois State Historic Preservation Office Historic - Architectural and Archaeology Resources Geographic Information program

4.3.3 Environmental Consequences

Two sites eligible for listing and five sites currently listed on the NRHP were determined to be directly adjacent or within line of sight of the proposed ROW required for construction of the LPA. No sites eligible for listing or currently listed are within the existing ROW or proposed station location footprints. No direct impacts to NRHP properties are associated with the LPA.

4.3.4 Secondary and Cumulative Impacts

The proposed LPA would be built in both highly developed as well as a more rural landscape; however, it is within an existing, active railroad corridor and would be compatible with the existing visual character. No cumulative impacts are anticipated to any eligible properties in the area from construction of the sidings or stations.

4.3.5 Mitigation Measures

- Mitigation/conservation measures could be necessary for construction contractor compliance if Illinois SHPO finds that the project design affects cultural resources.
- Should previously unidentified archaeological resources or human remains be encountered, work should immediately cease in the vicinity of the discovery to avoid further damages to the resource. Federal Transit Administration and Illinois Historic Preservation Agency would be notified so the significance of the discovery can be evaluated and the appropriate course of action implemented.

4.4 Air Quality

This section has been completed to determine the impact of the LPA to air quality.

4.4.1 Methods of Evaluation and Coordination

The 1970 Clean Air Act and 1990 Clean Air Act amendments require that the U.S. EPA set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. As indicated in Table 4-5, the current standards for the six "criteria pollutants" include carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), lead (Pb), particulate matter smaller than ten microns (PM₁₀), and sulfur dioxide (SO₂).

**Table 4-5
National Ambient Air Quality Standards**

| Pollutant | Primary Standards | | Secondary Standards | |
|---|--|------------------------------------|--------------------------------------|-----------------------|
| | Averaging Times | Level | Level | Averaging Time |
| Carbon Monoxide | 8-hour ⁽¹⁾ | 9 ppm (10 mg/m ³) | None | |
| | 1-hour ⁽¹⁾ | 35 ppm (40 mg/m ³) | None | |
| Lead | Quarterly Average | 1.5 µg/m ³ | Same as Primary | |
| Nitrogen Dioxide | Annual (Arithmetic Mean) | 0.053 ppm (100 µg/m ³) | Same as Primary | |
| Particulate Matter (PM ₁₀) | 24-hour ⁽²⁾ | 150 µg/m ³ | Same as Primary | |
| Particulate Matter (PM _{2.5}) | Annual ⁽³⁾ (Arithmetic Mean) | 15 µg/m ³ | Same as Primary | |
| | 24-hour ⁽⁴⁾ | 35 µg/m ³ | Same as Primary | |
| Ozone | 8-hour ⁽⁵⁾ | 0.075 ppm (2008 standard) | Same as Primary | |
| | 8-hour ⁽⁶⁾ | 0.08 ppm (1997 standard) | Same as Primary | |
| | 1-hour ⁽⁷⁾ (Applies only in limited areas) | 0.12 ppm | Same as Primary | |
| Sulfur Dioxide | Annual (Arithmetic Mean) | 0.03 ppm | 0.5 ppm (1300 µg/m ³) | 3-hour ⁽¹⁾ |
| | 24-hour ⁽¹⁾ | 0.14 ppm | | |

Source: U.S. EPA National Ambient Air Quality Standards

(1) Cannot be exceeded more than once per year.

(2) Cannot be exceeded more than once per year on average over three years.

(3) The three year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors cannot exceed 15.0 µg/m³.

(4) The three year average of the 98th percentile of the 24-hour concentrations at each population-oriented monitor within an area can't exceed 35.0 µg/m³. (Effective December 17, 2006).

(5) The three year average of the fourth-highest daily maximum 8-hour average concentrations of ozone measured at each monitor within an area over each year cannot exceed 0.075 ppm. (Effective May 27, 2008)

(6) (a) The three year average of the fourth-highest daily maximum 8-hour average concentrations of ozone measured at each monitor within an area over each year cannot exceed 0.08 ppm.

(b) The 1997 standard – and the implementation rules for that standard – will remain in place for implementation purposes as EPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

(7) (a) Attained when the expected number of days per calendar year with maximum hourly concentrations greater than 0.12 ppm is ≤ 1.

(b) As of June 15, 2005 EPA revoked the 1-hour ozone standard in all areas except the 8-hour ozone non-attainment Early Action Compact (EAC) Areas.

4.4.2 Existing Conditions

Illinois is currently in attainment of the NAAQS for four of the six criteria pollutants: CO, Pb, NO₂, and SO₂. There are two non-attainment areas in Illinois for the O₃ and PM_{2.5} NAAQS. These non-attainment areas are the Chicago-Gary – Lake County, IL-IN non-attainment area and the St. Louis, MO-IL non-attainment area.

The Chicago-Gary – Lake County, IL-IN non-attainment area contains McHenry, Lake, Kane, DuPage, Cook and Will counties, as well as a portion of Kendall and Grundy counties. The Illinois portion is the same for both the 8-hour O₃ and PM_{2.5} non-attainment areas.

4.4.3 Environmental Consequences

The project corridor is located within Winnebago, Boone, McHenry and Kane counties. The portion of the project that travels through McHenry and Kane counties is located within the Chicago-Gary – Lake County, IL-IN non-attainment area for ozone and PM_{2.5}. Winnebago and Boone counties are in attainment of the NAAQS for all six of the criteria pollutants. No direct adverse impacts to air quality are associated with the LPA.

4.4.4 Secondary and Cumulative Impacts

No adverse secondary or cumulative air quality impacts are anticipated by the proposed project. A potential beneficial impact could include a net decrease in carbon emissions by decreasing the number of point source pollutants (vehicles) commuting within the Rockford Region.

4.4.5 Mitigation Measures

- Construction contracts will include requirements for construction equipment to comply with all federal, state and local air emission guidelines, including the 1990 Clean Air Act amendments.

4.5 Noise

This section has been completed to determine the impact of the LPA to existing noise levels.

4.5.1 Methods of Coordination and Evaluation

The term “noise” is defined as unwanted sound. Sound is measured in a logarithmic unit called a decibel (dB). The human ear is more sensitive to middle and high frequency sounds than it is to low frequency sounds, so sound levels are weighted to more closely reflect human perceptions. These “A-weighted” sounds are measured using the decibel unit dBA.

A common descriptor of the equivalent noise level is L_{eq} , which represents the equivalent of a steady, unvarying level over a defined period of time. In locations where people are likely to be sleeping, the most commonly used measure of noise is the day-night average sound level, called L_{dn} .

FTA's *Transit Noise and Vibration Impact Assessment, 2006*, guidance was utilized to determine the appropriate noise screening and assessment procedures for the project. Based on this guidance, commuter rail mainline requires a screening distance of 750 feet for noise-sensitive receptors. A commuter rail station requires a screening distance of 250 feet without the horn blowing or 1,600 feet with the horn blowing.

The general noise assessment assigns one of three levels of impact (none, moderate or severe) depending upon the calculated project L_{dn} . Based on the assumed L_{dn} , the allowable project transit noise for the LPA is 57 dBA at the noise-sensitive receptors (residences). A moderate noise impact (58-63 dBA) indicates the change in the cumulative noise level is noticeable to most people, but may not be sufficient to cause strong, adverse reactions from the community. A severe noise impact (>63 dBA) indicates that a significant percentage of the people would likely be affected by the new noise source.

A general noise assessment was conducted at four representative segments of the proposed route. The noise assessment assumed a value of 60 dBA for existing noise levels at station locations. The generated reports are located in the appendix.

4.5.2 Existing Conditions

Noise-sensitive receptors in the vicinity of the LPA include residential areas, public parks, schools, and churches located within 750 feet from the existing rail mainline. The existing noise levels near stations have not been measured. Table 4-6 illustrates the noise-sensitive receptors within the vicinity of the proposed station locations associated with the LPA.

| Table 4-6 Noise-sensitive Receptors in the Vicinity of the LPA Proposed Station Locations | | | | | |
|--|------------------------------------|--------------------------------|---|-----------------------|------------------|
| Station | Receptors | Distance from nearest Receptor | Current Noise Source | Predicted dB increase | Existing Station |
| Rockford | residential and a church | 50 feet | city traffic and existing railroad | 2 | No |
| Alpine | residential, and a school | 75 feet | city traffic and existing railroad | 2 | No |
| Perryville | residential | 200 feet | Perryville Road, US Hwy 39, and existing railroad | 2 | No |
| Tollway | residential | 250 feet | US Hwy 20 | 2 | No |
| Belvidere | residential, schools, and a church | 50 feet | city traffic and existing railroad | 9 | No |
| Marengo | residential | 250 feet | US Hwy 20 and existing railroad | 2 | No |
| Huntley North | residential | 250 feet | Coyne Station Road and existing railroad | 2 | No |
| Huntley South | residential, commercial | 50 | Kreutzer Road and existing railroad | 2 | No |
| Big Timber | residential and a church | 120 feet | Big Timber Road, existing railroad and station | 2 | Yes |

Source: TranSystems

4.5.3 Environmental Consequences

The predicted increase to 69 dBA from the estimated current 60dBA would constitute a severe noise impact (>63 dBA) at the Belvidere Station. This predicted increase from an estimated existing dBA must be verified before a definitive statement of impact can be released.

4.5.4 Secondary and Cumulative Impacts

The construction activities associated with the proposed LPA could result in cumulative increases in noise levels in the vicinity of the construction sites. If construction activities would occur during the daytime hours, no noise provisions would apply. The increase in noise levels from operations should be imperceptible relative to the current freight rail service on the line.

4.5.5 Mitigation Measures

- Require that no construction shall be performed within 1,000 feet of an occupied dwelling unit on Sundays, legal holidays, and between the hours of 8:00 p.m. and 8:00 a.m. on other days without the appropriate approval.
- Use equipment that has sound control devices no less than those provided on original equipment. No equipment shall have un-muffled exhaust.
- Use equipment that complies with the pertinent equipment noise standards of the EPA.
- Perform no pile driving or blasting operations within 3,000 feet of any occupied dwelling unit on Sundays, legal holidays, and between the hours of 8:00 p.m. and 8:00 a.m. on other days, without the appropriate approval.
- Locate stationary construction equipment as far from the nearby noise-sensitive properties as possible.
- Shut off idling equipment.
- Reschedule construction operations to avoid periods of noise annoyance identified in a complaint.
- Notify nearby residences whenever extremely noisy work will be occurring.
- Install temporary or portable acoustic barriers around stationary construction noise sources.
- Operate electric-powered equipment using line voltage power, if feasible.

4.6 Hazardous Materials

This section has been completed to determine the proximity of recorded hazardous waste sites to the LPA ROW.

4.6.1 Methods of Evaluation and Coordination

The U.S. EPA CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) on-line database was reviewed on November 26, 2008. A mapping system associated with the database was utilized to determine the presence/absence of Superfund or hazardous waste release sites within reasonable proximity (approximately 1/2 mile) to the project study area. A variety of hazardous waste registered facilities occur peripheral to the general track route, ranging from automotive repair garages, newspaper printing shops and small industrial businesses. Such facilities are not included in this review as they are regulated as potential point source pollutants under federal permitting authority and do not pose immediate health concerns to the public barring any accidents resulting in accidental release or exposure.

4.6.2 Existing Conditions

Query of the CERCLIS database identified two sites of concern that are appropriate for inclusion in this public document.

MIG/Dewane Landfill (EPA Identification Number ILD980497788) - This site is located north of the intersection of Kennedy Avenue and Logan Avenue, Belvidere, Illinois, latitude 42.25591, longitude -88.80694. It is 50 acres in size, 10 acres of which were the primary repository for waste. The landfill is situated approximately 100 yards south of the proposed track route ROW.

The MIG/Dewane Landfill is currently on the EPA's National Priority List as a Superfund Site (U.S. EPA, 2008). The landfill illegally accepted approximately 480,000 gallons of hazardous waste containing arsenic, cadmium, lead, nickel and cyanide. Such waste materials made their way to the non-contained aquifer, requiring EPA action to mitigate groundwater contamination. Actions included groundwater removal and site monitoring. The EPA has released the following statement regarding the MIG/Dewane Landfill: *Under current conditions at this site, potential or actual human exposures are under control* (U.S. EPA, 2008).

Behr Aluminum, Inc. (EPA Facility Registry System Identification Number 110027375686) - This site is located at 1100 Seminary Street, Rockford, Illinois, latitude 42.255556, longitude -89.093889. The site includes those facilities

associated with the secondary smelting and alloying of aluminum, the property boundary of which appears to be adjacent to and directly abutting the proposed track route ROW. The facility is situated approximately $\frac{3}{4}$ mile southeast of the proposed Rockford Station.

The Behr Aluminum, Inc. operation is registered with the EPA as a regulated hazardous waste release site (U.S. EPA, 2008). The industrial process results in a variety of materials exposed to humans, in liquid, solid and gaseous forms of contact. Such materials include aluminum, copper, lead, nickel, and chlorine.

4.6.3 Environmental Consequences

The preceding database search provide preliminary identification of the potential for hazardous waste release sites to be located within the APE. This search revealed locations that were identified well beyond the APE limits. However, a Phase 1 Environmental Site Assessment is recommended for each property parcel to be acquired to verify these findings prior to purchasing additional ROW and construction. Direct exposure of the public to solid or liquid hazardous waste is not anticipated by the LPA.

4.6.4 Secondary and Cumulative Impacts

The cumulative impacts relating to hazardous materials would result from increased construction activity and the potential for related developments. Construction has the potential to introduce a source of debris, spills and leaks with their associated activities. However, implementation of the appropriate best management practices (BPMs) would minimize the impact of spills and leaks.

4.6.5 Mitigation Measures

- Should previously unidentified contamination be encountered during construction, work should cease immediately in the vicinity of the discovery and the engineer should be notified.

4.7 Threatened/Endangered Species

This section has been completed to determine the potential impact to threatened/endangered flora and fauna species as a result of development of the LPA.

4.7.1 Methods of Evaluation and Coordination

Potential impacts to federally protected species were determined using the Boone, Kane, McHenry and Winnebago County Species Lists revised by the United States Fish and Wildlife Service (USFWS) in November, 2007, to determine the presence of federally listed threatened or endangered (T&E) species in the study area. Potential impacts to state-listed threatened and endangered species were determined by performing a search of the Illinois Natural Heritage Database (ILNHD).

The Rockford project was discussed with the Illinois Department of Natural Resources (IDNR) Natural Heritage Database specialist. It was determined that a GIS buffer search of one quarter mile each side of the project centerline would be an appropriate methodology to query the database for records of T&E species. TranSystems provided the project shapefile in ArcGIS format and the IDNR specialist queried the database and provided TranSystems with the requested Natural Heritage Database data on June 25, 2008. Figures detailing the location of records of species occurrence are located in the appendix, Figures 1A – 1L. Tables 4-7, 4-8, and 4-9 utilize data provided by IDNR. The following disclaimer applies to the data referenced in said tables, as well as data presented in Figures 1A – 1L.

4.7.2 Existing Conditions

The majority of the LPA will be constructed within the existing Union Pacific and CN railroad ROW. New station construction will occur outside of the existing railroad ROW. Siding construction may occur outside the existing ROW. Table 4-7 lists proposed areas of construction activity with reported occurrences of threatened and endangered species within that specific area. This is important information as development of these locations have the potential for a direct impact to a threatened/endangered species.

Within the jurisdiction of the USFWS Chicago Field Office, the only federal T&E concern is for the potential presence of the eastern prairie fringed orchid within high quality wetlands. As such, a floristic quality analysis, or FQA, would need to be performed for each wetland with the results submitted back to the USFWS to gain a more accurate consultation response.

| Species | Recorded Occurrence Impact Areas |
|---|----------------------------------|
| slippershell (<i>Alasmidonta viridis</i>) | Big Timber Siding |
| upland sandpiper (<i>Bartamia longicauda</i>) | Huntley Station North |
| white lady's slipper (<i>Cypripedium candidum</i>) | Museum Siding |
| prairie bush clover (<i>Lespedeza leptostachya</i>) | Museum Siding, Marengo Siding |

Source: IDNR-Illinois Natural Heritage Database Program, June 25, 2008 and USFWS website

4.7.3 Environmental Consequences

GIS analysis was employed to compare IDNR data to the APE. This assessment is presented in Table 4-8.

| Species | County | Impacts |
|---|------------------------------------|--|
| prairie bush clover (<i>Lespedeza leptostachya</i>) | Boone, Kane, McHenry, Winnebago | The project may affect suitable habitat. Floristic Quality Analysis required. |
| Indiana bat (<i>Myotis sodalist</i>) | Boone, Kane, McHenry, Winnebago | No impact. No tree clearing is proposed. |
| eastern prairie fringed orchid (<i>Platanthera leucophaea</i>) | Boone, Kane, McHenry, Winnebago | The project may affect suitable habitat. Floristic Quality Analysis required. |
| sheepnose mussel (<i>Plethobasus cyphus</i>) | Kane, Winnebago | No impact. No work proposed within or in discharges to the Kishwaukee River. |
| slippershell (<i>Alasmidonta viridis</i>) | Kane | The project may affect suitable habitat. |
| bearded wheat grass (<i>Elymus trachycaulus</i>) | Kane | The project may affect suitable habitat. Floristic Quality Analysis required. |
| seaside crowfoot (<i>Ranunculus cymbalaria</i>) | Kane | The project may affect suitable habitat. Floristic Quality Analysis required. |
| American brooklime (<i>Veronica americana</i>) | Kane | The project may affect suitable habitat. Floristic Quality Analysis required. |

**Table 4-8 (continued)
Threatened/Endangered Species Assessment**

| | | |
|--|---------------|--|
| marsh speedwell (<i>Veronica scutellata</i>) | Kane | The project may affect suitable habitat. Floristic Quality Analysis required. |
| Blanding's turtle (<i>Emydoidea blandingii</i>) | Kane, McHenry | The project may affect suitable habitat. |
| sandhill crane (<i>Grus canadensis</i>) | Kane, McHenry | The project may affect suitable habitat. |
| upland sandpiper (<i>Bartamia longicauda</i>) | McHenry | The project may affect suitable habitat. |
| white lady's slipper (<i>Cypripedium candidum</i>) | McHenry | The project may affect suitable habitat. Floristic Quality Analysis required. |
| common bog arrow grass (<i>Triglochin maritime</i>) | McHenry | The project may affect suitable habitat. Floristic Quality Analysis required. |
| wooly milkweed (<i>Asclepias lanuginosa</i>) | Winnebago | The project may affect suitable habitat. Floristic Quality Analysis required. |
| gravel chub (<i>Erimystax x-punctatus</i>) | Winnebago | No impact. No work proposed within or in discharges to the Kishwaukee River. |
| black sandshell (<i>Ligumia recta</i>) | Winnebago | No impact. No work proposed within or in discharges to the Kishwaukee River. |

Sources: TranSystems

No federal critical habitat has been designated within the project APE. Alternatives to specific siding and station locations as presented in the LPA have been identified which will decrease potential impacts to those species listed in Table 4-7. The following alternatives are described for consideration in refining the LPA:

Big Timber Siding – To avoid a potential impact to habitat for the slippershell (*Alasmidonta viridis*) consider locating the siding north of the current identified location provided that this location works operationally given the proposed station locations. This will avoid impacts to the slippershell, will not require a bridge crossing, and will occur along a straight line of track with improved site distance.

Huntley Station North – To avoid disturbing land associated with a record of occurrence for the upland sandpiper (*Bartamia longicauda*) and the permanent loss of several acres of HUM (Huntley Union Marengo) Railroad Prairie East consider choosing Huntley Station South for the LPA.

Museum Siding – To avoid a potential impact to habitat for the white lady's slipper (*Cypripedium candidum*), prairie bush clover (*Lespedeza leptostachya*) and permanent loss of approximately 25 acres of HUM Railroad Prairie East consider locating the siding opposite HUM Railroad Prairie East or moving it to a new location. According to mapping data, HUM Railroad Prairie East occurs parallel to the LPA route south of the track embankment, making the north side a potential option to investigate as an avoidance measure. Native prairie is an extremely rare land cover within this region and should be preserved. The McHenry County Conservation District would require substantial coordination to convert this property.

Marengo Siding – To avoid potential impact to habitat for the prairie bush clover (*Lespedeza leptostachya*) and the permanent loss of approximately 25 acres of HUM Railroad Prairie West consider relocating the siding as well as relocating Marengo Station to avoid a similar impact. Native prairie is an extremely rare land cover within this region and should be preserved. The McHenry County Conservation District would require substantial coordination to convert this property.

Figure 4-1 HUM Railroad Prairie West (parallel yellow lines)



The Natural Heritage Database used for this review does not provide a conclusive statement on the presence, absence, or condition of significant natural features in Illinois. The Department of Natural Resources only summarized the existing information known at the time of the request. Documented coordination with USFWS and IDNR will be required for threatened and endangered species. Habitat assessment could be deemed necessary through this coordination process. [Note to reviewers: Timing for such coordination would be best once optional station and siding locations have been identified. This will minimize the potential impacts.]

4.7.4 Secondary and Cumulative Impacts

No secondary impacts are anticipated. Assuming the HUM Railroad Prairies will be impacted, cumulative impacts include the incremental loss of natural areas.

4.7.5 Mitigation Measures

- Review the *Illinois Wildlife Action Plan* and prepare an Endangered Species Conservation Plan for the project prior to the start of construction and adhere to it throughout the construction process.
- Implement a pollution control plan to prevent the release of hazardous or toxic substances during construction.
- Construct storm water mitigation measures, including fabric fences, swales, check dams, and detention ponds.
- Remove trees and other vegetation outside bird nesting season (April 15 – September 1) to mitigate potential effects to nesting birds protected by the Migratory Bird Treaty Act.
- Develop and implement a riparian planting plan.
- Perform construction monitoring to ensure compliance with environmental permits, and follow reporting guidelines in permits.
- Comply with all permit conditions of approval and/or mitigation measures.
- Follow the requirements of the applicable Federal, State, and local regulations to ensure protection of resource lands and environmentally sensitive areas.
- Consider opportunities to enhance existing habitat and riparian areas.
- Provide provisions for the replacement of landscaping elements to the extent possible.

4.8 Parklands and Natural Areas

This section was completed to determine the potential for impacts to parklands and natural areas by development of the LPA.

4.8.1 Methods of Evaluation and Coordination

On June 25, 2008, IDNR and Illinois Natural Heritage Database Program provided TranSystems with an Illinois Natural Area Inventory (INAI) dataset to assist in determining parkland and natural areas within or directly adjacent to the project area. The IDNR-Natural Areas Program is a science based program to identify, manage and preserve areas of the state that contain significant natural resource features and/or which have the potential to be significant. Figures detailing the location of parklands and natural areas are located in the appendix, Figures 2A – 2L.

4.8.2 Existing Conditions

The existing rail line is in close proximity to the Freeman Kame - Ed Meager Forest Preserve and Nyman-Oury Forest Preserve, a Section 4(f) property. The existing rail line is also proximate to the parklands listed in Table 4-9. These parklands have boundaries which are adjacent to the existing line.

| Table 4-9 Parklands Within or Directly Adjacent to Area of Potential Effect | | | | |
|--|-----------|--|------------------------|---|
| Parkland | County | Location | Within/Adjacent to ROW | Owned/Operated |
| Burnidge Forest Preserve-Paul Wolff Campground | Kane | Coombs Road, west of Randall Rd. Elgin, IL | Adjacent | Forest Preserve District of Kane County |
| Waitcus Park | Kane | Route 72 in Gilberts Gilberts, IL | Adjacent | The Village of Gilberts |
| Nyman-Oury Forest Preserve | Kane | North of I-90 and Route 72 Gilberts, IL | Within | Forest Preserve District of Kane County |
| Freeman Kame-Ed Meager Forest Preserve | Kane | Freeman Road Gilberts, IL | Within | Forest Preserve District of Kane County |
| Huntley-Union-Marengo (H.U.M) Trail | McHenry | NE of Route 20 from East Street in Marengo, IL to Main Street in Union, IL | Adjacent | McHenry County Conservation District |
| Wagner Conservation Area | Boone | Garden Prairie, IL | Adjacent | Boone County Conservation District |
| Green Giant Prairie | Boone | East of Belvidere, IL | Adjacent | Boone County Conservation District |
| Bel-Mar Country Club | Boone | 7450 Logan Avenue Belvidere, IL | Adjacent | Privately Owned |
| Southeast Community Park | Winnebago | 3151 Perryville Road Perryville, IL | Adjacent | Rockford Parks District |
| Bauman Park | Winnebago | 298 South Walnut St. Cherry Valley, IL | Adjacent | The Village of Cherry Valley |
| Swan Hillman Elementary School Park | Winnebago | 3701 Green Dale Dr. Rockford, IL | Adjacent | Rockford School District |
| Tinker Park | Winnebago | 411 Kent St. Rockford, IL | Adjacent | Rockford Parks District |
| Davis Park at Founders Landing | Winnebago | 330 South Wyman St. Rockford, IL | Adjacent | Rockford Parks District |
| Tenth Avenue Park | Winnebago | 825 Tenth Ave. Rockford, IL | Adjacent | Rockford Parks District |

Source: IDNR

A Section 6(f) evaluation is currently being conducted by the IDNR-Division of Grant Administration to determine the occurrence of lands within the project limits that have Land and Water Conservation and Open Space Lands Acquisition and Development Act funds involved in their purchase or development.

Table 4-10 lists the protected INAI natural areas identified within the APE of the LPA. The following INAI category descriptions are required to interpret the dataset:

- Category I = High quality natural community and natural community restorations
- Category II = Specific suitable habitat for state-listed species or state-listed species relocations
- Category III = State dedicated Nature Preserves, Land and Water Reserves, and Natural Heritage Landmarks
- Category IV = Outstanding geological features
- Category V = Not used at this time
- Category VI = Unusual concentrations of flora or fauna and high quality streams

| Table 4-10 Natural Areas Inventory Sites within the Elgin to Rockford Commuter Rail Study Area | | | | |
|---|---------------------------|---------------------------|----------|---------|
| INAI # | County | INAI Name | Category | Acreage |
| 0977 | Boone | Ipsen Prairie | I | 8 |
| 0720 | Boone, McHenry, Winnebago | Kishwaukee River | II, VI | 669 |
| 1474 | Kane | Freeman Kame | III | 44 |
| 1269 | McHenry | HUM Railroad Prairie East | I, II | 108 |
| 1270 | McHenry | HUM Railroad Prairie West | I, II | 78 |
| 1504 | McHenry | Kloempken Marsh | I | 224 |

Source: IDNR-Illinois Natural Heritage Database Program, June 25, 2008

4.8.3 Environmental Consequences

New station and siding construction will occur outside of the existing railroad ROW. As proposed, the construction of Marengo Station, Marengo Siding, and Museum Siding will have a direct impact on two IDNR-Natural Areas: HUM Railroad Prairie East and HUM Railroad Prairie West. The new track constructed for the Tollway Station Point will have a direct impact on Ipsen Prairie. The development of portions of the Ipsen and HUM prairies result in a significant adverse impact to the natural areas of Illinois.

The McHenry County Conservation District describes the HUM Natural Area as follows:

"H.U.M. Prairie East and H.U.M. Prairie West are linear to the existing rail line and consist of the space between the edge of the ballast and the outer ownership line of the rail line. The space is not evenly distributed as some areas have been impacted more heavily than others by the construction and subsequent use of the railroad line. There is approximately 15 miles of line and about 25 acres of good quality prairie combined.

Prairie was the native cover for much of the county at the time of settlement and in the 1850's when the rail lines were constructed it cut across unplowed prairie in most areas. Thus the area along the edge of the tracks fenced from cattle and set afire by old steam locomotives from time to time, remained prairie, while the rest of the landscape was converted into fields and towns.

The prairie was discovered in the 1980's and managed by The Nature Conservancy for a time under a lease arrangement with the Chicago Northwestern Railroad. In the 1990's the McHenry County Conservation District

(MCCD) purchased a fifty foot strip along the side of the active rail line on both sides, effectively preserving most of the remaining prairie in perpetuity.

Currently the only portion of the site open to the public is the section between Union and Marengo which is a multiple use trail. According to MCCD, this is the poorest section of the line in terms of prairie remnants. The other areas are closed until trail development can be completed."

Alternatives to specific siding and station locations as presented in the LPA have been identified which will decrease potential adverse impacts to those parks and natural areas listed in Table 4-9. The following alternatives are described for consideration in refining the LPA:

HUM Railroad Prairie East and West – To avoid direct impacts to these natural areas consider relocating the proposed Museum and Marengo sidings. For HUM Railroad Prairie East (Museum Siding), locate the siding on the side of tracks opposite the prairie or move the siding farther down the line. For HUM Railroad Prairie West (Marengo Siding), locate the siding farther down the line.

Ipsen Prairie – To avoid direct impacts to Ipsen Prairie consider locating the Tollway Station Point where the connecting tracks will not impact this natural area (see Figure 4-2).

Figure 4-2 Ipsen Prairie (parallel yellow lines)



The remaining station and siding construction activity is not expected to have direct impact on parkland and /or natural areas. Further coordination with INDR is recommended prior to construction activities to ensure parkland and Natural Areas are protected within the project area.

4.8.4 Secondary and Cumulative Impacts

To be drafted upon completion of re-engineering efforts to avoid adverse impacts to the parks and natural areas.

4.8.5 Mitigation Measures

- Avoid or minimize impacts to natural areas and parklands where possible in coordination with IDNR and MCCD.
- Provide advanced public notice of planned temporary road closures and detours, and changes in access routes that would affect parklands and natural areas.
- Provide protective erosion and sediment control plans.
- Plan construction activities to minimize changes and effects to parklands and natural areas.

4.9 Water Resources

This section was completed to determine potential impacts to general water resources by development of the LPA.

4.9.1 *Methods of Evaluation and Coordination*

Applicable federal acts and executive orders were identified for evaluation. These acts and executive orders were then reviewed by researching the existing conditions and determining if the LPA will result in any significant adverse affects to federally protected resources. Figures detailing the location of streams and wetlands are located in the appendix, Figures 1A – 1L. Federal Emergency Management Agency (FEMA) floodplains may be referenced in Figures 3A – 3L.

4.9.2 *Existing Conditions*

Floodplain Management, Executive Order 11988 - The LPA will traverse several mapped FEMA floodplains. Project activities will be coordinated with FEMA and other applicable state and local agencies to ensure the project will not result in adverse effects to the base flood elevations of mapped floodplains.

Wild and Scenic Rivers Act - Illinois currently has one National Scenic River. This resource is the Middle Fork Vermilion River. The designated reach, enacted on May 11, 1989, is from river mile 46.9 downstream to river mile 29.8. The 17.1 miles of designated river occur in Vermilion County, Illinois. No portion of the proposed LPA is within Vermilion County.

Safe Drinking Water Act - The predominant source of drinking water for the municipalities within the APE is groundwater, although the City of Elgin procures a majority of its water from the Fox River. The current pollutant levels of the Fox River require extensive pre-treatment before distribution.

Rivers and Harbors Act of 1899, Section 10, The Rock River is the only navigable water of the U.S. crossed by the proposed LPA track route. The LPA utilizes an existing bridge crossing to pass over this resource. Limits of jurisdiction include all portions of the river within the Rock Island U.S. Army Corps of Engineers District to the confluence of the Mississippi River.

Recreational Fisheries, Executive Order 12962 - The project route crosses the Rock River within the city limits of Rockford at an existing bridge location. Recreational fishing opportunities are provided by this river. The project route crosses the Kishwaukee River in Winnebago County, directly north of Bauman Park, at an existing bridge location. Recreational fishing opportunities are provided by this River. The Kishwaukee River runs within the study area for approximately 1.0 mile directly north of the Bel-Mar Country Club on the north side of the tracks, and for approximately 0.09 mile directly east of Wagner Conservation Area on the north side of the tracks. No opportunities to enhance fishing opportunities in the Kishwaukee River are considered for the proposed project.

4.9.3 *Environmental Consequences*

The APE was evaluated for the water resources described above. There are no significant encroachments on floodplains and there will be no direct, indirect or cumulative impacts to the National Scenic River or navigable waters. It is not anticipated that the LPA will result in any significant adverse impacts to groundwater or surface water quality. No impacts to the Rock River are associated with the proposed project. No opportunities to enhance fishing opportunities in the Rock River are considered for the proposed project. The only adverse impact anticipated for water resources is the potential for direct impacts on the left descending bank of the Kishwaukee River. These impacts would likely be the result of armoring these banks as part of right of way maintenance to ensure a stabilized bank. Actual locations and quality/quantity may be identified once the project is beyond the conceptual phase and

more detailed design has been completed in this area. Overall, no significant adverse effects to water resources are determined to be associated by development of the LPA.

4.9.4 Secondary and Cumulative Impacts

No secondary impacts are anticipated. Potential cumulative impacts include the incremental encroachment upon FEMA floodplains.

4.9.5 Mitigation Measures

- Prepare an erosion and sediment control plan prior to the start of construction and adhere to throughout the process.
- Prepare a spill prevention control and countermeasures plan to control pollutants throughout the project work areas. These areas can include but are not limited to staging, storage, maintenance, refueling areas, and waste sites.
- Structure operations in a manner that reduces the risk of releases of suspended sediment into water bodies that would increase turbidity to above background levels.

4.10 Wetlands

This section was completed to determine the potential impacts to wetlands by development of the LPA.

4.10.1 Methods of Evaluation and Coordination

An on-site survey of the NICTI study area was conducted on September 23 - 25, 2008 by TranSystems environmental staff. The survey focused on those areas of new track construction and station footprints. The on-site survey was done in accordance with methods set forth in the *1987 Corps of Engineers Wetlands Delineation Manual*. Figures detailing the location of wetlands are located in the appendix, Figures 1A – 1L.

4.10.2 Existing Conditions

The Rockford Study Area, traversing approximately 50 miles east/west across northern Illinois, is represented by three Level 4 EPA Ecoregions. A brief description of each ecoregion is provided below to familiarize the reviewer with the natural landscapes in which this wetland delineation was performed. In northern Illinois, glacial advances are responsible for the patterns of wetland distribution across the landscape.

Illinois/Indiana Prairies Level 4 EPA Ecoregion – Glaciated, flat to rolling plains with terminal and recessional moraines, prairie potholes, and old lake beds. Soils are derived from loess or glacial drift. Natural vegetation associations include bluestem prairie and oak-hickory forest. Other natural features include floodplains, prairie potholes, and marshes. The majority of this area has been converted to grain crops.

Rock River Drift Plain Level 4 EPA Ecoregion – Glaciated, nearly level to hilly till plains and outwash plains, broad valleys. Soils derived predominately from loess or glacial till. Natural vegetation associations include dry to mesic prairie, dry to mesic forest, savanna, and floodplain forests. Approximately half of this area has been converted to grain crops.

Valparaiso-Wheaton Morainal Complex Level 4 EPA Ecoregion – Glaciated, hilly, hummocky to rolling containing moraines, kames, eskers, rolling till plains, outwash plains, kettle holes, and ravines. Drainage patterns are poorly connected, and small lakes and marshes are common. Soils derived predominately from glacial till, some loess.

Natural vegetation associations range from oak-hickory forest to bluestem prairie. Very diverse vegetation patterns. Urban development occurs largely throughout this ecoregion.

A total of six potentially jurisdictional wetlands were recorded within the study area, referenced in Table 4-11. Of these wetlands, five were recorded from the Valparaiso-Wheaton Morainal Complex Level 4 EPA Ecoregion, which is noted to have poorly developed drainage connections. The single wetland found outside of this ecoregion was formed by the placement of fill materials within a floodplain, resulting in poor drainage.

| Table 4-11 Potentially Jurisdictional Wetlands Within Areas of Proposed Construction | | | | |
|---|-----------------|----------------------------------|--------------|-------------------|
| County | PLSS (approx.) | Wetland Name | Wetland Type | APE acreage |
| Kane | T42N R7E SEC 36 | Big Timber Siding Wetland 1a, 1b | emergent | 1.25 acres |
| Kane | T42N R7E SEC 25 | Big Timber Siding Wetland 2a, 2b | emergent | 0.55 acre |
| Kane | T42N R7E SEC 25 | Big Timber Siding Wetland 3a, 3b | emergent | 0.50 acre |
| McHenry | T43N R6E SEC 11 | Museum Siding Wetland 1a, 1b | emergent | 2.00 acres |
| McHenry | T43N R6E SEC 11 | Museum Siding Wetland 2a, 2b | emergent | 1.00 acre |
| Winnebago | T43N R2E SEC 04 | Mulford Crossing Wetland 1 | emergent | 0.15 acre |
| Total Wetland Acreage | | | | 5.45 acres |

Source: TranSystems

4.10.3 Environmental Consequences

Direct impacts to wetlands associated with implementation of the LPA would not exceed 5.45 acres. The acreage impacted depends upon the track alignment designed within the wider corridor currently identified as the APE. Once the project advances beyond the conceptual phase this acreage may be calculated. All but the Mulford Crossing wetland occur as mirror images across the track ROW. The placement of the sidings along either side of the track at the locations detailed by the LPA will result in similar wetland acreage impacts.

4.10.4 Secondary and Cumulative Impacts

No secondary impacts are imagined. Potential cumulative impacts include the incremental loss of low quality, emergent wetlands.

4.10.5 Mitigation Measures

- Identify wetlands and waters as “no work zones” or “restricted work zones” on plans and in the field.
- Develop a compensatory wetland mitigation plan to replace functions lost as a result of permanent effects to wetlands.
- Maintain wetland buffers by adhering to local setback requirements for wetlands and riparian zones.
- Consider opportunities to enhance existing wetlands and riparian areas.

4.11 Visual Quality

This section was completed to determine how development of the LPA will affect visual quality. At this phase of the project station area concepts have not been developed. The following describes the current or future character of those sites and the intensions perceived for the station location concepts when developed.

4.11.1 *Methods of Evaluation and Coordination*

Visual resources are those physical features that make up the visual landscape, including land, water (when present), vegetative, and man-made elements, as defined by Federal Highway Administration guidance memorandum *Esthetics and Visual Quality Guidance Information*, August 18, 1986. As stated above, these station concepts haven't been developed; however, as the project enters that phase, concepts will be advanced in manner in keeping with the desires of the neighboring communities and the current and future character of the areas.

4.11.2 *Existing Conditions and Environmental Consequences*

Station concepts will be developed with individual community accepted design standards for unique identity and complimentary designs for warming shelters for a cohesive presence in the community. This will consider the appropriate scale as well as aesthetic as described below:

Rockford Station - The proposed station will be located within an existing rail yard at the site of an abandoned Amtrak station. This area is blighted with an industrial aesthetic in an urban setting. Rockford Station will present an opportunity to set the stage for future development near the downtown by establishing a positive identity for projected new commercial and mixed use opportunities. No adverse impacts anticipated.

Alpine Station - The proposed alternative station will be located within undeveloped property north of Ekberg Pine Manor Park. The station is part of a mixed use redevelopment proposal surrounded by an existing commercial and residential corridor with strip mall retail developments. The Alpine Station will be developed to blend with the current character of this corridor. The structures will be non-obtrusive so as not to distract from the proposed low-rise commercial and future residential developments. No adverse impacts anticipated.

Perryville Station - The proposed station will be located within property that is currently an agricultural field. The Perryville Station will be developed in keeping with this rural setting, sensitive to the open green space and rural residential development. No adverse impacts anticipated.

Tollway Station Point - The proposed station will be located within property that is currently an agricultural field; however, this station will serve as the anchor for a proposed Transit Oriented Development (TOD). Future plans for this major TOD include mixed use, multi-family and commercial developments as this is in close proximity to interstate access and a major arterial. No adverse impacts anticipated.

Belvidere Station - The proposed station will be located within an urbanized area. Located behind City Hall, Belvidere Station will match the character of the quaint, downtown with direct pedestrian access. No adverse impacts anticipated.

Marengo Station - The proposed station will be located within property that is currently an agricultural field. The Marengo Station will be a feature in the anticipated new town center outside the existing rural downtown setting. The new TOD will provide a new look for this community that is yet to be determined. No adverse impacts anticipated.

Huntley Station North or South Options—The proposed station will be located within property that is currently an agricultural field. In either location, Huntley Station will be a feature in the anticipated new town center outside the existing rural downtown setting. The new TOD will provide a new look for this community that is yet to be determined. No adverse impacts anticipated.

4.11.3 *Secondary and Cumulative Impacts*

The visual character of areas would be taken into consideration during the planning of future developments. The proposed LPA station locations would be designed to blend with the existing landscape in both the urban and rural areas along the corridor. Therefore, the existing and foreseeable actions identified for the project area would not measurably contribute to cumulative impacts.

4.11.4 *Mitigation Measures*

- Restore construction staging areas that are not needed once the project is completed to pre-project existing conditions to the extent practicable.
- Shield and/or focus construction lighting on work areas to minimize ambient spillover of light into adjacent area.
- Plant trees and other vegetation in areas where it has been removed to soften and reconnect visual gaps and/or to buffer undesirable views.
- Re-vegetate slopes with appropriate (typically native) grasses, shrubs, and/or trees.

4.12 Safety and Security

Barriers will be set up to restrict public access from construction zones. When temporary closures are necessary, barricades, lights, and reflectors will be used in order to direct traffic and maintain public safety. These practices will be in compliance with federal, state and local ordinances and regulations.

Police, fire and ambulance services are provided to properties within those cities represented by the LPA. No relocation of these facilities will occur as a result of the project. **No impacts to safety or security are associated by development of the LPA.**

4.13 Traffic and Parking

Project construction will be conducted to avoid obstructions to vehicle and pedestrian traffic on adjacent streets, bridges, structures and ramps. Where possible, parking for construction workers will be located in designated areas and construction equipment will be staged within project right-of-way. **No significant impacts are associated with traffic and parking.**

4.14 Consistency with Local Plans

In an analysis of land use impacts for the initial alternatives, Vandewalle & Associates determined the LPA (CR6 Alternative) was consistent with existing land use patterns as it connects several of the most urbanized and growing areas between Chicago and Rockford, including Belvidere, Marengo, Huntley and Elgin.

By connecting the Rockford Region with the Chicago area, The LPA supports growth in already urbanized and growing areas. Specifically, the LPA supports the transit goals and future land use plans identified by Cherry Valley, Belvidere, Huntley, Marengo, and Elgin. The plan is also consistent with the transit goals of Boone, Kane and McHenry Counties.

5.0 References and Personal Communications

- Allen L Kracower and Associates, Inc. *Village of Gilberts Future Land Use Plan* (June 9, 2003).
- Boone County. *Boone County Zoning Ordinance* (adopted July 9, 2008).
- Boone County Conservation District. Personal communication with Tim Craig regarding the Wagner Conservation Area and the Green Giant Prairie (December 5, 2008).
- City of Elgin. *Comprehensive Plan & Design Guidelines* (2005).
- City of Rockford. *Rockford's 2020 Plan: Entering the 21st Century* (May 2008).
- Federal Transit Administration. *Transit Noise and Vibration Impact Assessment* (2006).
- Federal Transit Administration. *Noise Impact Assessment Spreadsheet* (2007).
- Federal Highway Administration. *Esthetics and Visual Quality Guidance Information* (August 18, 1986).
- Federal Highway Administration / Federal Transit Administration. *Guidance on Linking the Transportation Planning and NEPA Processes* (February 2005).
- Harris Miller Miller & Hanson Inc. *Transit Noise and Vibration Impact Assessment* (May 2006).
- Illinois Department of Natural resources, Grant Administration. Personal communication with Mick Rosendahl regarding Section 6(f) properties (November 19, 2008).
- Illinois Department of Natural resources, Grant Administration. Personal communication with Sue Eubanks regarding Section 6(f) properties (November 19, 2008).
- Illinois Department of Natural resources, Natural Areas Program. Personal communication with John Wilker regarding natural areas (December 11, 2008).
- Illinois Department of Natural resources, State Historic Preservation Office. Personal communication with Anne Haaker regarding historic properties (December 5, 2008).
- Kane County. *Kane County Strategic Plan* (adopted November 14, 2006).
- Kane County. *2030 Land Resource Management Plan* (2004).
- McHenry County. *McHenry County 2030 Plan Commission Infrastructure Discussion Draft* (December 2008).
- McHenry County Conservation District. Personal communication with Ed Collins regarding the HUM Railroad Prairies (December 15, 2008).
- Natural Resources Conservation Service. *County Soil Survey Data*. Retrieved from NRCS website: <http://soildatamart.nrcs.usda.gov/> (2008).
- PB Americas, Inc. *NICTI Alternatives Analysis Purpose and Need Report* (January 19, 2007).
- Rockford Area Transportation Study. *RATS 2035 Long Range Transportation Plan* (July 28, 2005).
- Teska Associates, Inc. *City of Marengo Comprehensive Plan* (approved May 25, 2004).
- Thompson Dyke & Associates, LTD. *Village of Huntley, Illinois Land Use Plan* (June 23, 2005).
- TranSystems. *First Level Screening Report* (February, 2007).
- TranSystems. *NICRI Commuter Rail Feasibility Study* (November 12, 2004).
- TranSystems. *NICTI Alternatives Analysis* (May, 2007)
- TranSystems. *Northern Illinois Commuter Transportation Initiative (NICTI) Locally Preferred Alternative Briefing Paper* (May 28, 2008).
- TranSystems. *Second Level Screening Report* (April 2008).
- United States Army Corps of Engineers. *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (1987).
- United States Census Bureau. *Travel Time to Work in the United States*. Retrieved from U.S. Census Bureau website: <http://www.census.gov/population/www/socdemo/journey.html> (2008).
- United States Census Bureau. *American Fact Finder Decennial Census*. Retrieved from U.S. Census Bureau website: <http://factfinder.census.gov/> (2008).
- United States Environmental Protection Agency. *Superfund (CERCLIS) Query Form*. Retrieved from U.S. EPA website: http://www.epa.gov/enviro/html/cerclis/cerclis_query.htm (2008).
- United States Fish and Wildlife Service. Personal communication with Cathy Pollack regarding threatened and endangered species in Boone and Kane counties (November, 20, 2008).
- Vandewalle & Associates. *Boone County Comprehensive Plan* (November 10, 1999).
- Vandewalle & Associates. *Memorandum Regarding NICTI Alternatives Analysis: Supplemental Initial Screening Land Use Evaluation* (April 26, 2007).
- Winnebago County. *Draft 2030 Land Resource Management Plan* (November, 2008).

List of Abbreviations

APE – area of potential effect
BRT – Bus Rapid Transit Alternatives
CERCLIS – Comprehensive Emergency Response, Compensation and Liability Act
CFR – Code of Federal Regulations
CN – Canadian National
CO – carbon monoxide
CR6 – Commuter Rail Alternative 6
CRT – Commuter Rail Transit Alternatives
CTA – Chicago Transit Authority
dB – decibel
dBA – A-weighted decibel
EA – Environmental Assessment
EPA – U.S. Environmental Protection Agency
FEMA – Federal Emergency Management Agency
FTA – Federal Transit Administration
FQA – floristic quality assessment
GIS – geographic information system
IC&E – Iowa, Chicago, and Eastern Railroad Corporation
IDNR – Illinois Department of Natural Resources
ILNHD – Illinois Natural Heritage Database
INAI – Illinois Natural Areas Inventory
 L_{dn} – day-night average sound level
 L_{eq} – equivalent noise level
LPA – locally preferred alternative
MCCD – McHenry County Conservation District
 mg/m^3 – milligrams per cubic meter of air
NAAQS – National Ambient Air Quality Standards
NEPA – National Environmental Policy Act
NICRI – Northern Illinois Commuter Rail Initiative
NICTI – Northern Illinois Commuter Transportation Initiative
 NO_2 – nitrogen dioxide
NRCS – Natural Resources Conservation Service
NRHP – National Register of Historic Places
 O_3 – ozone
Pb – lead
 $PM_{2.5}$ – particulate matter two and one-half microns
 PM_{10} – particulate matter ten microns
ppm – parts per million
RATS – Rockford Area Transportation Study
ROW – right of way
SHPO – State Historic Preservation Office
 SO_2 – sulfur dioxide
SPCC – Spill Prevention Control and Countermeasures
 $\mu g/m^3$ – micrograms per cubic meter of air
UPRR – Union Pacific Railroad
USFWS – United States Fish and Wildlife Service

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