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Draft Environmental Assessment

CSX Transportation, Inc.

Joint Use

Louisville & Indiana Railroad Company, Inc.

Docket No. FD 35523



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Draft Environmental Assessment

**CSX Transportation, Inc.—Joint Use—Louisville & Indiana Railroad
Company, Inc.**

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August 2013



SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

August 30, 2013

Re: Docket No. FD 35523, CSX Transportation, Inc.—Joint Use—Louisville & Indiana Railroad Company, Inc.

Dear Reader:

The Surface Transportation Board’s Office of Environmental Analysis (OEA) is pleased to provide you with your copy of the Draft Environmental Assessment (EA), which analyzes the potential environmental effects of a proposal by CSX Transportation, Inc. (CSXT) and the Louisville and Indiana Railroad Company (L&I) to jointly operate over L&I’s 106.5-mile rail line between Indianapolis, IN, and Louisville, KY. CSXT and L&I (together known as Applicants) are seeking the Board’s permission for CSXT to acquire an operating easement that would allow additional CSXT trains to operate over the L&I rail line, along with the L&I trains that are already operating over the rail line. CSXT would pay L&I \$10 million dollars for the operating easement and would spend between \$70 and \$90 million to improve the rail line to allow CSXT to move longer (up to 7,500 feet from 5,100 feet) faster (up to 49 miles per hour from the current 15 to 25 miles per hour), and heavier (from railcars that can carry 263,000 pounds of freight to ones that can carry 286,000 pounds of freight) trains.

Today, between two and seven trains (mostly L&I but a few CSXT) operate on the rail line between Indianapolis and Louisville. The L&I trains serve rail customers along the 106.5-mile rail line and transport a variety of commodities, including cement, chemicals, food products, grain, lumber, manufactured goods, paper, plastics, scrap and steel. The CSXT trains currently operating over the L&I rail line do not serve shippers located on the rail line; rather, they move over the rail line to other destinations (called “through traffic”).

If the Board should approve the Applicants’ proposal, CSXT would move between 13 and 15 trains per day mostly from its Louisville to Cincinnati rail corridor, known as the “LCL Subdivision” to the L&I rail line. CSXT explains that its LCL Subdivision is close to operating at capacity and that because of the steep grades and tight curves on the LCL Subdivision, CSXT must restrict both the length and speeds of its trains. CSXT states that if the Board approves the proposal, it would take approximately seven years for CSXT to finish the improvements it plans on the L&I rail line. CSXT would not materially increase its train traffic on the L&I rail line until it has completed its planned improvements on the rail line. Once the planned improvements are done, CSXT would move additional through trains, mostly carrying automobiles and automobile parts, over the rail line.

CSXT plans a number of changes to the L&I rail line. These include installing heavier weight and continuously welded rail over the entire 106.5-mile rail line, adding “hot box” detectors (devices located trackside that can prevent overheating by measuring the temperature of bearings), replacing older cross-ties, adding new ballast, and replacing the Flatrock River Railroad Bridge (a truss bridge with height and weight restrictions that spans the Flatrock River), located in Columbus, Bartholomew County, Indiana. CSXT would also increase the size of rail sidings at Elvin and Brook, Indiana, and build new sidings at Crothersville and Underwood, Indiana on the L&I rail line to make it easier for trains to pass one another. All these change would allow CSXT to move freight more quickly and more economically than it moves today.

Before deciding whether to approve the Applicants’ proposal, the Board must consider the potential environmental effects of its decision. The Draft EA is the first step in this process.

This Draft EA examines the potential environmental effects of the Applicant’s proposal on both the natural and human environment, including the many communities located on the L&I rail line. As a result of the Applicants’ proposal to reroute CSXT’s trains from other CSXT rail lines in the Midwest (largely, the LCL Subdivision) to the L&I rail line, train traffic would increase on the L&I rail line, as indicated below:

<u>Segment of L&I Rail Line</u>	<u>Numbers of Trains per Day</u>	
	Current	Proposed
Indianapolis to Seymour, IN:	2 (2 L&I)	17 (15 CSXT trains added)
Seymour to Jeffersonville Yard, IN	4 (2 L&I, 2 CSXT)	17 (13 CSXT trains added)
Jeffersonville Yard to Louisville, KY	7 (5 L&I, 2 CSXT)	20 (13 CSXT trains added)

Train traffic on the LCL Subdivision currently used by CSXT would decrease.

The Draft EA preliminarily concludes that CSXT’s proposed transaction would adversely affect two environmental resource areas: emergency response/vehicle delay and noise/vibration. To reduce the potential adverse effects to these areas, we have developed mitigation measures and are recommending that the Board impose these (and other) measures in any decision approving the proposed transaction.

We encourage you to send us written comments on all aspects of this Draft EA. OEA will consider and respond to comments in preparing the Final EA. The Final EA will include OEA’s final conclusions on potential impacts that could result from the proposed transaction and OEA’s final recommendations, including final recommended mitigation measures. To be considered, comments must be submitted during the comment period, which will close on **September 30, 2013**. OEA will issue the Final EA on or before November 6, 2013. The Board plans to issue a final decision on the proposed transaction by December 6, 2013.

When submitting comments on the Draft EA, please be as specific as possible. We are particularly interested in your thoughts on the recommended mitigation measures. Any suggestions you may have to improve our recommendations to the Board would be very welcome.

Comments may be submitted by mail or electronically using “E-Filing” button on the Board’s website (www.stb.dot.gov). **However, OEA strongly encourages the submittal of comments electronically to ensure receipt by September 30, 2013.**

- **Electronically:** For electronic comments, simply click on E-filing and then “Environmental Comments” from the E-Filing button on the Board’s website. The next web page will be formatted to allow you to fill in your information and comment directly or you can provide your comments in a file attachment.
- **By Mail:** If you are sending your comment by mail, please be aware that there may be up to a week delay in the delivery of mail to federal agencies. Mail written comments to:

Dave Navecky
Surface Transportation Board
395 E Street, SW
Room 1104
Washington, DC 20423

If you have questions or need clarification or guidance, please call Dave Navecky at 202-245-0294. You may also email Mr. Navecky at naveckyd@stb.dot.gov. We appreciate your time and effort in helping us to carefully evaluate the potential environmental effects here and we look forward to receiving your comments.

Sincerely,



Victoria Rutson
Director
Office of Environmental Analysis

OVERVIEW

Applicants, CSX Transportation, Inc. (CSXT) and the Louisville & Indiana Railroad Company, Inc. (L&I), propose that CSXT would jointly operate with L&I over L&I's 106.5-mile line from its connection with CSXT in Indianapolis, IN, to its connection with CSXT in Louisville, KY (the Line). In order to jointly use the Line with L&I, Applicant's seeks Board authority for CSXT to acquire and use a perpetual, non-exclusive railroad operating easement (Easement), which CSXT would pay L&I \$10 million to acquire. The joint use and acquisition of the Easement and the proposed upgrades to the Line that CSXT proposes to finance are referred to as the "Proposed Transaction." The Line is located in Bartholomew, Clark, Jackson, Johnson, Marion, and Scott counties in Indiana, and Jefferson County, Kentucky. According to CSXT, the Proposed Transaction would increase CSXT's ability to control its traffic in the Midwest, particularly in its Louisville to Cincinnati corridor (LCL Subdivision), and enhance the efficiency of its operations.

The proposed easement acquisition would only allow CSXT to operate overhead traffic on the Line. L&I would continue to serve its local customers and industries along the Line. After the proposed upgrades are completed, under the Proposed Transaction, at Seymour, IN, CSXT would be allowed to set out and pick up traffic for and from CSXT trains that serve industries to the east and west of Seymour along CSXT's Indiana Subdivision. In addition, CSXT anticipates operating 15 trains per day over the Line, including traffic rerouted from the LCL Subdivision. However, CSXT states that no material train frequency increases would occur until the Line has been upgraded.

According to Applicants, CSXT's LCL Subdivision is at capacity, and compared to the cost to upgrade the Line, CSXT could not economically improve capacity on the LCL Subdivision. Capacity and performance constraints are a result of the LCL Subdivision's significant grade (over one percent), and eight degree curvature, which result in train-length restrictions (5,100 feet), tonnage restrictions, and reduced train speeds (averaging about 15 miles per hour). As a result of the Proposed Transaction, CSXT would be able to increase its train lengths to 7,500 feet. This increase in train length would provide operating economies for CSXT.

As part of the joint use, CSXT proposes to fund improvements of the Line estimated to cost \$70 to \$90 million and to be completed within seven years. The upgrades would result in a Federal Railroad Administration (FRA) Class 4 track standard. With these upgrades, CSXT and L&I would operate at up to 49 mph over a majority of the Line. The upgrades planned for the Line would include installing continuously welded rail (CWR) over the entire route, adding wayside detection devices (i.e., hot boxes), replacing an appropriate number of cross-ties, resurfacing (i.e., adding new ballast), and replacing the Flatrock River Railroad Bridge. The result of the upgrades would be a route that is capable of handling 286,000-pound carloads, double-stack intermodal trains, and multi-level cars. CSXT would also increase siding capacity on the Line to accommodate meeting or passing trains. CSXT proposes to provide funds to rehabilitate and lengthen the existing sidings at Elvin and Brook, Indiana and construct new sidings at Crothersville and Underwood, Indiana. All four sidings would be constructed to allow longer trains to meet and safely pass. L&I does not expect to take advantage of the upgrades to serve its

local customers. However, Applicants have agreed that if L&I does begin to operate heavier and taller railcars, L&I would pay CSXT a fee.

Before they can proceed with the Proposed Transaction, Applicants must obtain approval from the Surface Transportation Board (Board), which will include a review of the potential environmental and historic impacts of the Proposed Transaction. To that end, on July 2, 2013, Applicants filed an application for approval of the Proposed Transaction with the Board pursuant to 49 U.S.C. § 11323(a) (2) and 49 C.F.R. Part 1180. In the application, Applicants contend that the Proposed Transaction would not cause any competitive harm and would generate public benefits, and that the Proposed Transaction should be classified as a “minor” transaction, as defined in the Board’s regulations at 49 C.F.R. §1180.2(c). By decision served on August 1, 2013, the Board accepted for consideration Applicants’ application, found the joint use to be a “minor” transaction because it appears that there would not be significant anticompetitive effects from the transaction, and set a procedural schedule.

If the Proposed Transaction is approved and becomes effective, CSXT plans to shift an estimated average 15 trains per day from other CSXT lines in its Midwest Region to the Line. As a result, based on current traffic, there would be a decrease in volume of traffic on other lines that CSXT uses in its Midwest Region. Environmental review under the National Environmental Policy Act (NEPA) is required here because the projected increases in train traffic on the Line exceed the thresholds in the Board’s environmental rules (generally an increase of three or eight trains per day, depending on the air quality of the project area). See 49 C.F.R. § 1105.7(e)(5).

Accordingly, consistent with the Board’s environmental rules, the Board’s Office of Environmental Analysis is issuing this Draft Environmental Assessment (EA) for public review and comment. The document assesses the potential environmental impacts of the Proposed Transaction and proposes environmental mitigation to minimize potential impacts. Comments on this document are due by September 30, 2013. Following the receipt of public comments on the Draft EA, a Final EA will be issued, completing the environmental review process. The Board will then consider whether to authorize the Proposed Transaction. In addition, the Board will consider the entire environmental record (including the Draft EA, Final EA and all public and agency comments) in determining what, if any, environmental conditions to impose, should the Transaction be authorized.

In an acquisition proceeding such as this, which does not involve the merger or control of at least two Class I railroads, the STB, under 49 U.S.C. §11324(d), “shall approve... an application unless it finds that—(1) as a result of the transaction, there is likely to be a substantial lessening of competition, creation of a monopoly, or restraint of trade in freight surface transportation in any region of the United States; and (2) the anticompetitive effects of the transaction outweigh the public interest in meeting significant transportation needs.” Therefore, in assessing the transportation merits, the Board focuses on evidence regarding possible anticompetitive effects. The Board also conducts an environmental review under NEPA where, as here, the thresholds in the Board’s environmental rules are met, and can impose environmental conditions to minimize potential environmental impacts. See 49 U.S.C. §§ 11324(c).

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List of Acronyms and Abbreviations

<u>Acronym</u>	<u>Definition</u>
AAR	Association of American Railroads
AADT	annual average daily traffic
ADT	average daily traffic
APE	Area of Potential Effects
AREMA	American Railway Engineering and Maintenance of Way Association
BMP	best management practice
Board	Surface Transportation Board
BP	before present
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CO	carbon monoxide
CO ₂	carbon dioxide
C.F.R.	Code of Federal Regulations
CSXT	CSX Transportation, Inc.
CWA	Clean Water Act
CWR	continuously welded rail
D _a	average delay per delayed vehicle
D _c	blocked crossing time per train
D _i	delay for vehicles
dB	Decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
D _v	average delay for all vehicles
EA	Environmental Assessment
Easement	a perpetual, non-exclusive, non-assignable railroad operating easement
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
gal	U.S. gallon
GHG	greenhouse gases
GIS	Geographic Information System
GTM	gross-ton per mile

<u>Acronym</u>	<u>Definition</u>
HAP	hazardous air pollutants
HCM	Highway Capacity Manual
HIRI	Heat Island Reduction Initiative
HUC	Hydraulic Unit Code
IC	Indiana Code
IDEM	Indiana Department of Environmental Management
INDNR	Indiana Department of Natural Resources
INDOT	Indiana Department of Transportation
ISO	International Organization for Standardization
KDFWR	Kentucky Department of Fish and Wildlife Resources
km/h	kilometers per hour
KY DEP	Kentucky Department for Environmental Protection
KYTC	Kentucky Transportation Cabinet
L	length of the train
<i>L_{dn}</i>	day-night noise level
<i>L_{eq}</i>	equivalent sound level
LCL	Louisville to Cincinnati corridor
LH & STL	Louisville, Henderson, and St. Louis Subdivision
Line	106.5-mile portion of the L&I between its connection with CSXT in Indianapolis, Indiana, milepost 4.0 and its connection with CSXT in Louisville, Kentucky, milepost 110.5
LIRC-01	Louisville and Indiana Railroad Company rail line segment 1
LIRC-02	Louisville and Indiana Railroad Company rail line segment 2
LIRC-03	Louisville and Indiana Railroad Company rail line segment 3
L&I	Louisville and Indiana Railroad Company
LOS	Level of service
LUST	leaking underground storage tank
mg/m ³	milligrams per cubic meter
MP	Milepost
mph	miles per hour
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
MSAT	mobile source air toxics
msl	mean sea level
N	number of trains
NAAQS	National Ambient Air Quality Standards
National Register	National Register of Historic Places
NEPA	National Environmental Policy Act

<u>Acronym</u>	<u>Definition</u>
NHPA	National Historic Property Act
NL	number of traffic lanes
NO ₂	nitrogen dioxide
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NSR	Norfolk Southern Railway Company
NWI	National Wetland Inventory
O ₃	Ozone
OEA	Office of Environmental Analysis
OSHA	Occupational Safety and Health Administration
Pb	Lead
PCAPS	Personal Computer Accident Prediction System
PM _{2.5}	particulate matter less than 2.5 microns in diameter
PM ₁₀	particulate matter less than 10 microns in diameter
ppb	parts per billion
ppm	parts per million
Proposed Transaction	Acquisition and use of a perpetual, non-exclusive, overhead freight operating easement over 106.5 miles of the L&I between its connection with CSXT in Indianapolis, Indiana, Milepost 4.0, and its connection with CSXT in Louisville, Kentucky, Milepost 110.5
Q	vehicle queue length
QZ	quiet zone
ROW	right-of-way
SEL	sound exposure level
SHAARD	State Historic Architectural and Archaeological Research Database
SO ₂	sulfur dioxide
Sq	average arrival rate of traffic
STB	Surface Transportation Board
SWL	sound power level
SWPPP	Stormwater Pollution Prevention Plan
T	Threatened
Td	total vehicle traffic delay
TERP	Transportation Response Emergency Plan
TIH	toxic inhalation hazard
TPD	trains per day
Tqc	queue clearance time
TRB	Transportation Research Board

<u>Acronym</u>	<u>Definition</u>
UHI	urban heat island
U.S.	United States
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
V	train speed
V/C	volume to capacity ratio
VdB	vibration decibel
VM	voluntary mitigation
VOC	volatile organic compounds
vpd	vehicles per day
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter

EXECUTIVE SUMMARY

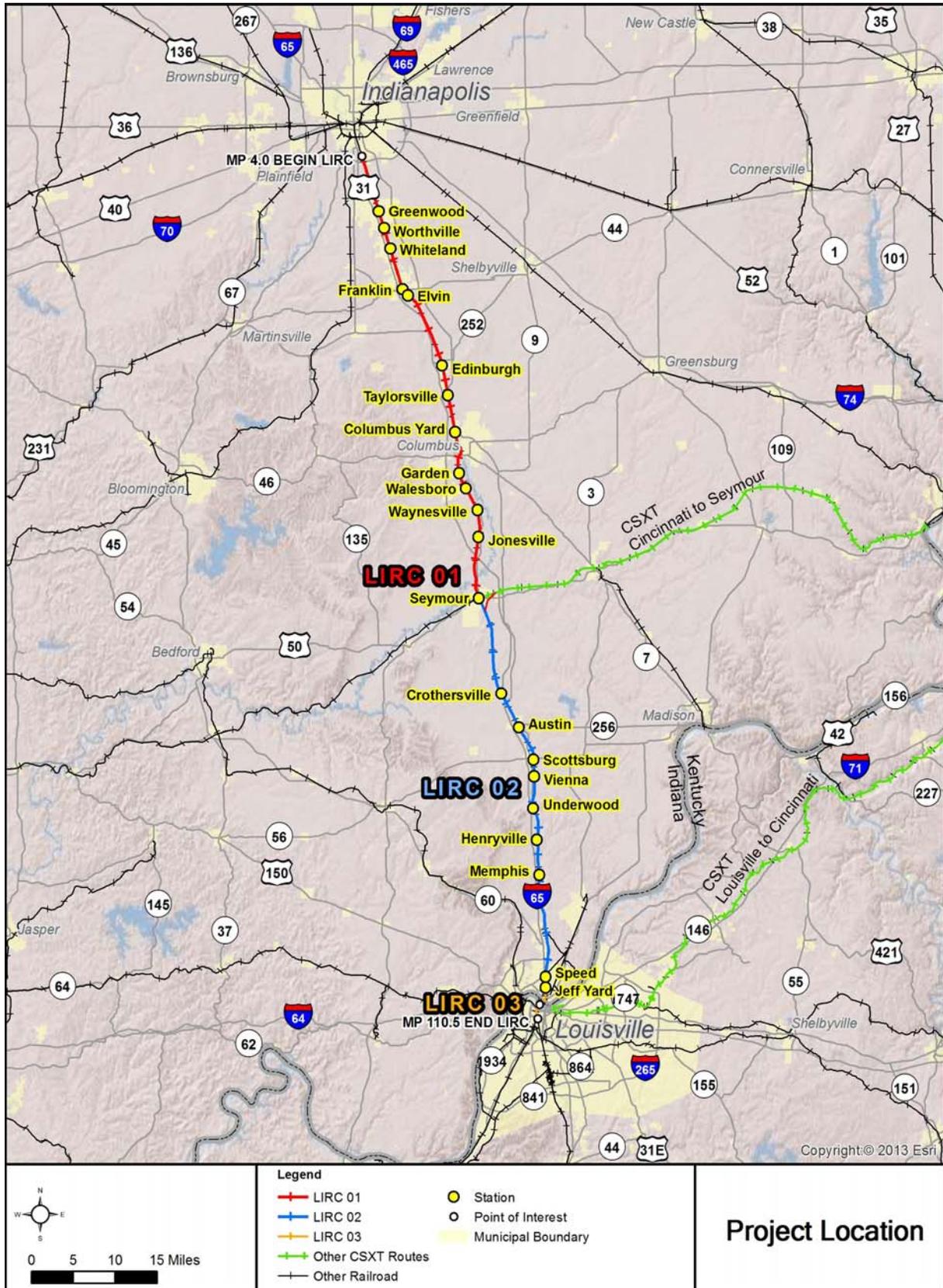
1. Background

On July 2, 2013, CSX Transportation, Inc. (CSXT) and the Louisville & Indiana Railroad Company (L&I) (jointly, Applicants) filed an application with the Surface Transportation Board (Board) pursuant to 49 United States Code (U.S.C.) § 11323 and 49 Code of Federal Regulations (C.F.R.) Part 1180.¹ Applicants seek Board authority for CSXT to acquire from and jointly use with L&I a perpetual non-exclusive railroad operating easement² (Easement) over a 106.5-mile portion of L&I rail line (Line). The Line extends from a connection with CSXT in Indianapolis, Indiana, milepost (MP) 4.0, and a connection with CSXT in Louisville, Kentucky, MP 110.5 (Proposed Transaction). The Proposed Transaction would increase CSXT's ability to control its traffic in the Midwest, particularly in its Louisville to Cincinnati corridor (LCL Subdivision), and enhance the efficiency of its operations. The Proposed Transaction would also increase the efficiency of L&I on the Line. The Proposed Transaction lies within Bartholomew, Clark, Jackson, Johnson, Marion, and Scott counties in Indiana, and Jefferson County, Kentucky. Figure ES 1.1-1 shows the location of the Proposed Transaction.

¹ Applicants filed a portion of the application on June 14, 2013. However, the Board did not receive information material to its consideration of whether to accept or reject the application from Applicants until July 2, 2013. Therefore, the Board considers the application filed on July 2, 2013. The Application and other filings for this case are available for viewing on the Board's website at www.stb.dot.gov by going to "E-Library," selecting "Filings," and then conducting a search for Docket No. FD 35523.

² A railroad operating easement is an agreement between railroad companies that grants one railroad the right to operate over a rail line while the granting railroad continues to own the underlying land.

Figure ES 1.1-1 Project Location



2. NEPA and the Environmental Review Process

The National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 *et seq.*, requires that the Board examine the potential environmental impacts of major federal actions—including regulatory approval of projects proposed by private parties—and to inform the public concerning those potential impacts.

Under NEPA, the Board must consider potential environmental impacts. While NEPA prescribes the process that must be followed, it does not mandate a particular result.³ Thus, once the environmental effects have been adequately identified and evaluated, the Board may conclude that other values outweigh the environmental costs.⁴ Regulations governing implementation of NEPA have been promulgated by the Council on Environmental Quality (CEQ)⁵ and by the Board.⁶ The Board’s Office of Environmental Analysis (OEA) is responsible for conducting environmental reviews on behalf of the Board, evaluating potential environmental impacts, and when appropriate, recommending environmental mitigation conditions to the Board.

In imposing environmental mitigation conditions in acquisition proceedings, the Board has consistently focused on the potential environmental impacts that would result directly from transaction-related changes in activity levels on existing rail lines and at rail facilities. The Board typically does not require mitigation for pre-existing environmental conditions, such as the effects of current railroad operations.

The level of environmental review depends upon the potential for significant impacts. Actions whose environmental effects are ordinarily insignificant may normally be categorically excluded from a case-specific NEPA review.⁷ Included in this category are acquisition transactions that would not result in operational changes that exceed certain rail activity thresholds established by the Board. *See* 49 C.F.R. §1105.7(e) (4), (5). Acquisitions that are expected to cause increases in trains per day, rail traffic, or rail yard activity above the Board’s thresholds for environmental review (generally, an increase of three trains per day in areas with poor air quality and eight trains per day in areas with good air quality) presumptively require the preparation of an Environmental Assessment (EA).⁸ An EA is being prepared in this case because train traffic is

³ *Robert v. Methow Valley Citizens Council*, 490 U.S. 332, 350-51 (1989).

⁴ *Id.*

⁵ 40 C.F. R. Parts 1500-1508.

⁶ 49 C.F.R. Part 1105.

⁷ 49 C.F.R. §§ 1500.4(p), 1501.4(a)(2), 1508.4; 49 C.F.R. §1105.6(c), (d).

⁸ 49 C.F.R. §§ 1105.6(b)(4), (c)(2)(i). Agencies must prepare a detailed Environmental Impact Statement (EIS) for proposals that would significantly affect the quality of the human environment. 42 U.S.C. § 4332(2)(C). Agencies may prepare a more limited EA to determine whether a full EIS is necessary or whether, with appropriate mitigation, they can make a Finding of No Significant Impact. 40 C.F.R. §§ 1501.3, 1501.4. The Board’s Draft EAs are issued for public review and comment. A Final EA is then prepared, addressing the comments and containing additional environmental analysis, if warranted. Final EAs also contain OEA’s final recommendations, if any, for environmental mitigation to minimize any potential environmental impacts of the proposed transaction.

expected to increase by 13 trains per day on two portions of the Line and by 15 trains per day on the remaining portion of the Line.

In this case, CSXT requested permission from OEA to prepare a Preliminary Draft EA (PDEA), which OEA approved under CEQ guidelines at 40 C.F.R. § 1506.5(b). That guideline provides that an agency may permit an applicant to prepare an EA, provided the agency reviews the PDEA, makes appropriate modifications to ensure that the document meets the Board's NEPA-compliance responsibilities and takes responsibility for the scope and content of the EA.

After receiving approval from OEA to prepare a PDEA, CSXT and L&I conducted early outreach and consultation with various federal, state, and local agencies and other interested parties. L&I and CSXT performed outreach and consultations both by letter and by public meetings held in the project area. Based on studies and feedback from many stakeholders, CSXT prepared a PDEA (using the consulting firm HDR Engineering, Inc.), which described the purpose and need for the proposed action, described the affected environment and the potential environmental impacts of the Proposed Transaction and the No-Action Alternative (i.e. retention of the status quo). The PDEA also set forth voluntary mitigation with which Applicants agreed to comply with should the Board approve the Proposed Transaction and concluded that, as mitigated by the measures suggested by Applicants, the Applicants' proposal would not result in significant environmental impacts.

Applicants received comments during their preliminary outreach and consultation. Comments were received from the U.S. Department of Agriculture; U.S. Fish and Wildlife Service; U.S. Army Corps of Engineers (USACE); U.S. Coast Guard; Delaware Nation; Peoria Tribe of Indians of Oklahoma; Kentucky Heritage Council; Indiana Department of Environmental Management (IDEM); Indiana Department of Natural Resources, Division of Historic Preservation & Archaeology; Indiana Department of Transportation (INDOT); Kentucky Energy and Environmental Cabinet; Kentucky Transportation Cabinet (KYTC); Town of Whiteland; Scott County Commissioners; The City of Greenwood; City of Indianapolis; The City-County Council of Indianapolis and Marion County; Johnson County Highway Department; the University of Indianapolis; and Amtrak. Each of these comments may be found in Appendix A of this Draft EA.

OEA has carefully reviewed the information set forth in the PDEA, verified its methodologies and data, edited the PDEA, and converted it into this Draft EA, which OEA is now issuing for public review and comment.

The Draft EA describes the affected environment; evaluates and compares the potential environmental impacts of the Proposed Transaction and the No-Action Alternative; and identifies mitigation measures that could eliminate or lessen potential impacts. The Draft EA includes both the Applicants' proposed voluntary mitigation and additional preliminary mitigation proposed by OEA. The preliminary mitigation measures in the Draft EA cover the following resource areas: safety, transportation; rail operations; hazardous materials transportation; emergency response; water resources; biological; noise and vibration; energy; and monitoring and enforcement.

Based on all the information available to date, OEA has preliminarily determined that the potential environmental impacts of CSXT’s proposal would be adverse in the areas of noise and vibration and emergency vehicle access/vehicles delays, but with the preliminary mitigation set forth in the Draft EA, potential impacts would not be significant, and therefore, there is no need for an EIS.

OEA emphasizes that the recommended environmental mitigation measures for the Proposed Transaction in the Draft EA are preliminary. OEA invites comments on the proposed environmental mitigation measures and all other aspects of this Draft EA during the comment period on this Draft EA, which will end on September 30, 2013. In order for OEA to effectively assess the comments, it is critical that interested parties be specific regarding their concerns, including any desired additional mitigation and the reasons why it would be appropriate. OEA will consider all public comments on the Draft EA, and may conduct further environmental analysis and agency consultation, as appropriate, based on these comments. OEA anticipates issuing a Final EA on or before November 6, 2013, which would complete the environmental review process. The Final EA will address the comments received on the Draft EA and make final environmental recommendations, including mitigation recommendations to the Board.

In an acquisition proceeding such as this, which does not involve the merger or control of at least two Class I railroads,⁹ the STB, under 49 U.S.C. § 11324(d), “shall approve . . . an application unless it finds that – (1) as a result of the transaction, there is likely to be substantial lessening of competition, creation of a monopoly, or restraint of trade in freight surface transportation in any region of the United States; and (2) the anticompetitive effects of the transaction outweigh the public interest in meeting significant transportation needs.”

Therefore, in assessing the transportation merits, the Board focuses on evidence concerning possible anticompetitive effects. The Board also conducts an environmental review under NEPA where, as here, the thresholds in the Board’s environmental rules are met, and can impose environmental conditions to minimize potential environmental impacts. See 49 U.S.C. §11324(c). Should the Proposed Transaction be approved, the Board will consider the entire environmental record, all public comments, and OEA’s final environmental recommendations, including final recommended mitigation measures in deciding what, if any, environmental mitigation to impose.

3. Purpose and Need for the Proposed Transaction

Applicants have stated that the Proposed Transaction would improve routing flexibility and performance in CSXT’s Midwestern region. It would also create greater efficiencies for L&I over the Line. CSXT would be able to utilize the Line to improve train performance, more

⁹ Three classes of railroads are designated by the Board using railroad operating revenues. Based on 2011 data, CSXT is one of seven Class I railroads in the United States (i.e., those with operating revenues of approximately \$433.2 million or more). The other six Class I railroads are Norfolk Southern Railway Company, Canadian National Railway Company, BNSF Railway Company, Canadian Pacific Railway, Kansas City Southern Railway Company, and Union Pacific Railroad Company.

efficiently handle future and/or expected growth of business, and better utilize available capacity (on both the Line and CSXT's network) to improve transportation services to its customers.

Applicants state that the purpose of the Proposed Transaction is to improve the efficiency, consistency, and reliability of CSXT's operations in that region of CSXT's rail network that includes Illinois, Indiana, Ohio, Kentucky, and Tennessee, specifically the portion of CSXT's network between Louisville, Kentucky, and Cincinnati, Ohio, referred to as the Louisville to Cincinnati Subdivision (LCL Subdivision). CSXT believes that the Proposed Transaction would be the most efficient and cost-effective way to meet this goal.

According to Applicants, the LCL Subdivision currently operates at or above a level of capacity utilization (i.e., more trains than available train slots), which impacts CSXT's ability to operate a consistent, reliable, and recoverable¹⁰ railroad. Applicants state that the LCL Subdivision experienced no significant decrease in freight train activity during the recent recession. As the demand for freight rail transportation is currently increasing and is expected to increase into the future, under its current network structure, CSXT expects to continue to operate at levels of train capacity that adversely impacts its performance.

Applicants state that CSXT could not economically improve capacity on the LCL Subdivision. Capacity and performance constraints are a result of the LCL Subdivision's significant grade, over one percent, and eight degrees curvature, which result in train length restrictions (5,100 feet), tonnage restrictions, and reduced train speeds which average about 15 miles per hour (mph). As a result of the Proposed Transaction, CSXT would be able to increase its train lengths to 7,500 feet. This increase in train length would provide operating economies for CSXT.

According to Applicants, on average, CSXT reaches train tonnage limitations before it reaches any train length limitations on the LCL Subdivision. The limitations on the LCL Subdivision require CSXT to operate smaller, less efficient trains between Louisville and Cincinnati. Applicants assert that these smaller trains create inefficiencies throughout CSXT's network in terms of additional resources, terminal congestion, and track occupancy. Operating limitations (i.e., shorter trains at slower speeds) require additional resources and train starts, which results in more trains moving across an already capacity constrained corridor and more trains moving through CSXT's Queensgate Yard, a major railcar classification facility located in Cincinnati, Ohio.

According to Applicants, the LCL Subdivision's grade and curvature makes increasing velocity or adding capacity very expensive, because it would require significant stabilization and grading efforts. The Line, on the other hand, has a grade under one percent, generally, and no curves greater than five degrees. These attributes would allow CSXT to operate longer, heavier, and faster trains.

CSXT currently has trackage rights permitting it to operate over the Line and there is no limitation on the number of trains that CSXT can run under the trackage rights. However, due to

¹⁰ Recoverable refers to the ability of a railroad to return to normal operations after an event that disrupts its operations. Such an event could be an accident or a weather-related event.

current clearance restrictions on the Line, CSXT only uses the southern portion of the Line between Seymour and Louisville.

Due to the anticipated costs of improving the LCL Subdivision's capabilities, CSXT feels it would be more efficient and cost effective to invest capital improvement dollars in the Line and derive the operational benefits the Line offers rather than investing in the LCL Subdivision.

4. Proposed Transaction and No-Action Alternative

This Draft EA evaluates two alternatives: the Proposed Transaction and the No-Action Alternative (i.e., maintaining the status quo). Because the Proposed Transaction involves the acquisition of an easement, and the joint use of the Line, and construction of an additional rail line is not planned, there is no other reasonable and feasible alternative to move CSXT's train traffic between Louisville, Kentucky, and Cincinnati, Ohio other than the Proposed Transaction and the No-Action Alternative. As a result of the Proposed Transaction, CSXT would reroute some traffic in its Midwest Region resulting in an increase of traffic on portions of the Line of as many as 15 trains a day. Where there would be potential adverse effects from the traffic increases on the Line, Applicants have proposed voluntary mitigation to reduce the potential effects.

The Board encourages communities and other entities and applicants to reach negotiated agreements and propose voluntary mitigation because the mitigation that results can be more far-reaching and more tailored to the specific needs of the community or other entity than mitigation the Board could unilaterally impose. The Board's practice is to impose conditions requiring compliance with voluntary mitigation and with any negotiated agreements that are reached in lieu of other site-specific mitigation that might be imposed and to impose in supplemental decisions the terms of any negotiated agreements that might be reached after a final Board decision has been issued and has become effective.

Proposed Transaction

As noted, Applicants are seeking the Board's authorization under 49 U.S.C. § 11323 and 49 C.F.R. Part 1180 for CSXT to acquire from and jointly use with L&I a perpetual non-exclusive¹¹ operating easement for the Line between its connection with CSXT in Indianapolis, Indiana (MP 4.0) and in Louisville, Kentucky (MP 110.5). For purposes of this Draft EA, OEA has divided the Line into three rail line segments (LIRC-01, LIRC-02, and LIRC-03). LIRC-01 lies within Bartholomew, Jackson, Johnson, and Marion counties, Indiana; LIRC-02 lies within Clark, Jackson, and Scott counties, Indiana; and LIRC-03 lies within Clark County, Indiana, and Jefferson County, Kentucky.

Under the Proposed Transaction, CSXT plans to reroute up to 15 of its trains per day to various segments of the Line. Specifically, the Proposed Transaction would add 15 trains per day on LIRC-01, 13 trains per day on LIRC-02, and 13 trains per day on LIRC-03 to existing train traffic. The existing trains on the LIRC-01, LIRC-02, and LIRC-03 number two, four, and seven trains per day, respectively. While no material train frequency increase would occur until the

¹¹ The owning railroad can have other tenants on the Line.

line has been upgraded during a multi-year process (as described below), to be conservative and to err on the side of over-inclusion, the Draft EA assumes that all additional CSXT trains would operate on the Line beginning in 2014.

In addition, as part of the Proposed Transaction, CSXT intends to:

- Fund upgrades to the Line that would result in a Federal Railroad Administration (FRA) Class 4 track standard, which would allow a majority of the route to operate at 49 mph.¹² This would include installing continuously welded rail (CWR) over the entire route, adding wayside detection devices (i.e., hot boxes, wheel impact, and wide-load detectors), replacing cross-ties as necessary, and surfacing (i.e., adding new ballast) of the Line. The result of the upgrade would be a route that is capable of handling 286,000-pound carloads and double-stack intermodal trains and multi-level cars.¹³ Currently, trains can operate on the Line at a maximum allowable speed of 25 mph.
- Add capacity to two existing sidings (at Elvin and Brook) and add up to two more sidings (at Crothersville and Underwood). The lengthened and new sidings would be about 10,000 feet long, which would enable the sidings to hold current trains and proposed trains. The rehabilitation and construction activities would be limited to work upon and within existing right-of-way (ROW).
- Replace the bridge over the Flatrock River, in Columbus, Indiana, on LIRC-01. CSXT has stated that it plans to replace the existing bridge's superstructure with a similar steel girder structure to allow for the handling of 286,000-pound carloads, double-stack intermodal trains, and multi-level cars. The replacement of the bridge and construction activities related to the bridge would be limited to work upon and within existing ROW. Currently, the bridge cannot accommodate double-stack intermodal trains or multi-level cars.

No-Action Alternative

CEQ's regulations implementing NEPA (40 C.F.R. § 1502.12(d)) require consideration of a No-Action Alternative. Consideration of the No-Action Alternative provides a basis for understanding the benefits and potential adverse impacts of the Proposed Transaction. Under the No-Action Alternative, CSXT would not acquire an operating easement from L&I, would not upgrade the Line, and would not jointly use the Line with L&I. CSXT would continue to use the Line for its current load of overhead traffic and would not make any improvements to the Line or make any changes to existing rail operations. Under the No-Action Alternative, the traffic increases on the Line that would occur under the Proposed Transaction would not take place, but

¹² Train speeds on Class 4 tracks are limited to 49 mph when train traffic is controlled through a warrant system (i.e., authorization to occupy a main line is provided through a verbal authorization system by radio, phone or other electronic transmission from a dispatcher [i.e., traffic warrant control]). Applicants currently use a traffic warrant control system on the Line and intend to retain that system under the Proposed Transaction. If Applicants were to use an automated signaling system to control train traffic on the Line, the speed limit would increase to 60 mph.

¹³ The Kentucky portion of the Line is currently cleared for 286,000-pound railcars; however, Applicants intend to upgrade the rail on that portion of the Line as well.

the potential transportation-related benefits of this project to CSXT and L&I that would result from the upgrades that CSXT plans to make would not occur either.

5. Affected Environment and Potential Environmental Impacts

The existing social, economic, and environmental conditions were examined in the study area to serve as the baseline for comparing the potential impacts of the Proposed Transaction and the No-Action Alternative, and for assessing the need for mitigation of potential adverse environmental impacts. As part of its environmental evaluation, OEA staff made a site visit of the area on May 27, 2011. OEA staff was accompanied by CSXT and L&I staff, who provided information on the transaction, operations, and adjoining areas. This site visit allowed OEA to inspect the Line and adjoining areas first-hand.

To describe the existing conditions and assess the potential impacts of the increase in rail traffic that would occur under the Proposed Transaction, the following areas were studied in preparing this Draft EA: traffic and grade crossing delay, rail safety and operations, emergency response, community resources and land use, socioeconomic, geology and soils, water resources, biological resources, air quality and climate, noise and vibration, energy, cultural resources, and environmental justice. The analyses presented in the Draft EA indicate that, without mitigation, adverse impacts could occur in the subject areas of grade crossing delay and emergency response, noise and vibration, water resources, and biological resources. The analysis for each resource area assessed in the Draft EA is summarized below.

However, as discussed below, Applicants propose voluntary mitigation and OEA recommends additional mitigation measures that are designed to minimize potential adverse impacts from the Proposed Transaction to below significant levels.

Transportation

This section discusses the potential impacts of the Proposed Transaction on traffic and crossing delay, rail operations, rail safety, and emergency response.

Traffic and Grade Crossing Delay

OEA evaluated the potential effects of increased rail traffic as a result of the Proposed Transaction.¹⁴ A total of 176 public and 49 private crossings are located along the Line. Of the 176 public crossings, 22 are grade-separated crossings and 154 are at-grade crossings. All 154 public, at-grade crossings would experience a transaction-related increase in train traffic.

Out of 154 public at-grade crossings, the most currently available Average Daily Traffic (ADT) data ranges from 100 vehicles per day (vpd) at seven, very rural crossings on the Line to 36,000 vpd at State Route 46 in Columbus, Indiana. Because ADT statistics are from 1986 to 2010, a one-percent growth rate was applied in determining the existing ADT volumes.

¹⁴ As discussed in Section 2 above, Applicants retained HDR Engineering, Inc. to conduct the technical analyses for the PDEA. OEA has reviewed and verified the scope and content of these analyses and takes responsibility for that work in the Draft EA.

All of the at-grade crossings analyzed exhibit some level of delay under 2011 existing conditions. The existing average delay per delayed vehicle ranges from 1.3 to 4.1 minutes. Total vehicle delays per crossing over a 24-hour period currently ranges from less than one minute per day to approximately 449 minutes per day, and nine at-grade crossings currently have total vehicle delays that exceed 100 minutes per day. The queue analysis results showed the longest existing vehicular queues at the at-grade crossings of Hanna Avenue in Indianapolis and Hamburg Pike in Cementville, Indiana (31 vehicles) and McClain Street/SR #56 in Scottsburg, Indiana (48 vehicles).

The delay analysis indicates that the Proposed Transaction would have vehicle delay effects that range from nominal to substantial. Under the Proposed Transaction, the average delay per delayed vehicle would range from 1.5 to 3.1 minutes. These future per vehicle delays would be comparable to or less than existing conditions because future trains, although more frequent and generally longer, would be moving at faster speeds.

However, total vehicle delays per crossing over a 24-hour period would increase considerably under the Proposed Transaction because of the proposed increases in trains per day. Under the Proposed Transaction, total vehicle delays per crossing over a 24-hour period would range from seven minutes per day to approximately 6,454 minutes per day, and 45 at-grade crossings would have total vehicle delays that exceed 100 minutes per day. The largest total vehicle delays under the Proposed Transaction would occur at SR #46 in Columbus, Indiana (6,454 minutes per day), and Charlestown Road in Jeffersonville, Indiana (2,579 minutes per day), where the number of trains would increase from 2 to 17 and 7 to 20 per day, respectively.

In addition to vehicle delays, when a queue is so long that it blocks an arterial roadway, the mobility of the community is considered to be affected. On the other hand, when a queue blocks no roadways, or a local roadway only, the mobility of the community is not considered to be affected. Additional analysis of the SR #46 and Charlestown Road crossings determined that the vehicle queue length of 1,472 feet at SR #46 under the Proposed Transaction would not block adjacent intersections. The vehicle queue length of 600 feet at Charlestown Road under the Proposed Transaction would not block the adjacent intersections on the east leg of the roadway. However, the vehicle queue would block the exit ramp of I-65 on the west leg of the roadway. The exit/entrance ramp is a signalized intersection. The SR #46 and Charlestown Road crossings did not exceed any other threshold criteria. OEA preliminarily concludes that these queues would have minimal impact on vehicle movements on the regional roadway network.

Applicants have offered voluntary mitigation measures in response to these potential grade crossing delays (see Voluntary Mitigation [VM] 33, VM 34, VM 35, VM 37 and VM 49). Applicants propose to examine planned train operations for ways of reducing highway/rail at-grade crossing blockages. Applicants would also cooperate with the appropriate state and local agencies and municipalities to: evaluate the possibility that one or more roadways listed in Table C-6 could be closed at the point where it crosses the Line, in order to eliminate the at-grade crossing; improve or identify modifications to roadways that would reduce vehicle delays by improving roadway capacity over the crossing by construction of additional lanes; assist in a survey of at-grade crossings for a determination of the adequacy of existing grade crossing signal systems, signage, roadway striping, traffic signaling inter-ties, and curbs and medians; and

identify conditions and roadway, signal, and warning device configurations that could trap vehicles between warning device gates on or near the at-grade crossing. Additionally, Applicants would install power switches along the Line where they determine that manual switches could cause stopped trains to block grade crossings for excessive periods of time and that power switches would increase the speed of trains and reduce the likelihood of such blockages.

In addition, OEA preliminarily recommends that Applicants be required to establish a Community Liaison (MM 16), prepare a Grade Crossing Mitigation Plan (MM 1), and design sidings to minimize potential for blocking crossings (MM 2).

Rail Safety

An analysis was conducted of at-grade crossings using a high predicted accident frequency standard of more than 0.15 accidents per year (one accident every seven years) as an indicator that a crossing should be considered for either warning device upgrading or, if the warning devices are already sufficient, additional mitigation measures.

Freight rail safety was evaluated using the rate of train accidents and incidents for CSXT, CN, and the Class I railroad industry average between 2006 and 2010 collected from the Federal Railroad Administration's (FRA) website. Based on these data, the Proposed Transaction would not be likely to increase accident and incident rates for the number of trains that would be rerouted over the Line.

This analysis showed that no crossings would meet or exceed the rate of greater than 0.15 accidents per year under either existing conditions or the Proposed Transaction. Thus, based on the information available to date, OEA does not believe that there is a need for additional safety measures at any individual crossing.

L&I moved 14 carloads of toxic inhalation hazard (TIH) material over the Line in 2010. Other hazardous materials totaled 187 carloads in 2010. L&I anticipates that it would continue to move a similar amount of hazardous materials over the Line under the Proposed Transaction. According to CSXT, CSXT's trains carrying hazardous materials would not be transferred over to the Line. Therefore, the Proposed Transaction would not have any impact on hazardous materials transport. Nevertheless, Applicants have volunteered nine mitigation measures related to hazardous material shipments (VM 40 through 48).

Emergency Response

OEA identified six emergency service providers (including two police stations, three fire departments and one hospital) that are within two miles of an at-grade crossing that would experience Transaction-related increased vehicle delays (i.e., 30 second increase per vehicle and 30 minute increase per day for all vehicles) and are more than one mile from the nearest grade-separated crossing. OEA considers these emergency service providers to be subject to potentially substantial effects.

In Columbus, IN, Columbus Fire Department Station 1 at 1101 Jackson Street and the Columbus Police Department administrative offices at 123 Washington Street are located within two miles of the 11th Street, 8th Street and SR 46 at-grade crossings. Both facilities are also more than one

mile away from the nearest grade-separated crossing and first responders from these facilities could experience delays if 11th Street, 8th Street or SR 46 were blocked by a passing train at the time of an emergency response. However, the Columbus Fire Department operates five other fire stations that would likely be able to provide emergency response relief if the subject crossings were blocked by a passing train. Therefore, OEA would not expect the Proposed Transaction to have a substantial effect on Columbus Fire Department emergency responses.

OEA would not expect the Proposed Transaction to have a substantial impact on emergency response times by the Columbus Police Department because police officers responding to calls are not limited to those stationed at the administrative offices but are typically deployed throughout a community patrolling in vehicles.

In Seymour, IN, the Seymour Fire Station at 318 East Pine Street, Seymour Police Station at 205 N. Ewing Street, Hamilton Township Fire Station at 414 W. 2nd Street, and the Schneck Medical Center at 411 W Tipton Street are located within two miles of the Tipton St./U.S. 50 at-grade crossing in Seymour, IN and more than one mile away from the nearest grade-separated crossing. However, the two fire stations are located on opposite sides of the Line and would likely be able to provide emergency response relief for each other if the Tipton St./U.S. 50 and other nearby at-grade crossings were blocked by a train. The Seymour Fire Department also maintains two other fire stations that could provide additional response relief. Therefore, OEA would not expect the Proposed Transaction to have a substantial effect on Columbus or Hamilton fire department emergency responses.

OEA does not expect the Proposed Transaction to have a substantial impact on emergency response times by the Seymour Police Department because police officers responding to calls are not limited to those stationed at one location but are typically deployed throughout a community patrolling in vehicles.

OEA believes that the Proposed Transaction could have a substantial effect on emergency service providers transporting patients to the Schneck Medical Center, particularly those responders on the east side of the Line attempting to transport patients west to Schneck Medical Center at the time a stopped or slowly moving train is blocking the Tipton St./U.S. 50 and other at-grade crossings in Seymour. To address this concern, OEA has preliminarily recommended a mitigation measure that would require Applicants to purchase, install and maintain a camera system that would enable the emergency service providers in Seymour to identify (1) blocked at-grade crossings in the city and (2) alternative routes for emergency service providers to take to Schneck Medical Center (see MM 4).

Applicants have also volunteered mitigation (see VM 49) where it would notify Emergency Service Dispatching Centers for all communities along the Line when a stopped train may be unable to move from at-grade crossings for a significant amount of time. OEA has supplemented that voluntary mitigation with a recommendation that Applicants contact the appropriate Emergency Service Dispatch Centers when a stopped or slowly moving train will not clear a public at-grade crossing within 10 minutes (MM 3).

Additionally, although the Proposed Transaction could affect emergency access for police, fire and emergency medical technician vehicles, the communities along the Line would be expected

to continue implementing existing mutual aid agreements and other forms of intergovernmental agreements to contact each other in the event of blocked at-grade crossings.

Community Resources and Land Use

The Draft EA evaluated the potential impacts of the Proposed Transaction to community resources and land use.

The Proposed Transaction involves use of an existing rail line that serves as a boundary between neighborhoods and communities. The communities in the area developed using the existing rail line as a border. While rail traffic would increase by as much as 15 trains per day, the Proposed Transaction would not separate or isolate any new neighborhoods.

There would be no new construction that would separate or isolate neighborhoods and all construction activities associated with the Proposed Transaction would take place within the existing ROW. There are four public facilities (Franklin College of Indiana, Southside School, Indiana Masonic Home, and Province Park) near the existing Elvin siding, which is proposed to be extended (MP 20.8 to 22.9). However, construction activities would be confined to the existing ROW and, therefore, are not anticipated to adversely impact those public facilities.

Although increased train traffic from the Proposed Transaction would increase train-related noise along the Line, the Proposed Transaction would be congruent with historic, current, and future land uses and land use plans. Therefore, any impacts from these increased noise levels on community resources, public facilities and land use would likely be minimal and mitigation measures have not been proposed.

Socioeconomics

OEA conducted an analysis of the potential impacts of the Proposed Transaction on socioeconomics. That analysis showed that there would be negligible impacts to the local economy or other socioeconomic conditions associated with the change in rail operations and construction activities resulting from the Proposed Transaction. Although several representatives of state and local governments and industrial interests expressed support for the Proposed Transaction, none identified any specific increases in rail shipping activity or new industrial development that would result from the Proposed Transaction. There would be no displacement of population in the area. Because of the limited scope of the proposed upgrades to the Line under the Proposed Transaction, any increases in construction-related employment opportunities would be minimal. Likewise, increased CSXT overhead train traffic on the Line under the Proposed Transaction would generate negligible employment opportunities. As such, the Proposed Transaction would not generate any pressure on housing or public services that could not be absorbed by the existing infrastructure. Because negligible impacts are expected, socioeconomic-related mitigation measures have not been proposed.

Topography, Geology, and Soils

Minor impacts to geology and soils are anticipated as a result of construction activities connected with the Proposed Transaction. Construction activities related to the Proposed Transaction would be within the existing ROW. As part of their voluntary mitigation, Applicants would use appropriate design that incorporates results of soil studies and would implement best

management practices (BMPs), including utilization of foundation type best suited to the site soil conditions, inclusion of drainage control features, and proper construction techniques. In addition, because the area disturbed by construction activities would be greater than one acre, Applicants would need to obtain a National Pollutant Discharge Elimination System (NPDES) permit (VM 18). With implementation of the BMPs described in the Stormwater Pollution Prevention Plan (SWPPP) that would be prepared in compliance with the NPDES permit, soil erosion would be prevented or contained and minimized. Thus, with the voluntary mitigation proposed by Applicants (i.e., VM 12 through VM 19), any impact would be minimal.

Hazardous Waste Sites

Based on the review of state environmental databases, there would be no impacts to hazardous waste sites as a result of the construction activities connected to the Proposed Transaction. However, for the Brook siding, residual soil contamination from a former leaking underground storage tank at a former Conrail, now L&I property, could be encountered during construction activities. Applicants and their contractors should be prepared to monitor for contaminated soils and to excavate, document, and dispose of affected material, as needed, in compliance with applicable environmental and health and safety laws and regulations. Thus, OEA recommends a mitigation measure to address contractor preparedness during the proposed construction work at the Brook siding (MM 9).

Water Resources

The Draft EA examines the potential effects of the Proposed Transaction on surface waters, groundwater, floodplains, wetlands, and water quality. The Draft EA analysis indicates that the Proposed Transaction would not likely impact water resources if the preliminarily proposed mitigation is imposed.

CSXT would replace the Flatrock River Railroad Bridge located just north of Columbus, Indiana. Because neither the U.S. Coast Guard nor USACE classify Flatrock River as navigable, Section 9 of the Rivers and Harbors Act would not be applicable for work performed on or around Flatrock River.

Wetlands would likely be impacted by the extension of the Elvin and Brook sidings, construction of the new siding north of Crothersville and replacement of the Flatrock River Bridge. Any discharge of dredged or fill material into waters of the U.S. would require a Clean Water Act (CWA) Section 404 permit from USACE before work could begin on or around wetlands. If a Section 404 permit were required, then CSXT would also be required to obtain a Section 401 Water Quality Certification from the State of Indiana. Impacts to wetlands would be mitigated in accordance with USACE's Mitigation Regulations (see VM 11), and OEA's recommendations that Applicants acquire a Section 404 permit (MM 11) and Water Quality Certification (MM 12).

Because project-related construction activities would disturb more than one acre of land, the Proposed Transaction would also be subject to Section 402 of the CWA, and CSXT would be required to obtain a NPDES stormwater permit. Therefore, CSXT would have to submit a SWPPP (as part of the Construction Plan) to the appropriate county or Soil and Water Conservation District in order to obtain a NPDES permit. Impacts to water resources would be

mitigated in accordance with the U.S. Environmental Protection Agency (USEPA) or appropriate agency stormwater discharge requirements (see VM 18 and VM 19).

Project-related construction activities would occur on the floodplains of Flatrock River, Rider Ditch, and Pigeon Roost Creek. CSXT would be required to obtain a Construction in a Floodway Permit from the Indiana Department of Natural Resources (INDNR) for each floodplain where construction activities would occur. Impacts to floodplains would be mitigated by appropriate INDNR Floodway Permit requirements. Thus, OEA recommends that Applicant be required to obtain a Construction in a Floodway Permit (MM 10).

Construction would not occur within 303(d)-listed waters. Under Section 303(d), states are required to publish (every two years) a list of streams and lakes that are not meeting their designated uses because of excess pollutants. No impacts to a degraded waterway are anticipated as a result of the Proposed Transaction.

CSXT would implement several BMPs during construction (see Chapter 4). With the implementation of voluntary measures and OEA's recommended mitigation measure, only minor impacts to water resources would be anticipated as a result of project-related construction activities.

Biological Resources

The Draft EA evaluates the impacts of the Proposed Transaction on vegetation; wildlife; threatened, endangered, and rare species; and migratory birds in the study area. The analysis shows that the Proposed Transaction could impact vegetation temporarily during construction activities. To mitigate any temporary impacts to vegetation from construction, Applicants have agreed to confine, to the extent reasonably practicable, traffic to temporary access roads within the construction ROW or established public roads; to commence reclamation of disturbed areas as soon as reasonably practicable after construction ends; and to limit ground disturbance to only the areas necessary for construction-related activities (see VM 10, 27, 28). Additionally, any required post-construction re-vegetation would include invasive species control measures (see VM 23).

There could be an increase in wildlife (including migratory birds) and federally- and state- listed species strikes as a result of increased rail traffic resulting from the Proposed Transaction. In addition, there could be short-term impacts to wildlife (including migratory birds) as a result of construction activities related to the Proposed Transaction. However, because of the voluntary mitigation measures VM 20 through 23, construction impacts would likely be minimal. Applicants have agreed to place temporary barricades, fencing, and/or flagging in sensitive habitats to contain construction-related impacts to the area within the construction ROW (see VM 21 and 22). Applicants would employ BMPs to implement their current noxious weed control program during construction and operation of Transaction-related sidings. All herbicides used by Applicants would be approved by the USEPA.

According to the U.S. Fish and Wildlife Service (USFWS)(see Appendix A), adverse impacts to Federally listed species including the Indiana bat and several mussels would not likely occur if tree clearing does not occur during the Indiana bat roosting period and if BMPs are used to

protect water quality during Transaction-related construction. Applicants have volunteered to comply with these measures (see VM 12 through 19, 21, 27 and 28).

To minimize impacts to fish, the USFWS also recommends that channel disturbance during any Transaction-related bridge replacement in perennial and large intermittent streams avoid the primary fish spawning period. OEA recommends a mitigation measure to address this USFWS concern (MM 13).

Before beginning construction activity, Applicants would survey all suitable habitats potentially impacted by Transaction-related construction activities for state-listed threatened or endangered plant species. If any state listed plant species are located, Applicants would implement a mitigation plan in consultation with the appropriate state agencies (VM 20).

Suitable habitat for State-listed species may be found in Falls of the Ohio State Park, Clark State Forest, Stucker Fork Fish and Wildlife Area, and Pigeon Roost Memorial Park, all of which are within 0.25 miles of the Proposed Transaction. No project-related construction activities would occur near these areas. However, noise associated with project-related construction activities in the vicinity of Pigeon Roost Memorial Park could temporarily impact any state-listed species located in this park. As part of its voluntary mitigation measures, CSXT would work with its contractors to minimize, to the extent reasonably practicable, construction-related noise disturbances. For example, Applicants would maintain construction and maintenance vehicles in good working order with properly functioning mufflers to control noise (see VM 56). With implementation of VM 20 through 22 and VM 24, impacts associated with construction-related activities would likely be minor.

Air Quality and Climate

The Draft EA assesses the extent to which air pollutant emissions could change as a result of the Transaction-related construction activities would be very limited and temporary. In particular, any earthwork would likely be limited to siding-related construction activities. Potential impacts from fugitive dust and construction equipment emissions would likely be negligible because of the very limited and temporary nature of these Transaction-related construction activities. Nevertheless, Applicants have volunteered two measures to minimize fugitive dust and equipment emissions during Transaction-related construction activities (see VM 24 and 25).

From a regional perspective, locomotive emissions would decrease under the Proposed Transaction. The overall operating upgrades under the Proposed Transaction would improve CSXT's gross-ton of freight per mile (GTM) efficiency. This improvement, along with an improved ability to control traffic in the Midwest (particularly on the current Louisville to Cincinnati corridor), would enhance efficiencies through shorter train travel times. Improvements in these efficiencies over the region and shorter travel routes for trains under the Proposed Transaction would have a tendency to have a reduction in fuel use across the region, and therefore, lower air emissions.

For pollutants that are more significant locally (i.e., particulates and carbon monoxide), some areas along the Line could experience slight localized degradation in air quality because of the increased fuel use associated with both increases in trains and in the gross-tonnage hauled along the rail line associated with the Proposed Transaction. However, improvements in overall GTM

efficiencies would tend to offset these decreases in air quality. For pollutants which are more significant regionally (i.e., nitrogen oxide, volatile organic carbon [as precursors to ozone], sulfur dioxide, and carbon dioxide), it is anticipated that the system-wide improvements under the Proposed Transaction would cause the region to experience a net benefit to air quality.

OEA also analyzed emissions from idling vehicles delayed at crossings. According to USEPA guidance, signalized intersections that operate at level of service (LOS)¹⁵ D, E, or F have sufficient traffic congestion that the associated vehicle emissions might cause or contribute to local carbon monoxide and particulate concentrations which could exceed the National Ambient Air Quality Standards (NAAQS) within maintenance¹⁶ and nonattainment areas.¹⁷ All of the at-grade crossings in the study area except four are currently at and would remain at LOS A. Four would change to LOS C. Although there would be some air quality impacts, the Draft EA concluded that vehicle idling as a result of the Proposed Transaction would have negligible air quality impacts at localized at-grade crossings.

A reduction of locomotive fuel usage would result in a reduction of greenhouse gas emissions; however, such a minor change would not have any quantifiable effect on climate change.

Noise and Vibration

The Draft EA assesses potential changes in train noise associated with the Proposed Transaction. The projected increase in daily train traffic is expected to increase train noise levels in the areas immediately adjacent to the Line. Segments LIRC-01, LIRC-02, and LIRC-03 would experience an increase in train traffic in excess of eight trains per day, the Board's threshold for noise analyses. Therefore, OEA evaluated the potential for an increase in noise exposure of 3dBA (A-weighted decibel) or more in the day-night noise level (L_{dn}) or an increase to a noise level of 65 dBA L_{dn} or greater in these three segments. The Draft EA concludes that traffic changes on Segments LIRC-01 and LIRC-02 would contribute to an increase of 3 dBA or more in the L_{dn} . Although less than half of Segment LIRC-03 would experience Transaction-related noise increases of 3 dBA or more (Table 3.8-3), OEA included Segment LIRC-03 in its entirety in the noise assessment.

Due to the increased number of trains on the Line, the number of noise-sensitive receptors in the 65-dBA L_{dn} contour in the three segments would nearly double from 2,937 to 5,606 (an additional 2,669 noise-sensitive receptors). Noise-sensitive land uses that would experience an increase of at least 3dBA and 65-dBA L_{dn} are considered potentially adverse impacts. There are affected receptors throughout the Line, but the largest number is in Johnson County, Indiana. The changes occurring to train traffic that would result from the Proposed Transaction would

¹⁵ LOS is used estimate the vehicle delay effects of highway/rail at-grade crossings. LOS is defined in terms of delay and expressed as a letter grade and includes LOS A (free flowing), LOS B (reasonably free flowing), LOS C (stable or near free flow), LOS D (approaching unstable flow), LOS E (unstable flow, operating at capacity) and LOS F (severely congested).

¹⁶ Once a nonattainment area meets the standards and additional redesignation requirements in the Clean Air Act, Section 107(d)(3)(E), the EPA designates it a maintenance area.

¹⁷ An area that does not meet the NAAQS.

likely affect the noise emission levels of trains from several noise sources, including wheel/rail noise, locomotive engine noise, and locomotive horn noise.

Historically, the Board has treated noise-sensitive receptors that would experience an increase of at least 5 dBA and reach 70-dBA L_{dn} as being potentially eligible for conditions to mitigate transaction-related train noise. See *Canadian National Railway Company and Grand Trunk Corporation, Acquisition of Joliet & Eastern Railway Company, Final Environmental Impact Statement*, STB Docket No. FD 35087 (STB served December 5, 2008) and *Alaska Railroad Corporation Construction and Operation of a Rail Line Extension to Port MacKenzie, Alaska, Final Environmental Impact Statement*, STB Docket No. FD 35095 (STB served March 25, 2011). Up to 1,551 noise-sensitive receptors along the Line would be exposed to these 5 dBA and 70 dBA L_{dn} conditions.

Applicants have proposed a number of voluntary mitigation measures to minimize the effects of transaction-related noise. CSXT would comply with FRA regulations establishing decibel limits for train operations (VM 58). Applicants would also work with affected communities that would have sensitive receptors that would experience an increase of at least 5 dBA and reach 70 dBA to mitigate train noise to levels as low as 70 dBA by cost-effective means as agreed to by an affected community and CSXT. In the absence of such an agreement, Applicants would implement unspecified cost-effective measures (VM 51). Additionally, Applicants would consider lubricating curves where doing so would be consistent with safe and efficient operating practices and significantly reduce noise for residential or other noise sensitive receptors (VM 57). Applicants would cooperate with interested communities for the establishment of quiet zones (QZ) and assist in identifying supplemental or alternative safety measures, practical operational methods, or technologies that may enable the community to establish QZs¹⁸ (see VM 54). If requested (see VM 60), CSXT would also consult with communities affected by wheel squeal, and cooperate in determining the most appropriate methods for implementing VM 57.

The vibration level caused by a train is affected by track conditions, the locations of special track work (e.g., crossings and switches), train speed, and extent to which the ground vibrates between the tracks and receiver. Under the Proposed Transaction, the train speed would increase and CSXT would replace the jointed rail with continuously welded rail. While an increase in train speed may increase vibration levels, continuously welded rail would decrease vibration. Therefore, changes in ground-borne vibration as a result of the Proposed Transaction would be small. The incremental changes in the distance to the Federal Transit Administration (FTA) residential vibration impact threshold of 72 VdB range between five and 35 feet, with some net decreases due to the installation of continuously welded rail. The increased frequency of train movements would not impact the vibration impact threshold. Although vibration would decrease, Applicants would install and maintain rail and rail beds according to American Railway Engineering and Maintenance of Way Association standards for minimizing noise and

¹⁸ Applicants state that their willingness to cooperate does not commit Applicants to expend funds on a physical project.

vibration See VM 59). OEA does not recommend any additional mitigation to address potential vibration impacts.

Energy Resources

Under the Proposed Transaction, train operations would be more efficient, trains would idle for shorter periods of time, and the distance traveled would be shorter, resulting in a net decrease in annual fuel use. Nevertheless, Applicants have volunteered two measures to assist them in reducing fuel consumption (see VM 52 and 53).

Increased vehicles delays caused by passing trains under the Proposed Transaction would consume an additional 240 gallons of fuel daily as the vehicles idled at the blocked crossings. However, this increase generally would be offset by decreases in delays and idling vehicles at crossing located on the rail lines from which CSXT would be diverting and reducing its daily rail traffic.

The Proposed Transaction would not likely change the types of commodities that are currently transported along the Line. Therefore, the transportation of recyclable commodities would not likely be affected by the Proposed Transaction.

OEA does not recommend any additional mitigation to address potential vibration impacts.

Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. 470, applies to the Proposed Transaction. The Section 106 process has three steps: identification of historic resources; determination of adverse effects; and if there would be any adverse effects, development of appropriate mitigation. Accordingly, preparation of the Draft EA included an analysis of the potential impact of the Proposed Transaction on archaeological resources and historic properties in the study area.

Section 106 review involves an evaluation of any proposed new construction, building demolition, or repair/replacement of railroad structures directly related to the Proposed Transaction. The Proposed Transaction would involve reconstruction of a railroad bridge over the Flatrock River, as well as extension of the two existing sidings and construction of two new sidings, all in Indiana. Work would be limited to work upon and within existing ROW.

Indiana Department of Natural Resources, State Historic Preservation Office (Indiana SHPO), considers the Flatrock River Railroad Bridge to meet the criteria of eligibility for inclusion in the National Register of Historic Places (National Register). Indiana SHPO notes that the bridge appears to be significant under National Register criteria because its association with transportation and as a good example of a heavily built Pratt through-truss bridge. Because replacement of the Flatrock River Bridge would constitute an adverse effect to a potentially eligible historic property, CSXT must work with OEA and Indiana SHPO to either (1) submit the necessary material to Indiana SHPO to obtain a no adverse effect determination or (2) execute a Memorandum of Agreement regarding mitigation of the adverse effect determination. Either scenario would need to be completed before the Board could issue its final decision in this case. Until the completion of either scenario, OEA recommends mitigation requiring that no construction of the bridge begin until completion of the section 106 process (MM 14).

Additionally, Indiana SHPO identified eight archaeological sites and six cemeteries that have been recorded adjacent to the Line, and raised concern about the potential presence of previously unknown archaeological sites. Transaction-related construction would not likely directly impact the 14 recorded sites. With the exception of the construction of two sidings and the extension of two sidings in Indiana, there would be minimal ground disturbance. Pursuant to Section 106, OEA recommends that as a mitigating condition, Applicants be required to report to Indiana SHPO any archaeological artifacts or human remains uncovered during construction activities (MM 15).

A letter from Kentucky SHPO dated August 1, 2011 states that, although the Proposed Transaction would be limited to existing ROW, there is potential for direct and indirect effects to cultural resources along the path of the Line. Kentucky SHPO also states that an area of potential effect for the portion of the Proposed Transaction in Kentucky must be determined with its concurrence. Additionally, a survey of above-ground resources over 50 years of age needs to be submitted for review. Any ground-disturbance activities associated with the Proposed Transaction would require an archaeological survey (Kentucky Heritage Council 2011). However, the Proposed Transaction would not entail construction activities in the state of Kentucky. Pending the outcome of further Section 106 consultations with the Kentucky SHPO, OEA recommends a mitigation measure to address Kentucky SHPO's concerns (MM 15).

Environmental Justice

The Draft EA assessed the extent to which train noise and at-grade crossing delay resulting from the Proposed Transaction could disproportionately affect minority or low-income populations in the project area. The analysis indicates that, without mitigation, noise impacts to the 0.4-mile subsection of LIRC-01 (Sub-segment 01.G in Table 3.8-3) resulting from train traffic increases potentially would be high and adverse.

Although there are minority and low-income populations distributed along the entire Line, none of the minority or low-income populations appears to be located in the sub-segment of LIRC-01 anticipated to experience a +8.5-dBA increase in noise levels.

With regard to noise, the noise analysis indicates that the majority of additional receptors anticipated to be impacted are located in Johnson County, Indiana. Only one of the 16 census block groups containing potential low-income populations and none of the 17 census block groups containing potential minority populations is located in Johnson County. Therefore, OEA concluded that noise impacts would not likely be disproportionately borne by environmental justice populations.

With regard to the traffic delays, the area where SR #46 in Columbus, Indiana crosses the Line at-grade is not located in a block group containing minority or low-income populations. The area where Charlestown Road in Jeffersonville, Indiana crosses the Line at-grade is partially located within a census block group containing minority and low-income populations, west of the Line. The ramp to I-65, which possibly would experience blocking, is also located in this census block group. However, Veterans Parkway, a grade-separated crossing of the Line approximately one mile to the north, provides access to the area west of the Line, as well as access to I-65. Because the possible traffic delay would likely be experienced by all travelers on

Charlestown Road and on I-65 using the Charlestown Road exit, and because Veterans Parkway provides access to the area west of the Line as well as access to I-65, OEA concludes that traffic delay impacts would not likely be disproportionately borne by minority or low-income populations.

Cumulative Effects

The environmental analysis here identified several projects within 0.5 miles of the Line with the potential to result in cumulative impacts when considered together with the Proposed Transaction. They are:

- I-465 / I-65 Interchange Modification on South Side of Indianapolis, which includes the addition of travel lanes from I-465 to Whiteland Road and improvement of interchanges at Southport Road, County Line Road, Main Street, and Whiteland Road. This project is located in Marion and Johnson counties, Indiana.
- I-465 to Whiteland Road / I-65, which includes the addition of travel lanes from I-465 to Whiteland Road, as well as improvement of interchanges at Southport Road, County Line Road, Main Street, and Whiteland Road. This project is located in Marion and Johnson Counties, Indiana.
- I-65 at State Road 11, which includes the modification of an interchange for improved traffic flow and safety. The project is located in Jackson County, Indiana.
- I-65 Clark County from SR 311 to Memphis Road / I-65, which includes the addition of travel lanes, an interchange modification, and two overhead bridges. The project is located in Clark County, Indiana.
- I-65 Ohio River Bridge, which includes the addition of a six-lane I-65 bridge into downtown Louisville; the existing Kennedy Bridge would be transitioned into a six-lane northbound bridge. Approximately 1.5 miles of I-65 would require reconstruction and expansion approaching the bridge. This project is located in Clark County, Indiana, and Jefferson County, Kentucky.
- I-65 Ramp Modifications include improvement of traffic flow, safety, and access associated with ramps along I-65 from Crittenden Drive to St. Catherine Street. This project is located in Jefferson County, Kentucky.

To identify possible cumulative impacts on environmental resources, the Draft EA analysis examined the potential effects of each project in combination with potential effects from the Proposed Transaction to determine whether those related projects, in conjunction with the Proposed Transaction, could result in cumulative impacts to any environmental resource; and whether the approval of the Proposed Transaction would result in any indirect effects. Finally, OEA considered whether potential cumulative effects that were identified would warrant mitigation.

As a result of the environmental analysis, this Draft EA concludes that:

- The reasonably foreseeable roadway improvements are intended to improve traffic flow, and cumulative impacts to traffic delay beyond the direct effects of the Proposed Transaction are not anticipated.

- It is possible that noise from the Line would contribute to a cumulative noise impact where it is in proximity to I-65. It is unlikely that the reasonably foreseeable roadway improvements would contribute to a cumulative noise impact, as they are intended to improve traffic flow and reduce congestion. Because construction noise would be temporary and would not be anticipated to contribute to an adverse cumulative effect, OEA does not recommend any mitigation measures on this topic.

6. Request for Comments on the Draft EA

OEA encourages the public and any interested party to send its written comments on this Draft EA. In preparing the Final EA, OEA will consider and respond to all comments on the Draft EA, and may conduct further environmental analysis and agency consultation as appropriate based on these comments. The Final EA will include OEA's final recommendations, including final recommended mitigation measures. To be considered, comments must be submitted during the comment period, which will close on September 30, 2013. OEA anticipates issuing the Final EA on or before November 6, 2013. The Board plans to issue a final decision on the Proposed Transaction by December 6, 2013.

When submitting comments on the Draft EA, please be as specific as possible. OEA is particularly interested in your thoughts on the recommended mitigation measures. Any suggestions you may have to improve our recommendations to the Board would be very welcome.

Comments may be submitted by mail or electronically using "E-Filing" button on the Board's website (www.stb.dot.gov). *However, OEA strongly encourages the submittal of comments electronically to ensure receipt by September 30, 2013.* Comments must refer to Docket No. FD 35523 in all correspondence, including e-filings, addressed to the Board.

- **Electronically:** For electronic comments, simply click on E-filing and then "Environmental Comments" from the E-Filing button on the board's website. The next web page will be formatted to allow you to fill in your information and comment directly or you can provide your comments in a file attachment.
- **By Mail:** If you are sending your comment by mail, please be aware that there may be up to a week delay in the delivery of mail to federal agencies. Mail written comments to:

Dave Navecky
Surface Transportation Board
395 E Street, SW
Room 1104
Washington, DC 20423

- If you have any questions or need clarification or guidance, please contact Dave Navecky by phone at (202) 245-0294, or by email Mr. Navecky at david.navecky@stb.dot.gov.

7. Mitigation

The analysis used in preparing this Draft EA has taken a hard look at the likely environmental consequences of the Proposed Transaction and No-Action Alternative, consistent with NEPA and the relevant CEQ and Board regulations. The potential environmental effects that have been

identified would be both beneficial and adverse. Chapter 3 discusses in detail the affected environment and potential environmental benefits and effects.

Applicants submitted a number of voluntary mitigation measures to address potential effects that would result from the Proposed Transaction. The Draft EA includes Applicants' proposed mitigation without any changes and proposes additional environmental mitigation developed by OEA. OEA seeks public comment on all the mitigation proposed in the Draft EA. The Final EA will contain final recommendations for mitigation that the Board should impose if the Proposed Transaction is authorized.

Limits of Conditioning Power

The Board has authority to impose conditions to mitigate potential environmental impacts, but that authority is not limitless. As a government agency, the Board can only impose conditions that are consistent with its statutory authority. Any conditions the Board imposes must relate directly to a specific proposed action, must be appropriate to the scope and degree of impacts, and must be supported by the record before the Board. The Board's practice consistently has been to consider mitigation for only those impacts that result directly from a proposed action and not to impose mitigation to remedy preexisting conditions.

Voluntary Mitigation

OEA encourages applicants to propose voluntary mitigation. Because applicants seeking Board authority may gain substantial knowledge about local community or other issues involved during project planning, and because they consult with other regulatory agencies and communities during project planning and at the early stages of the regulatory process, applicants can often propose relevant voluntary mitigation that is more far reaching than mitigation the Board could unilaterally impose. For the Proposed Transaction, Applicants have engaged in substantial outreach with potentially affected agencies, entities, and communities and have proposed extensive voluntary mitigation for this project, which is set forth and discussed in more detail below.

The Board also encourages applicants like CSXT and L&I to negotiate mutually acceptable agreements with affected communities and other government entities to address potential environmental impacts, if appropriate. Negotiated agreements can be with neighborhoods, communities, or other entities. If Applicants enters into any negotiated agreements, the Board would require compliance with the terms of any such agreements as environmental mitigation conditions in any final decision approving the Proposed Transaction. These negotiated agreements would supersede any environmental conditions for that particular community or other entity that the Board would otherwise impose.

Preliminary Nature of Environmental Mitigation

OEA emphasizes that all of the environmental mitigation measures proposed here are preliminary, and welcomes public and agency comment on these measures. In order for OEA to assess the public comments effectively, the public should be specific about any desired mitigation and the reasons why the suggested mitigation would be appropriate.

After considering all public comments on the Draft EA, OEA will issue a Final EA responding to any comments on the Draft EA (including any suggestions related to mitigation) and presenting any additional environmental analysis. The Final EA will contain OEA's final recommendations to the Board, including final recommended environmental mitigation. The Board will then make its final decision regarding the Proposed Transaction in accordance with 49 U.S.C. §§ 11324(c) and (d).

7.1 Applicants' Voluntary Mitigation Measures

As part of their application, Applicants submitted proposed voluntary mitigation measures to OEA for the Board to consider. OEA has reviewed the voluntary mitigation measures, and should the Proposed Transaction be approved, OEA recommends that the Board require Applicants to comply with all of the voluntary mitigation measures submitted.

Below, OEA presents for public review and comment, Applicants' current voluntary mitigation measures (identified as VM #). Applicants divided their mitigation measures in two parts: (1) construction-related VMs (i.e., those related to the proposed upgrades under the Proposed Transaction, all of which would take place within the existing right-of-way of the Line) and (2) VMs related to proposed train operations on the Line under the Proposed Transaction.

Construction –related VMs

Grade Crossing Safety

VM 1. Where transaction-related grade-crossing rehabilitation is mutually agreed to by Applicants and INDOT or KYTC, Applicants will assure that rehabilitated roadway approaches and rail line crossings meet or exceed the standards of the state Department of Transportation's rules, guidelines, or statutes, and the American Railway Engineering and Maintenance of Way Association (AREMA) standards, with a goal of eliminating rough or humped crossings to the extent reasonably practicable.

VM 2. Applicants will coordinate with INDOT or KYTC, as appropriate and the appropriate counties and affected communities along the Line to install temporary notification signs or message boards, where warranted, in railroad ROW at highway/rail at-grade crossings, clearly advising motorists of the increase in train traffic on affected rail line segments. The format and lettering of these signs will comply with the Federal Highway Administration (FHWA)'s *Manual on Uniform Traffic Control Devices* (FHWA 2009) and will be in place no less than 30 days before and 6 months after the Applicants' initiate operational changes associated with the Proposed Transaction.

VM 3. Within six months of acquisition of a freight easement over the Line, Applicants will consult with affected communities to improve visibility at highway rail at-grade crossings by clearing vegetation and other obstructions.

VM 4. Within six months of acquisition of a freight easement over the Line, Applicants will cooperate with the INDOT and other appropriate local agencies to coordinate a review of corridors surrounding highway/rail at-grade crossings to examine safety and adequacy of the existing warning devices, and identify remedies to improve safety for highway vehicles.

VM 5. Within six months of Applicants' initiating operational changes associated with the Proposed Transaction, Applicants will cooperate with school and park districts to identify at-grade crossings where additional pedestrian warning devices may be warranted.

VM 6. Applicants will adhere to all applicable Federal Occupational Safety and Health Administration (OSHA), Federal Railroad Administration, and state construction and operational safety regulations to minimize the potential for accidents and incidents on the Line.

VM 7. In undertaking Transaction-related construction activities, Applicants will use practices recommended by AREMA and recommended standards for track construction in the AREMA Manual for Railway Engineering.

VM 8. During Transaction-related construction concerning at-grade crossings, when reasonably practicable, Applicants will consult with the INDOT and the KYTC regarding detours and associated signage, as appropriate, or maintain at least 1 open lane of traffic at all times to allow for the quick passage of emergency and other vehicles.

VM 9. Applicants will minimize temporary road closures during construction activities associated with the rail line upgrade and new siding construction. Applicants will manage construction schedules to:

- Minimize highway/rail at-grade crossing closures; and
- Notify local emergency service providers of highway/rail at-grade crossing closure schedules.

VM 10. To the extent reasonably practicable, Applicants will confine construction traffic to a temporary access road within the construction right-of-way or established public roads. Where traffic cannot be confined to temporary access roads or established public roads, Applicants will make necessary arrangements with landowners to gain access from private roadways. The temporary access roads will be used only during Transaction-related construction. Any temporary access roads constructed outside the rail line right-of-way will be removed and restored upon completion of construction unless otherwise agreed to with the landowners.

Water Resources

VM 11. Applicants will compensate in accordance with U.S. Army Corp of Engineers (USACE) regulations in both Kentucky and Indiana for wetland impacts that cannot be avoided and for impacts that are determined by USACE to be on waters of the United States for construction related to the Transaction.

VM 12. To minimize sedimentation into streams and waterways during construction, Applicants will use Best Management Practices, such as silt fences and straw bale dikes, to minimize soil erosion, sedimentation, runoff, and surface instability during Transaction-related construction activities. Applicants will seek to disturb the smallest area possible around any streams and will conduct reseeded efforts to ensure proper revegetation of disturbed areas as soon as reasonably practicable following Transaction-related construction activities.

VM 13. In order to control erosion, Applicants will establish staging and lay down areas for Transaction-related construction material and equipment at least 50 feet from jurisdictional waters of the U.S. and in areas that are not environmentally sensitive. Applicants will not clear

any vegetation between the staging area and the waterway or wetlands. To the extent reasonably practicable, areas with non-jurisdictional isolated waters will not be used for staging and lay down and will only be impacted when necessary for construction. When Transaction-related construction activities, such as culvert and bridgework, require work in streambeds, Applicants will conduct these activities, to the extent reasonably practicable, during low-flow conditions.

VM 14. During Transaction-related construction activities, Applicants will require all contractors to use Best Management Practices, including daily inspections of all equipment for any fuel, lube oil, hydraulic, or antifreeze leaks. If leaks are found, Applicants will require the contractor to immediately remove the equipment from service and repair or replace it.

VM 15. Applicants will employ Best Management Practices to control turbidity and disturbance to bottom sediments of surface waters during Transaction-related construction. Applicants will implement Best Management Practices in wetlands or other waters of the U.S. to avoid adverse downstream impacts on fish, mussels, and other aquatic biota.

VM 16. During Transaction-related construction, Applicants will prohibit construction vehicles from driving in or crossing streams at other than established crossing points unless approved by appropriate federal or state permits.

VM 17. During Transaction-related construction activities, Applicants will, to the extent reasonably practicable and consistent with Best Management Practices, ensure that any fill placed below the ordinary high water line of wetlands and streams is appropriate material selected to minimize impacts to the wetlands and streams. All stream crossing points will be returned to their pre-construction contours to the extent reasonably practicable and the crossing banks will be reseeded or replanted with native species immediately following project-related construction.

VM 18. Applicants will obtain a National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit from U.S. Environmental Protection Agency (USEPA) or appropriate state agencies for Transaction-related construction activities that warrant such compliance.

VM 19. Prior to any Transaction-related construction activities, Applicants will comply with any regulations required in the preparation of a construction Stormwater Pollution Prevention Plan.

Biological Resources

VM 20. Before beginning Transaction-related construction activity, Applicants will survey all suitable habitats potentially impacted by the construction activity for state-listed threatened or endangered plant species. If any listed plant species are located, Applicants will implement a mitigation plan in consultation with the appropriate federal and state agencies.

VM 21. In order to avoid a take of the federally endangered Indiana bat, Applicants will not clear trees during its roosting period (April 1 – September 30).

VM 22. During Transaction-related construction, temporary barricades, fencing, and/or flagging will be used in sensitive habitats to contain construction-related impacts to the area within the existing right-of-way.

VM 23. Applicants will employ Best Management Practices to implement their current noxious weed control program during construction and operation of Transaction-related sidings. All herbicides used by the Applicants will be approved by U.S. Environmental Protection Agency.

Air Quality

VM 24. To minimize fugitive dust emissions created during Transaction-related construction activities, Applicants will implement appropriate fugitive dust suppression controls, such as spraying water or other approved measures. Applicants will also regularly operate water trucks on haul roads to reduce dust.

VM 25. Applicants will work with their contractors to make sure that Transaction-related construction equipment is properly maintained and that mufflers and other required pollution-control devices are in working condition in order to limit construction-related air emissions.

Noise and Vibration

VM 26. Applicants will consult with affected communities and work with the construction contractors to minimize, to the extent reasonably practicable, Transaction-related construction noise disturbances near any residential areas.

Topography, Geology, and Soils

VM 27. Applicants will commence reclamation of disturbed areas as soon as reasonably practicable after Transaction-related construction ends along a particular stretch of rail line. The goal of reclamation will be the rapid and permanent reestablishment of native ground cover on disturbed areas. If weather or season precludes the prompt reestablishment of vegetation, Applicants will use measures such as mulching or erosion control blankets to prevent erosion until reseeding can be completed.

VM 28. Applicants will limit ground disturbance to only the areas necessary for Transaction-related construction activities.

VM 29. Applicants will review the limits of land disturbance prior to Transaction-related construction to determine whether any U.S. Department of Commerce, National Geodetic Survey monuments (that is, a government owned permanent survey marker) would be disturbed. If any survey monuments would be disturbed, Applicants will give a 90-day notification to the National Geodetic Survey.

VM 30. Applicants will require contractors to dispose of waste generated during Transaction-related construction activities in accordance with all applicable federal, state, and local regulations.

VM 31. Applicants will make reasonable efforts to identify all utilities that are reasonably expected to be materially affected by Transaction-related construction within their existing right-of-way or that cross their existing right-of-way. Applicants will notify the owner of each such utility identified prior to commencing Transaction-related construction activities and coordinate with the owner to minimize damage to utilities. Applicants will also consult with utility owners to ensure that utilities are reasonably protected during Transaction-related construction activities.

VM 32. During Transaction-related construction activity, Applicants will take reasonable steps to ensure contractors use fill material appropriate and in accordance with applicable regulations for the project area.

Operations-related VMs

Rail Operations

VM 33. Applicants will install power switches along the Line where they determine that manual switches could cause stopped trains to block grade crossings for excessive periods of time and that power switches would increase the speed of rail traffic and reduce the likelihood of such blockages.

Transportation

VM 34. Applicants will examine train operations to identify reasonable ways to reduce highway/rail at-grade crossing blockages.

VM 35. Applicants will cooperate with the appropriate state and local agencies and municipalities to:

- Evaluate the possibility that roadways listed in Table C-1 (Appendix C) of the Draft EA could be closed at the point where it crosses the Line, in order to eliminate the at-grade crossing;
- Improve or identify modifications to roadways that would reduce vehicle delays by improving roadway capacity over the crossing by construction of additional lanes;
- Assist in a survey of highway/rail at-grade crossings for a determination of the adequacy of existing grade crossing signal systems, signage, roadway striping, traffic signaling inter-ties, and curbs and medians; and
- Identify conditions and roadway, signal, and warning device configurations that may trap vehicles between warning device gates on or near the highway/rail at-grade crossing.

Grade Crossing Safety

VM 36. For up to three years from the date that Applicants' initiate operational changes associated with the Proposed Transaction, CSXT will make Operation Lifesaver programs available to communities, schools, and other appropriate organizations located along the Line.

VM 37. For each of the public grade crossings on the Line, Applicants will provide and maintain permanent signs prominently displaying both a toll-free telephone number and a unique grade-crossing identification number in compliance with Federal Highway Regulations (23 C.F.R. Part 655). The toll-free number will enable drivers to report accidents, malfunctioning warning devices, stalled vehicles, or other dangerous conditions and will be answered 24 hours per day by Applicants' personnel.

VM 38. Applicants will continue on-going efforts with community officials to identify elementary, middle, and high schools within 0.5 miles of the Line's right-of-way and provide, upon request, informational materials concerning railroad safety to such identified schools.

VM 39. Applicants will consult with state departments of transportation and other appropriate agencies and will abide by the reasonable requirements of INDOT or KYTC prior to

constructing, relocating, upgrading, or modifying highway/rail at-grade crossing warning devices on the Line.

Hazardous Materials Transportation

VM 40. Applicants will assist in the hazardous materials training of emergency responders for affected communities that express an interest in such training. Applicants will support through funding or other means the training of one representative from each of the communities located along the Line where the transportation of hazardous materials would increase. Applicants will complete the training within three years from the date that they initiate operational changes associated with the Proposed Transaction.

VM 41. Applicants will comply with the current Association of American Railroads “key train” guidelines, found in Association of American Railroads’ Circular No. OT-55-I, and any subsequent revisions.

VM 42. Applicants will incorporate the Line into their existing Transportation Emergency Response Plan (TERP).

VM 43. Applicants will comply with all hazardous materials regulations of the U.S. Department of Transportation (including Federal Railroad Administration and the U.S. Pipeline and Hazardous Materials Safety Administration) and Department of Homeland Security (including the Transportation Security Administration). Applicants will dispose of all hazardous materials that cannot be reused in accordance with applicable law.

VM 44. Upon request from local emergency response organizations, Applicants will implement real-time or desktop simulation emergency response drills with the voluntary participation of local emergency response organizations.

VM 45. Applicants will continue their on-going efforts with community officials to identify the public emergency response teams located along the Line and will provide, upon request, hazardous material training.

VM 46. Applicants will, upon request, conduct Transportation Community Awareness and Emergency Response Program workshops (training for communities through which hazardous materials are transported) in communities along the Line.

VM 47. Applicants will develop internal emergency response plans to allow for agencies to be notified in an emergency, and to locate and inventory the appropriate emergency equipment. Applicants will provide the emergency response plans to the relevant state and local authorities within six months of acquisition of a freight easement over the Line.

VM 48. In accordance with their TERP, Applicants will make the required notifications to the appropriate federal and state environmental agencies in the event of a reportable hazardous materials release. Applicants will work with appropriate agencies such as U.S. Fish and Wildlife Service, Kentucky Department for Environmental Protection (KY DEP), and Indiana Department of Environmental Management to respond to and remediate hazardous materials releases with the potential to affect wetlands or wildlife habitat(s), particularly those of federally threatened or

endangered species. Applicants will adhere to all USEPA regulations described in 40 C.F.R. Part 263 and will coordinate with USEPA, state agencies, and local agencies on spill responses.

Emergency Response

VM 49. Applicants will notify appropriate Emergency Services Dispatching Centers on the Line of all crossings blocked by trains that are stopped and may be unable to move for a significant period of time. Applicants will work with affected communities to minimize emergency vehicle delay by maintaining facilities for emergency communication with local Emergency Response Centers through a dedicated toll-free telephone number.

Water Resources

VM 50. Applicants will maintain drainage ditches as permanent vegetated swales to provide stormwater retention and treatment. Removal of accumulated sediments will be conducted only as necessary to maintain stormwater retention capacity and function.

Biological Resources

VM 51. Applicants will ensure that any herbicides used in right-of-way maintenance to control vegetation are approved by USEPA and are applied by licensed individuals. Application will be limited to the extent necessary for rail operations. Herbicides will be applied so as to prevent or minimize drift off of the right-of-way onto adjacent areas.

Energy Resources

VM 52. Applicants, to the extent reasonably practicable, will adopt efficient fuel saving practices that may include a range of operating practices that will help reduce locomotive emissions, such as shutting down locomotives when not in use and when temperatures are above 40 degrees.

VM 53. Applicants will comply with USEPA emissions standards for diesel-electric railroad locomotives (40 C.F.R. Part 92) when purchasing and rebuilding locomotives.

Noise and Vibration

VM 54. Applicants will work with affected communities that have noise-sensitive receptors that would experience an increase of at least 5 dBA and reach 70 dBA, because of Transaction-related train increases, to mitigate train noise to levels as low as 70 dBA by cost-effective means as are agreed to by an affected community and Applicants. In the absence of such an agreement, Applicants will implement cost-effective mitigation.

VM 55. Applicants will cooperate with interested communities along the Line for the establishment of quiet zones (QZ) and assist in identifying supplemental or alternative safety measures, practical operational methods, or technologies that may enable the community to establish QZ.¹⁹

¹⁹ Applicants state that their willingness to cooperate does not commit Applicants to expend funds on a physical project.

VM 56. Applicants will work with their contractors to maintain Transaction-related maintenance vehicles in good-working order with properly functioning mufflers to control noise.

VM 57. In addition to the development of other noise mitigation measures, Applicants will consider lubricating curves where doing so would both be consistent with safe and efficient operating practices and significantly reduce noise for residential or other noise sensitive receptors. Applicants will also continue to employ safe and efficient operating procedures that, in lieu of, or as complement to, other noise mitigation measures can have the collateral benefit of effectively reducing noise from train operations. Such procedures will include:

- Inspecting rail car wheels to maintain wheels in good working order and minimize the development of wheel flats;
- Inspecting new and existing rail for rough surfaces and, where appropriate, grinding these surfaces to provide a smooth rail surface during operations; and
- Regularly maintaining locomotives and keeping mufflers in good working order.

VM 58. Applicants will comply with Federal Railroad Administration regulations establishing decibel limits for train operations.

VM 59. To minimize noise and vibration, Applicants will install and maintain rail and rail beds according to AREMA standards.

VM 60. Upon request, Applicants will consult with communities affected by wheel squeal at existing locations on the Line, and cooperate in determining the most appropriate methods for implementing VM 57.

Monitoring and Enforcement

VM 61. Upon approval of the Application by the Board, Applicants will submit semi-annual reports to the Board's Office of Environmental Analysis (OEA) on the progress of, implementation of, and compliance with the mitigation measures for a period covering the first three years of operational changes.

7.2 OEA's Preliminary Mitigation Measures

OEA preliminarily recommends the following additional mitigation measures (MM) to minimize or avoid for potential Transaction-related impacts. OEA's recommended mitigation includes measures to address specific concerns raised by the communities of Greenwood, IN and Whiteland, IN in written comments submitted during the early stages of the environmental review process and the Board's deliberations of the transportation merits of the case, respectively.

Transportation

MM 1. To address potential safety impacts at public at-grade crossings, Applicants shall complete a Grade Crossing Mitigation Plan (GCMP) prior to moving Transaction-related train traffic on the Line. In preparing the GCMP, Applicants shall meet with the INDOT and KYTC, within 45 days of the effective date of any Board approval of the Proposed Transaction, to begin determining the need for grade crossing protection upgrades at each public at-grade crossing on

the Line. Applicants shall update the Board's OEA on the status of the GCMP in their semi-annual mitigation and enforcement reports to OEA.

MM 2. To the extent practicable, Transaction-related siding extensions and new sidings shall be located and designed to minimize blockages of public at-grade crossings by slow-moving trains entering and exiting the sidings.

MM 3. To supplement VM 49, once Transaction-related train traffic begins to move on the Line, Applicants shall promptly notify the appropriate Emergency Services Dispatching Center(s) when a stopped or slowly moving train will not clear a public at-grade crossing within 10 minutes.

MM 4. To assist with the timely response of emergency service providers transporting patients to Schneck Medical Center, Applicants shall consult with appropriate emergency service providers (e.g., including the Seymour and Hamilton fire departments in Seymour, IN) to install a closed-circuit television system (CCTV) with video cameras (or another comparable system or acceptable option) so that train movements and blocked at-grade crossings within the City of Seymour can be monitored in real time. Applicants shall pay for the necessary equipment, equipment installation, and equipment training for up to two individuals from each affected emergency service provider. Applicants shall work with the appropriate emergency service providers to determine specifications and scheduling for the installation of the system. Once installed and operational, Applicants shall be responsible for the ongoing maintenance of the system.

MM 5. To supplement VM 5, within six months of Applicants initiating operational changes associated with the Proposed Transaction, Applicants shall cooperate with residential communities, schools and park districts to identify at-grade crossings where additional pedestrian warning devices may be warranted.

MM 6. Applicants shall coordinate with the appropriate state departments of transportation, counties and affected communities along the Line to develop a program for installing temporary notification signs or message boards in the Line's right-of-way at each of the Line's 154 public at-grade crossings, clearly advising motorists of the pending increase in the number, length and speed of trains on the Line. The format and lettering of these signs shall comply with the Federal Highway Administration's 2007 Manual on Uniform Traffic Control Devices. The signs shall be installed no less than 30 days before Transaction-related train traffic begins moving on the Line, and shall remain in place for at least six months after Transaction-related train traffic begins moving on the Line. Applicants shall provide OEA written notice when installation of the signage has been completed at all 154 public at-grade crossings. At least 30 days before any Transaction-related train traffic begins to move on the Line, Applicants shall also publish a notice in a newspaper of general circulation in each county in which the Line is located to advise residents of the pending increase in the number, length and speed of trains on the Line.

MM 7. Prior to initiating Transaction-related construction activities, Applicants shall consult with the City of Greenwood, IN regarding potential design considerations related to Worthsville Road roadway improvements.

MM 8. Applicants shall consult with the City of Greenwood, IN and Indianapolis, IN regarding their potential interest in moving passenger trains on the Line.

Hazardous Waste

MM 9. For the Brook siding, residual contamination from a previous leaking underground storage tank incident at a former Conrail, now L&I, property could be encountered during Transaction-related construction and upgrading activities. Applicants shall ensure that their employees and contractors are prepared to monitor for contaminated soils and to excavate, document, and dispose of affected material, as needed, in compliance with applicable environmental and health and safety laws and regulations.

Water Resources

MM 10. Prior to initiating Transaction-related construction activities within floodplains, Applicants shall obtain a Construction in a Floodway Permit from the Indiana Department of Natural Resources.

MM 11. Prior to initiating Transaction-related construction activities within waters of the United States including wetlands, Applicants shall obtain a Section 404 permit under the Clean Water Act from the U.S. Army Corps of Engineers, as applicable.

MM 12. Prior to initiating Transaction-related construction activities within waters of the United States including wetlands, Applicants shall obtain a Water Quality Certification from the Indiana Department of Environmental Management, as applicable.

Biological Resources

MM 13. During replacement of the Flatrock River Railroad Bridge, Applicants shall avoid stream channel disturbance during the primary fish spawning season (April 1 through June 15).

Historic Preservation

MM 14. CSXT and L&I shall retain their interest in and take no steps to alter the historic integrity of all historic properties including sites, buildings, structures, bridges and objects within the project right-of-way (the Area of Potential Effect) that are eligible for listing or listed in the National Register of Historic Places until the Section 106 process of the National Historic Preservation Act, 16 U.S.C. § 470f, has been completed. CSXT and L&I shall report back to the Board's OEA regarding any consultations with the Indiana SHPO, Kentucky SHPO and the public. CSXT and L&I may not initiate any Transaction-related construction activities (including but not limited to siding construction and bridge replacement) until the Section 106 process has been completed and the Board has removed this condition.

MM 15. In the event that any unanticipated archaeological sites, human remains, funerary items or associated artifacts are discovered during Transaction-related construction activities, Applicants shall immediately cease all work and will notify the Board's OEA, interested federally recognized tribes, and the Indiana SHPO or Kentucky SHPO, as appropriate, pursuant to 36 C.F.R. § 800.13(b). OEA will then consult with the SHPO, interested federally recognized tribes, the railroads, and other consulting parties, if any, to determine whether additional mitigation measures are necessary.

Community Liaison

MM 16. In response to Transaction-related concerns regarding noise, emergency response and other issue areas, Applicants shall establish a Community Liaison to consult with affected communities, businesses and appropriate agencies; develop cooperative solutions to local concerns; be available for public meetings; and conduct periodic public outreach. Applicants shall establish and staff the Community Liaison position prior to Transaction-related construction activities and for a period of three years following the first movement of Transaction-related trains on the Line.

1.0 PURPOSE AND NEED

1.1 Introduction – Proposed Transaction

On July 2, 2013, CSX Transportation, Inc. (CSXT) and Louisville & Indiana Railroad Company, Inc. (L&I) (jointly Applicants) filed an application with the Surface Transportation Board (Board) pursuant to 49 United States Code (U.S.C.) § 11323 and 49 Code of Federal Regulations (C.F.R.) Part 1180.²⁰ CSXT seeks Board authority to acquire from and jointly use with the L&I a perpetual non-exclusive, operating easement²¹ (Easement) over 106.5 miles of the L&I rail line (Line). The Line extends from a connection with CSXT in Indianapolis, Indiana, milepost (MP) 4.0, and a connection with CSXT in Louisville, Kentucky, MP 110.5 (see Figure 1.1-1). The joint use and easement acquisition are referred to as the “Proposed Transaction.” Both CSXT and L&I would continue to use the Line, and Applicants claim that use of the Line after the CSXT-proposed upgrades are completed would increase and improve the efficiency and performance of both CSXT’s and L&I’s operations. According to CSXT, the ability to control its traffic in the Midwest, particularly in its Louisville to Cincinnati corridor (LCL Subdivision), would improve. Applicants state that L&I would benefit from the upgraded Line without incurring the capital cost and would share the cost of maintaining the Line with CSXT based on usage after the Line has been upgraded.

The proposed rail infrastructure upgrades primarily include: (1) replacement of the existing 100-pound jointed rail on the Line with a heavier-weighted, continuously welded rail, (2) replacement of a select number of ties, (3) extension of two existing sidings and the construction of up to two new sidings; and (4) replacement of a timber and steel railroad bridge over the Flatrock River at MP 40.19. When completed, the proposed improvements would bring the Line up to Class 4 standards and enable Applicants to increase maximum train speeds from the existing 25 mph to 49 mph²² and move double-stack and multi-level railcars weighing up to 286,000 pounds gross weight each. Currently, infrastructure conditions on the Line limit traffic to railcars that are single stacked and weigh no more than 263,000 pounds gross weight each.

²⁰ Applicants filed a portion of the application on June 14, 2013. However, the Board did not receive information material to its consideration of whether to accept or reject the application from Applicants until July 2, 2013. Therefore, the Board considers the application filed on July 2, 2013. The Application and other filings for this case are available for viewing on the Board’s website at www.stb.dot.gov by going to “E-Library,” selecting “Filings,” and then conducting a search for Docket No. FD 35523.

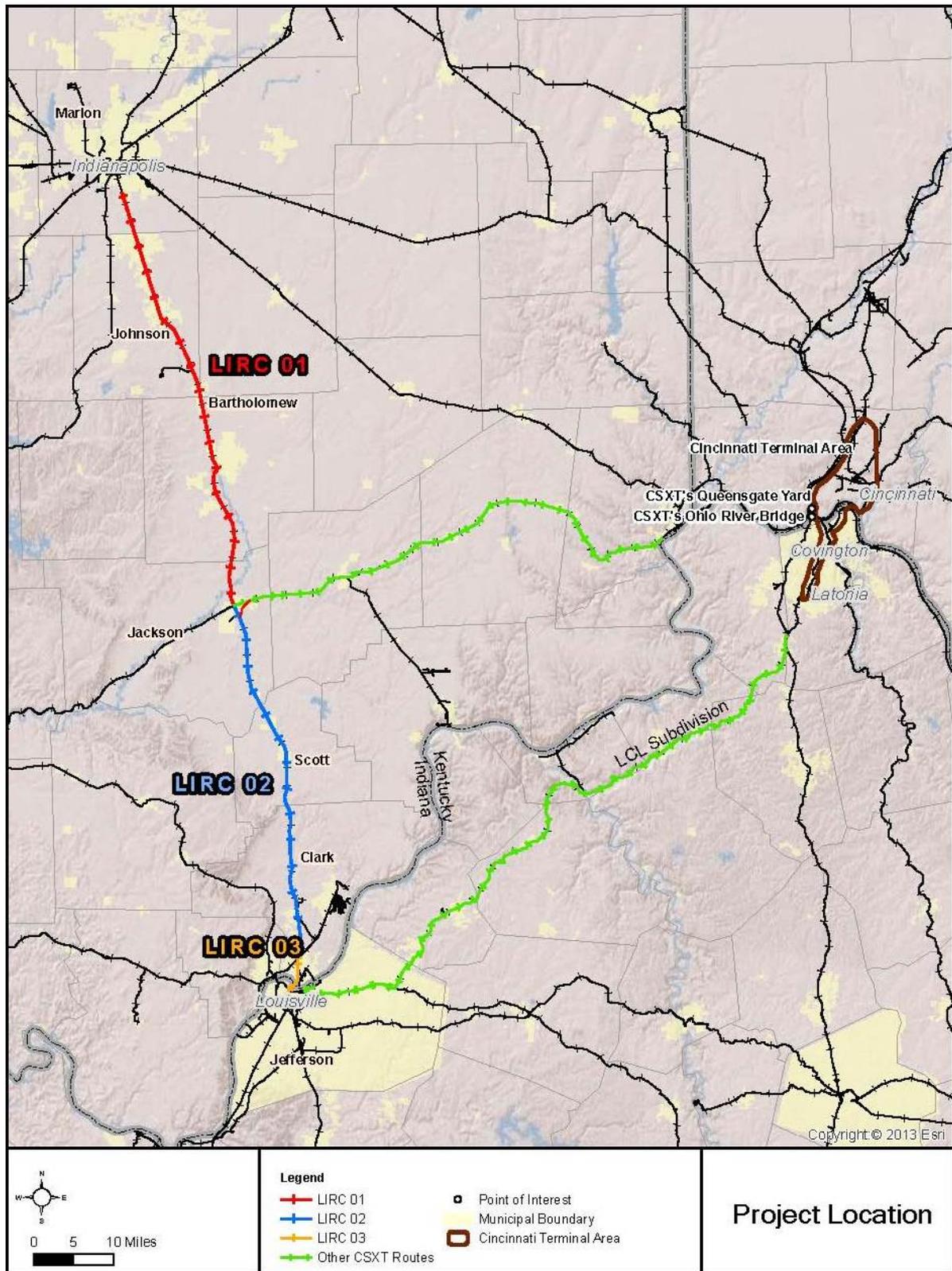
²¹ A railroad operating easement is an agreement between railroad companies that grants one railroad the right to operate over a rail line while the granting railroad continues to own the underlying land.

²² Regulations of the Federal Railroad Administration permit freight trains to operate at up to 60 mph on Class 4 tracks if an automated signaling system is used to control train traffic on a main line. However, train speeds are limited to 49 mph when train traffic is controlled through a warrant system (i.e., authorization to occupy a main line is provided through a verbal authorization system by radio, phone or other electronic transmission from a dispatcher (i.e., traffic warrant control). Applicants currently use a traffic warrant control system on the Line and state intent to retain that system under the Proposed Transaction. Thus, train speeds would be limited to 49 mph despite the proposed upgrade to Class 4 standards.

Applicants further state that L&I would benefit from the Proposed Transaction. Under the Proposed Transaction, CSXT would pay L&I \$10 million for the non-exclusive, perpetual easement over the Line and CSXT also would pay for the upgrades, projected to cost between \$70 and \$90 million, which would take up to seven years to complete. In return, L&I would compensate for use of the upgrade for any of its traffic that makes use of the heavier tonnage per car and taller rail cars that could move on the Line under the Proposed Transaction.

The proposed joint use would only allow CSXT to operate overhead traffic on the Line and would not permit CSXT to serve local customers or industries along the Line. L&I would continue to serve its local customers on the Line. Under the Proposed Transaction, however, CSXT would be allowed to set out and pick up traffic for and from CSXT's Indiana Subdivision, which intersects the Line at Seymour, Indiana. Collectively, CSXT anticipates operation of 13 to 15 trains per day over the L&I, including traffic rerouted from the LCL and Indiana Subdivisions. No material train frequency increase would occur until the Line is upgraded.

Figure 1.1-1. Project Location



Currently, CSXT has trackage rights with no train frequency limits over the Line, and CSXT states that it uses these trackage rights to relieve some of the congestion on the LCL Subdivision. For example, CSXT operates over its own line from Indianapolis to Cincinnati and from Cincinnati to Seymour (Indiana Subdivision) and then uses the Line to move trains south to Louisville, specifically operating two trains a day, both in a southward direction from Seymour to Louisville. While CSXT has trackage rights authority over the entire Line, it does not operate over the entire Line due to clearance restrictions and lack of capacity north of Seymour. Under the Proposed Transaction these two trains would be rerouted over CSXT's LCL Subdivision as a result of available capacity being created by rerouting trains from the LCL Subdivision to the Line. CSXT has no plans to discontinue service over the Indiana Subdivision.

1.2 NEPA and the Environmental Review Process

The National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 *et seq.*, requires that the Board examine the potential environmental impacts of major federal actions—including regulatory approval of projects proposed by private parties—and to inform the public concerning those potential impacts.

Under NEPA, the Board must consider potential environmental impacts. While NEPA prescribes the process that must be followed, it does not mandate a particular result.²³ Thus, once the environmental effects have been adequately identified and evaluated, the Board may conclude that other values outweigh the environmental costs.²⁴ Regulations governing implementation of NEPA have been promulgated by the Council on Environmental Quality (CEQ)²⁵ and by the Board.²⁶ The Board's Office of Environmental Analysis (OEA) is responsible for conducting environmental reviews on behalf of the Board, evaluating potential environmental impacts, and when appropriate, recommending environmental mitigation conditions to the Board.

In imposing environmental mitigation conditions in acquisition proceedings, the Board has consistently focused on the potential environmental impacts that would result directly from transaction-related changes in activity levels on existing rail lines and at rail facilities. The Board typically does not require mitigation for pre-existing environmental conditions, such as the effects of current railroad operations.

The level of environmental review depends upon the potential for significant impacts. Actions whose environmental effects are ordinarily insignificant may normally be categorically excluded from a case-specific NEPA review.²⁷ Included in this category are acquisition

²³ *Robert v. Methow Valley Citizens Council*, 490 U.S. 332, 350-51 (1989).

²⁴ *Id.*

²⁵ 40 C.F.R. Parts 1500-1508.

²⁶ 49 C.F.R. Part 1105.

²⁷ 40 C.F.R. §§ 1500.4(p), 1501.4(a)(2), 1508.4; 49 C.F.R. §1105.6(c), (d).

transactions that would not result in operational changes that exceed certain rail activity thresholds established by the Board. *See* 49 C.F.R. §1105.7(e) (4), (5). Acquisitions that are expected to cause increases in trains per day, rail traffic, or rail yard activity above the Board's thresholds for environmental review (generally, an increase of three trains per day in areas with poor air quality and eight trains per day in areas with good air quality) presumptively require the preparation of an Environmental Assessment (EA).²⁸ An EA is being prepared in this case because train traffic is expected to increase by 13 trains per day on two portions of the Line and by 15 trains per day on the remaining portion of the Line.

In this case, CSXT requested permission from OEA to prepare a Preliminary Draft EA (PDEA), which OEA approved under CEQ guidelines at 40 C.F.R. § 1506.5(b). That guideline provides that an agency may permit an applicant to prepare a PDEA, provided the agency reviews the PDEA, makes appropriate modifications to ensure that the document meets the Board's NEPA-compliance responsibilities and takes responsibility for the scope and content of the EA.

After receiving approval from OEA to prepare a PDEA, CSXT and L&I then conducted early outreach and consultation with various federal, state, and local agencies and other interested parties. L&I and CSXT performed outreach and consultations both by letter and by public meetings held in the project area. Based on studies and feedback from many stakeholders, CSXT prepared a PDEA (using the consulting firm HDR, Inc.), which described the purpose and need for the proposed action, described the affected environment and the potential environmental impacts of the Proposed Transaction and the No-Action Alternative (i.e., retention of the status quo). The PDEA also set forth voluntary mitigation with which Applicants agreed to comply should the Board approve the Proposed Transaction and concluded that, as mitigated by the measures suggested by Applicants, the Applicants' proposal would not result in significant environmental impacts.

Applicants received comments during their preliminary outreach and consultation. Comments were received from the U.S. Department of Agriculture; U.S. Fish and Wildlife Service; U.S. Army Corps of Engineers (USACE); U.S. Coast Guard; Delaware Nation; Peoria Tribe of Indians of Oklahoma; Kentucky Heritage Council; Indiana Department of Environmental Management (IDEM); Indiana Department of Natural Resources, Division of Historic Preservation & Archaeology; Indiana Department of Transportation (INDOT); Kentucky Energy and Environmental Cabinet; Kentucky Transportation Cabinet (KYTC); Town of Whiteland; Scott County Commissioners; The City of Greenwood; City of Indianapolis; The City-County Council of Indianapolis and Marion County; Johnson County Highway Department; the

²⁸ 49 C.F.R. §§ 1105.6(b)(4), (c)(2)(i). Agencies must prepare a detailed Environmental Impact Statement (EIS) for proposals that would significantly affect the quality of the human environment. 42 U.S.C. § 4332(2)(C). Agencies may prepare a more limited EA to determine whether a full EIS is necessary or whether, with appropriate mitigation, they can make a Finding of No Significant Impact. 40 C.F.R. §§ 1501.3, 1501.4. The Board's Draft EAs are issued for public review and comment. A Final EA is then prepared, addressing the comments and containing additional environmental analysis, if warranted. Final EAs also contain OEA's final recommendations, if any, for environmental mitigation to minimize any potential environmental impacts of the proposed transaction.

University of Indianapolis; and Amtrak. Each of these comments may be found in Appendix A of this Draft EA.

OEA has taken the PDEA, carefully reviewed the information set forth in the PDEA, verified its methodologies and data, edited the PDEA, and has converted it into this Draft EA, which OEA is now issuing for public review and comment.

The Draft EA describes the affected environment; evaluates and compares the potential environmental impacts of the Proposed Transaction and the No-Action Alternative; and identifies mitigation measures that could eliminate or lessen potential impacts. The Draft EA includes both Applicants' proposed voluntary mitigation and additional preliminary mitigation proposed by OEA. The preliminary mitigation measures in the Draft EA cover the following resource areas: transportation; rail operations; rail safety; hazardous materials transportation; emergency response; water quality; biological resources; noise and vibration; energy; environmental justice; and monitoring and enforcement.

Based on all the information available to date, OEA has made a preliminary determination that the potential environmental impacts of CSXT's proposal, with the preliminary mitigation set forth in the Draft EA, would not be significant, and therefore there is no need for an Environmental Impact Statement under NEPA.

OEA emphasizes that the recommended environmental mitigation measures for the Proposed Transaction in the Draft EA are preliminary. OEA invites comments on the proposed environmental mitigation measures and all other aspects of this Draft EA during the comment period on this Draft EA, which will end on September 30, 2013. In order for OEA to effectively assess the comments, it is critical that interested parties are specific regarding their concerns, including any desired additional mitigation and the reasons why it would be appropriate. OEA will consider all public comments on the Draft EA, and may conduct further environmental analysis and agency consultation, as appropriate, based on these comments. OEA anticipates issuing a Final EA on or before November 6, 2013, which would complete the environmental review process. The Final EA will address the comments received on the Draft EA and make final environmental recommendations, including mitigation recommendations, to the Board.

In an acquisition proceeding such as this, which does not involve the merger or control of at least two Class I railroads,²⁹ the STB, under 49 U.S.C. § 11324(d), "shall approve . . . an application unless it finds that – (1) as a result of the transaction, there is likely to be substantial lessening of competition, creation of a monopoly, or restraint of trade in freight surface transportation in any

²⁹ Three classes of railroads are designated by the Board using railroad operating revenues. Based on 2011 data, CSXT is one of seven Class I railroads in the United States (i.e., those with operating revenues of approximately \$433.2 million or more). The other six Class I railroads are Norfolk Southern Railway Company, Canadian National Railway Company, BNSF Railway Company, Canadian Pacific Railway, Kansas City Southern Railway Company, and Union Pacific Railroad Company.

region of the United States; and (2) the anticompetitive effects of the transaction outweigh the public interest in meeting significant transportation needs.” Therefore, in assessing the transportation merits, the Board focuses on evidence regarding possible anticompetitive effects. The Board also conducts an environmental review under the National Environmental Policy Act where, as here, the thresholds in the Board’s environmental rules are met. See 49 U.S.C. §§ 11324(c).

Should the Proposed Transaction be approved, the Board will consider the entire environmental record, all public comments, and OEA’s final environmental recommendations, including final recommended mitigation measures, in deciding what, if any, environmental mitigation to impose.

On July 29, 2013, the Board decided to accept the application from L&I and CSXT; found that the Proposed Transaction is a “minor” under 49 C.F.R. § 1180.2(c); deemed the application complete; and set a procedural schedule for the environmental review process, consideration of the transportation merits and issuance of a final decision by the end of the year.

1.3 Purpose and Need

According to Applicants, the purpose of the Proposed Transaction is to improve the efficiency, consistency, and reliability of CSXT operations in the Midwest region of its network (which includes Illinois, Indiana, Ohio, Kentucky, and Tennessee). The Proposed Transaction would specifically impact CSXT’s LCL Subdivision that runs directly between Louisville, Kentucky, and Cincinnati, Ohio. The Proposed Transaction would also enable L&I to move heavier and taller railcars and increase the speed of its trains, thereby increasing L&I’s operating efficiencies as well.

The LCL Subdivision currently operates at or above a level of train capacity that impacts CSXT’s ability to operate a consistent, reliable, and recoverable³⁰ railroad. Although the recent recession impacted overall freight rail volumes, the LCL Subdivision experienced no significant decrease in freight train activity. CSXT expects the overall demand for freight rail transportation to increase, and expects the LCL Subdivision to continue operating at or near train capacity.

Applicants state that CSXT could not economically improve capacity on the LCL Subdivision. According to CSXT, the LCL Subdivision has operating characteristics or attributes that constrain train capacity and train operating performance. Capacity and performance constraints are a result of the LCL Subdivision’s significant grade (over one percent) and curvature (up to eight degrees), which result in less than optimal train lengths, tonnage restrictions, and reduced train speeds (train speeds currently average about 15 miles per hour).

On average, CSXT states that it reaches train tonnage limitations before it reaches any train length limitations. As a result of these characteristics and to maintain line of road fluidity, CSXT

³⁰ “Recoverable” refers to the ability of a railroad to return to normal operations after an event that disrupts its operations. Such an event could be an accident or a weather-related event.

explains that it currently must operate smaller, less efficient trains between Louisville and Cincinnati. These smaller trains create inefficiencies throughout CSXT's network in terms of additional resource requirements, terminal congestion, and track occupancy. Operating limitations (i.e., shorter trains at slower speeds) require additional resources and train starts, which results in more trains moving across an already capacity-constrained corridor and more trains moving through CSXT's Queensgate Yard, a major railcar classification facility located in Cincinnati, Ohio.

According to CSXT, the LCL Subdivision's grade and curvature make increasing velocity or adding capacity very expensive, because it would require significant stabilization and grading efforts. The Line, however, has a ruling grade under one percent and no curves greater than five degrees. These attributes would allow CSXT to operate longer, heavier, and faster trains.

The LCL Subdivision enters the Cincinnati, Ohio, terminal area at Latonia, Kentucky, and trains that use the LCL Subdivision operate through Covington, Kentucky, and cross the Ohio River on CSXT's rail bridge. CSXT's Ohio River Bridge handles trains that operate over several CSXT rail corridors in and around the Cincinnati terminal area and is extremely busy. Immediately north of CSXT's Ohio River Bridge is the south end of CSXT's Queensgate Yard, a major railcar classification yard on CSXT's network (see Figure 1.1-1, Project Location). Even though many of the trains that operate over the LCL Subdivision do not originate or terminate or perform any rail operations in Cincinnati (such as serving local industries, switching cars, or delivering cars for processing), and therefore do not have to enter Queensgate Yard, these trains do have to utilize CSXT's extremely dense rail corridor that runs along the east side of Queensgate Yard. According to Applicants, this dense rail corridor through Cincinnati also hosts trains of the Norfolk Southern Railway Company (NSR).

Applicants state that the trains of CSXT and NSR combine to make the route through the Cincinnati terminal one of the densest on the entire CSXT network. Since CSXT trains that would operate over the Line would operate via Indianapolis, they would be able to completely avoid the Cincinnati area under the Proposed Transaction. A major proposed benefit of the Proposed Transaction would be this ability to avoid operating certain trains through the Cincinnati terminal, which would result in increased fluidity of operations in the Cincinnati terminal area.

According to Applicants, CSXT's ability to route trains around the LCL Subdivision, as well as avoid the challenges of operating trains through the Cincinnati terminal area, is currently limited. The Proposed Transaction would improve CSXT's routing flexibility and performance in the region. The Proposed Transaction would allow CSXT to utilize the Line to improve train performance, to more efficiently handle future and/or expected growth of business, and to better utilize available capacity (on both the Line and CSXT's network) in order to improve transportation services to its customers. CSXT expects that the majority of the trains that would use the Line would be automobile trains that carry finished vehicles and auto parts between Louisville (the center of CSXT's auto network) and automobile production and distribution facilities across the Eastern United States.

Applicants state that the engineering challenges that stem from the LCL Subdivision's curvature and grade make it impractical for CSXT to add capacity or to improve the segment's performance. In contrast to CSXT's LCL Subdivision, the Line has much more favorable curvature and gradient attributes; specifically a single, short grade near one percent and good alignment with only a few curves of five degrees or less. As such, after the upgrades CSXT proposes to make are completed, CSXT plans to leverage these attributes of the Line to increase efficiency by operating longer, heavier, and faster trains. CSXT would also be able to economically add capacity and infrastructure improvements to the Line because of its favorable curvature and gradient. The Line's attributes also would result in a more favorable maintenance profile, both with respect to the cost of maintaining the track and making capital investments.

As noted above, CSXT determined that it would be cost prohibitive to improve the LCL Subdivision's capabilities, specifically with respect to increasing operating speed and adding capacity in terms of additional sidings. CSXT believes it is a more efficient and cost effective use of its capital dollars to invest in capital improvements in the Line than to invest in capacity on its LCL Subdivision. This belief is driven by the operating efficiencies and routing flexibility that CSXT would be able to derive from using the Line that it cannot achieve over its own rail lines.

According to Applicants, the Proposed Transaction would provide CSXT the benefit of a network routing option that would allow trains to avoid operating through the congested Cincinnati terminal area. The ability to route around Cincinnati would allow CSXT to avoid the inherent delays with operating to, from, and through a major terminal. This ability would enable CSXT to provide more consistent, reliable, and faster service to its customers.

2.0 PROPOSED TRANSACTION AND NO-ACTION ALTERNATIVE

This Draft EA evaluates two alternatives: the Proposed Transaction and the No-Action Alternative. Each alternative is described below.

2.1 Proposed Transaction

Under the Proposed Transaction, CSXT would acquire from L&I a perpetual, non-exclusive, overhead-freight operating easement over 106.5 miles of the L&I between its connection with CSXT in Indianapolis, Indiana, MP 4.0, and its connection with CSXT in Louisville, Kentucky, MP 110.5 (the Line). For purposes of this Draft EA, OEA has divided the Line into 3 rail line segments (LIRC-01, LIRC-02, and LIRC-03). Segment LIRC-01 lies within Bartholomew, Jackson, Johnson, and Marion counties, Indiana; segment LIRC-02 lies within Clark, Jackson, and Scott counties, Indiana; and segment LIRC-03 lies within Clark County, Indiana, and Jefferson County, Kentucky (Figure 2.1-1).

2.1.1 Rail Infrastructure

The Line is a single-track main line, consisting of 100-pound per yard jointed rail on timber cross-ties. The Line currently has a maximum timetable speed of 25 mph, does not have automatic traffic signaling or centralized traffic control, and the vast majority of the Line is not cleared for 286,000 pounds of gross weight on railcars (GWOR) due to rail condition.³¹ ³² A bridge restriction across the Flatrock River Railroad Bridge at MP 40.19, just west of Columbus, IN, also prevents the movement of double-stack intermodal containers, and multi-level cars (i.e., auto racks) that carry finished vehicles. There are no communities with locomotive horn quiet zones (QZ) along the Line.

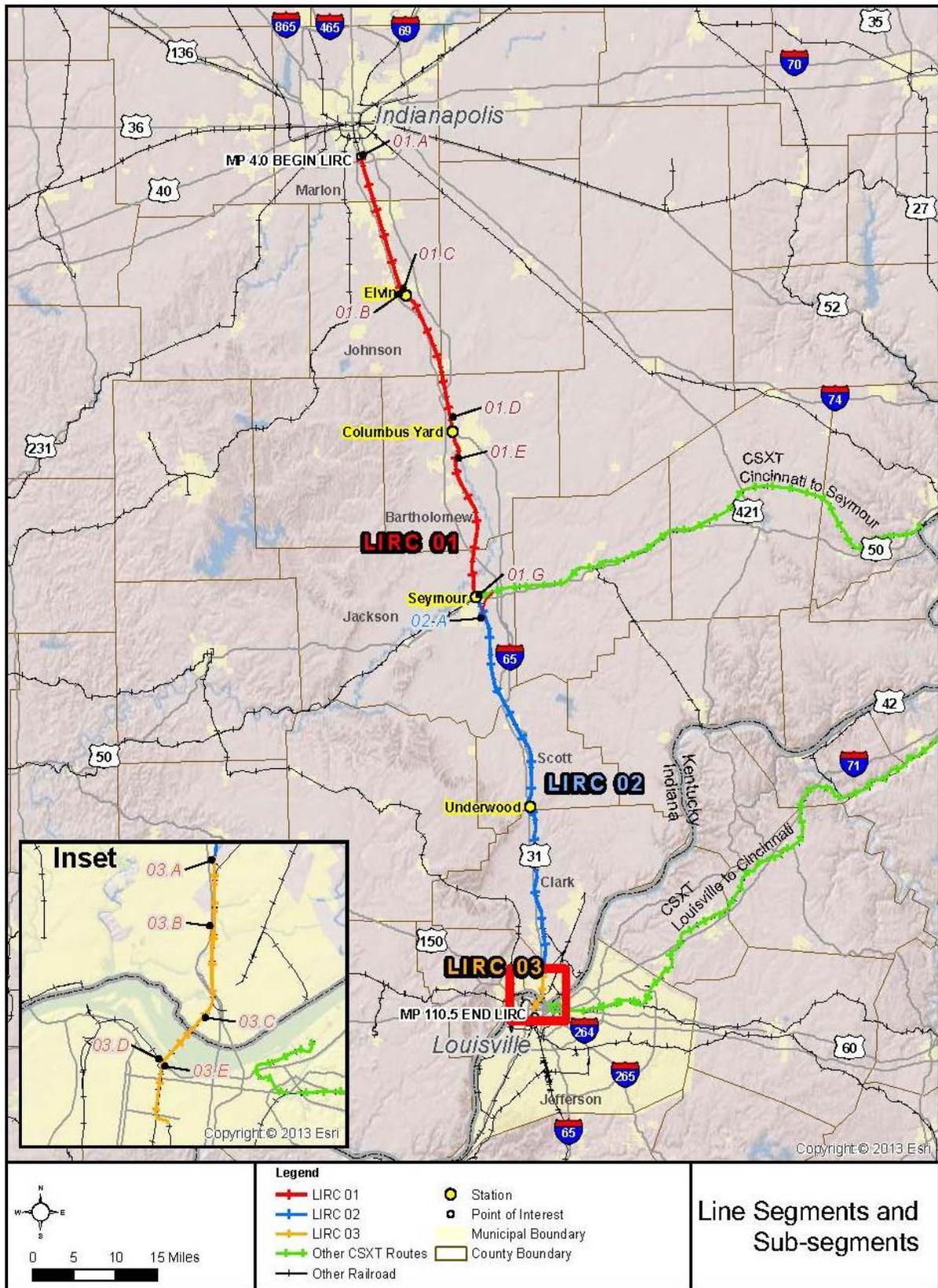
According to the Application, CSXT would obtain the Easement from L&I in return for the investment that CSXT would make in the Line. CSXT would then make the investment in the Line, upgrade the Line, and reroute more of its trains over the Line. The upgrades to the Line that would result in a Federal Railroad Administration (FRA) Class 4 track standard that would increase the maximum speed on a majority of the Line to 49 mph,³³ and would permit the movement of 286,000 pound railcars and the movement of taller railcars.

³¹ Most Class I railroad tracks and bridges have been designed or reconstructed to carry railcars that weigh 286,000 pounds each.

³² Railcars on the Indiana portion of the Line are limited to weights of 263,000 pounds each. The Kentucky portion of the Line is currently cleared for 286,000-pound railcars, however, Applicants intend to upgrade the rail on that portion of the Line as well.

³³ Regulations of the Federal Railroad Administration permit freight trains to operate at up to 60 mph on Class 4 tracks if an automated signaling system is used to control train traffic on a main line. However, train speeds are limited to 49 mph when train traffic is controlled through a warrant system (i.e., authorization to occupy a main line is provided through a verbal authorization system by radio, phone or other electronic transmission from a dispatcher (i.e., traffic warrant control). Applicants currently use a traffic warrant control system on the Line and intend to retain that system under the Proposed Transaction. Thus, train speeds would be limited to 49 mph despite the proposed upgrade to Class 4 standards.

Figure 2.1-1. Line Segments and Sub-segments



CSXT proposes to construct four side tracks of sufficient length to allow for meeting or passing trains. Currently, the Line has six sidings designated and located at timetable stations: Elvin, Brook, Garden, Seymour, Scottsburg, and Speed, all in Indiana. These range in length from 1,540 feet to 5,706 feet, none of which is long enough to hold a CSXT train under the Proposed Transaction. CSXT proposes to rehabilitate and lengthen the existing sidings at Elvin and Brook and construct new sidings at Crothersville and Underwood (See Figure 2.1-2 through

and Table 2.1-1). Each of these sidings would be constructed to allow trains of up to 10,000 feet to meet and safely pass. CSXT would add remotely controlled power switches at each end to allow trains to enter and exit these sidings at speeds up to 30 mph to reduce the time required to operate. The remotely controlled power switches would also reduce the time that trains entering or exiting the sidings would block public roadway crossings on either end. No changes would be made to the sidings at Garden, Seymour, Scottsburg and Speed.

Segment No.	Length (feet)	Begin Siding	Begin Milepost	End Siding	End Milepost	Description
LIRC-01	11,100	North end of Elvin siding	20.8	Just south of CR 150	22.9	Extend existing Elvin siding (3,050 feet) to south with turnout just south of CR 150 crossing.
LIRC-01	11,100	North end of Brook siding	37.9	North of Flat Rock River Bridge	40.0	Extend Brook siding (4,769 feet) through yard at Columbus to just north of river bridge.
LIRC-02	10,600	Just north of Chestnut Ridge Road	64.0	Just north of Ryder Creek	66.0	New siding crosses Chestnut Creek twice and Ryder Creek once.
LIRC-02	12,700	North of Leota Road	81.5	Just north of CR 525 South	83.9	New siding crosses Radio Tower Road (MP 83.7).

Source: CSXT 2011, L&I Easement Information Request, June 1, 2011.

The majority of the Line's track consists of 100 pound per yard, jointed rail, which from a maintenance perspective, currently limits speeds to 25 mph and railcar weights to 263,000 pounds each. CSXT proposes to fund replacement of this jointed rail with a heavier-weighted, continuously welded rail, which does not have joints. CSXT also proposes to replace a select number of timber cross-ties and resurface and shape the track ballast. This rail and tie replacement and ballast resurfacing process typically occurs through the use of rail-mounted heavy equipment and the work is typically limited to the ballast and possibly the sub-ballast. There should be no need to disturb soils beneath the ballast and sub-ballast.

In addition to the proposed improvements to the rail, ties, and ballast, CSXT intends to fund the replacement of the Line's timber and steel bridge over the Flatrock River at MP 40.19 just west

of Columbus, Indiana (see Figures 2.1-6 and 2.1-7). This bridge is currently limited to slower speeds and lower axle loadings due to the insufficiency rating of bridge members for the proposed traffic. In addition, the bridge cannot currently accommodate double-stacked intermodal or multi-level cars. The proposed bridge replacement would enable the structure to accommodate faster trains, 286,000 pound railcars, and taller railcars.

These improvements to both track and bridge would upgrade the infrastructure and reliability of the Line to allow for safe and efficient movements of Applicants' trains under the Proposed Transaction. However, the timing and need to add such capacity depends on various factors, most of which are directly attributable to general economic and market conditions that would influence the amount of freight rail traffic that is available for CSXT to operate via the line. CSXT anticipates that upgrade of the Line, including the construction of any sidings and bridge replacement, would be limited to work upon and within the limits of the L&I's existing right-of-way (ROW).

For the purposes of controlling train access to a line segment and to provide for the safe and efficient movement of trains over a line segment, a single railroad governs and authorizes the movement of trains and serves as the central communications center for the line segment. This is generally conducted from a train dispatch center. L&I currently controls and handles dispatch of all trains on the Line. This includes the two CSXT trains per day that operate between Seymour, Indiana, and Louisville, Kentucky. There would be no change to this arrangement under the Proposed Transaction, as L&I would continue to control and dispatch all trains.

Any necessary permits would be secured to construct the sidings. Possible permits could be National Pollutant Discharge Elimination System (NPDES), Stormwater Construction, and USACE permits for impacts to wetlands and streams. The proposed upgrades would be designed to minimize impacts to the environment.

2.1.2 Rail Operations

Regulations of the Federal Railroad Administration (FRA) specify minimum safety requirements for rolling stock, track, signals, operating practices, and the transport of hazardous materials. Safety requirements address the design and inspection of railcars, tracks, and signal systems. Railroad track safety standards (49 C.F.R. Part 213) are based on classifications of track that determine maximum allowable operating speed limits, inspection frequencies, and standards of maintenance, among other issues. The higher the class of track, the more stringent the maintenance standards and the faster the allowable maximum operating speed. Higher class track can be operated at lower speeds, so posted speeds are not an entirely accurate indication of track class. Both L&I and CSXT maintain their rail lines to comply with FRA's Track Safety Standards (49 C.F.R. Part 213).

Actual operating speeds on a rail line segment are not based solely on condition of the track and the maximum allowable speed. Rather, they are a function of the optimal speed based on local conditions within the communities in which they operate, fuel efficiency, urgency of moving the commodity, and best use of labor and equipment. Railroads set their desired operating speeds for segments of track through published timetables or train orders, and are required to maintain track segments according to FRA geometric and structural standards.

Currently, the Line is FRA Class 2 track with a maximum FRA allowable speed of 25 mph for freight. Maximum speeds are not always in effect for an entire subdivision. Both permanent and temporary speed restrictions are in effect at some locations due to track condition, track curvature, crossing diamonds, grade crossings, and other physical or operating conditions. The proposed upgrades would enable the Line to attain Class 4 designation. Class 4 track allows freight operations at speeds up to 60 miles per hour where automated signaling system is used to control train traffic on a main line, or 49 mph when train traffic is controlled through a warrant system (i.e., authorization to occupy a main line is provided through a verbal authorization system by radio, phone or other electronic transmission from a dispatcher (i.e., traffic warrant control). Applicants currently use a traffic warrant control system on the Line and intend to retain that system under the Proposed Transaction. Thus, train speeds would be limited to 49 mph under the Proposed Transaction.

For purposes of this Draft EA the Line was divided into 3 segments (LIRC-01, LIRC-02, and LIRC-03). Table 2.1-2 shows the existing and proposed speed restrictions for each segment.

Segment No.	Begin MP	End MP	Distance	Description	Existing Speed¹	Proposed Speed¹	Change¹
LIRC-01	4.0	20.0	16.0		25	49	+24
	20.0	20.7	0.7	Franklin	25	40	+15
	20.7	37.0	16.3		25	49	+24
	37.0	42.0	5.0	Yard Limit - Columbus	20	20	0
	42.0	58.9	16.9		25	49	+24
	58.9	58.9	0.0	CSXT Diamond Interlocking	20	35	+15
	58.9	59.3	0.4	Seymour	25	35	+10
LIRC-02	59.3	104.5	45.2	Seymour to Jeff Yard	25	49	+24
LIRC-03	104.5	106.0	1.5	Yard Limit	20	20	0
	106.0	108.3	2.3	Yard Limit	10	20	+10
	108.3	108.9	0.6	Yard Limit - State Line	20	20	0
	108.9	109.0	0.1	South end of Bridge	6	20	+14
	109.0	110.5	1.5	Yard Limit	10	20	+10

Source: CSXT 2011, L&I Easement Information Request, June 1, 2011.

¹ In miles per hour.

Figure 2.1-2. Existing Siding along the Line: Elvin

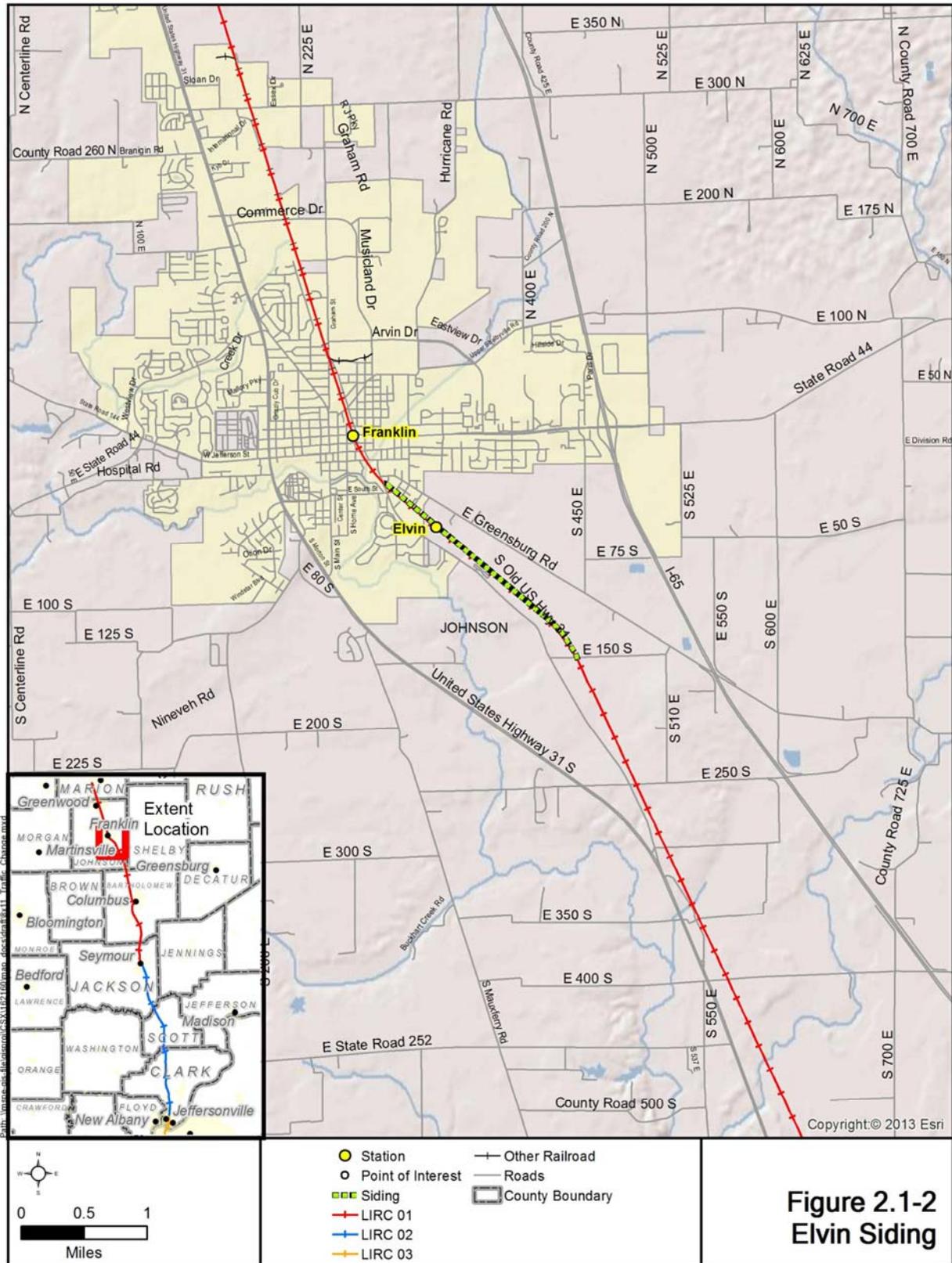


Figure 2.1-2
Elvin Siding

Figure 2.1-3. Existing Siding along the Line: Brook

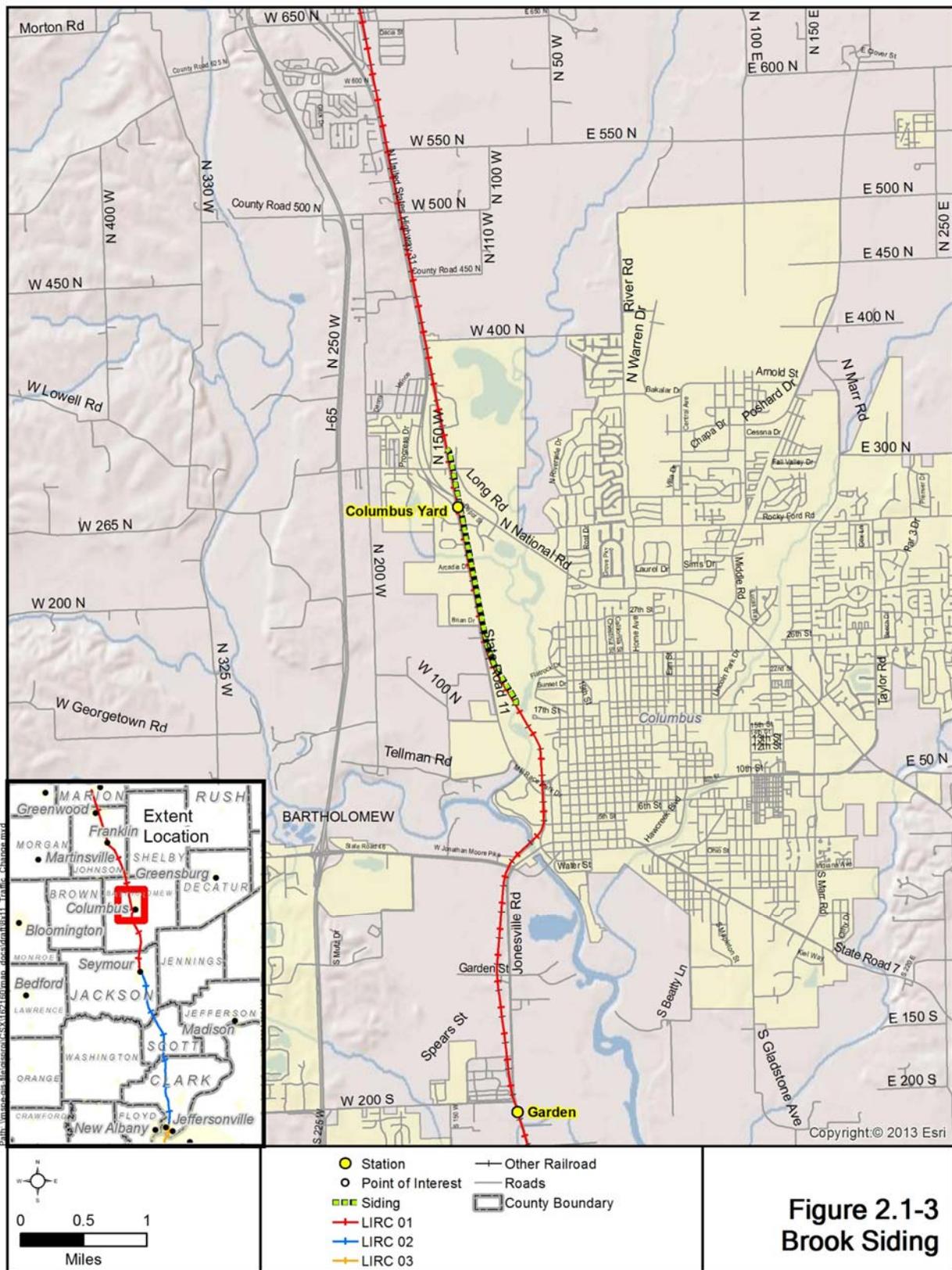


Figure 2.1-3
Brook Siding

Figure 2.1-4. Proposed Siding along the Line: Crothersville

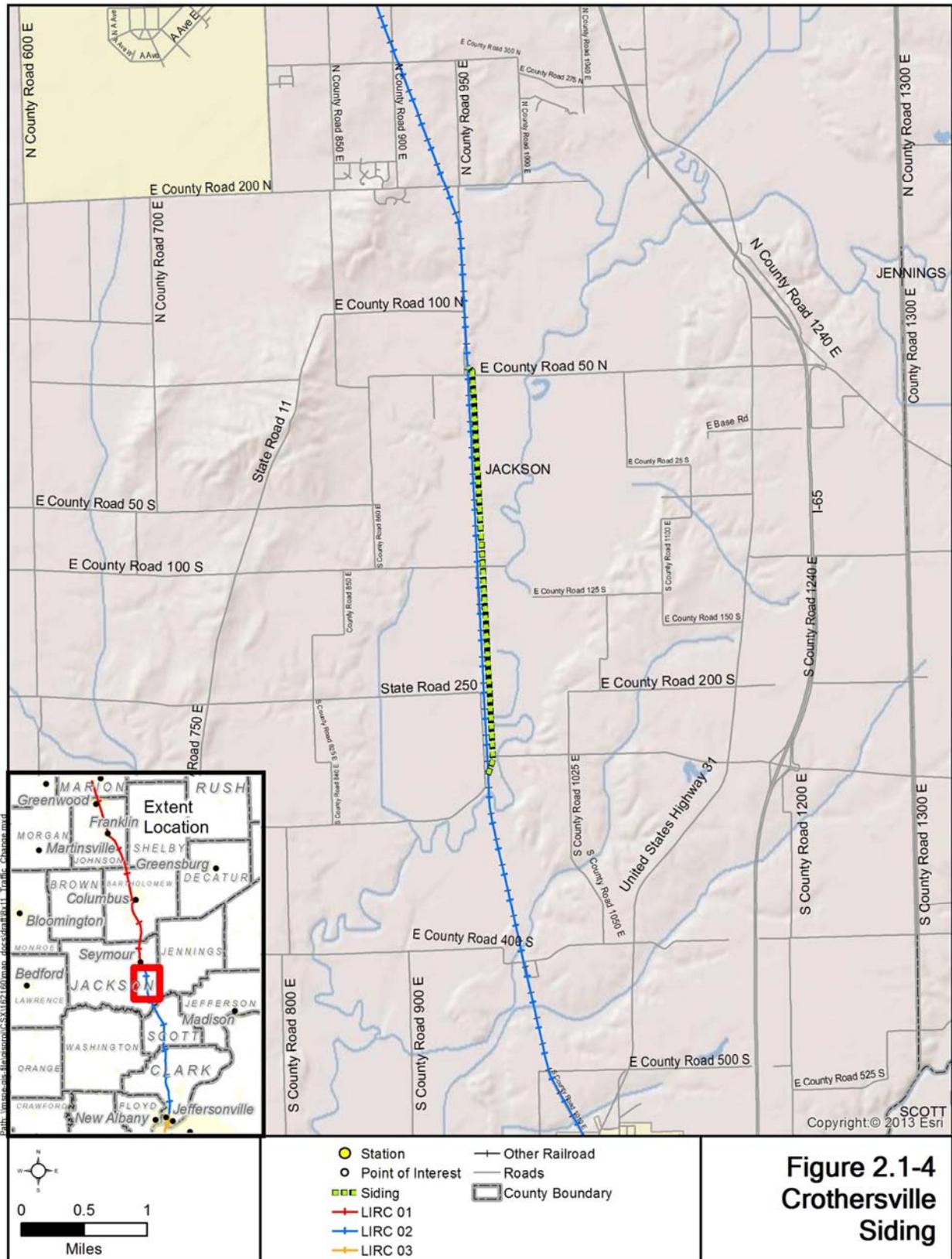


Figure 2.1-6. Location of Flatrock River Bridge

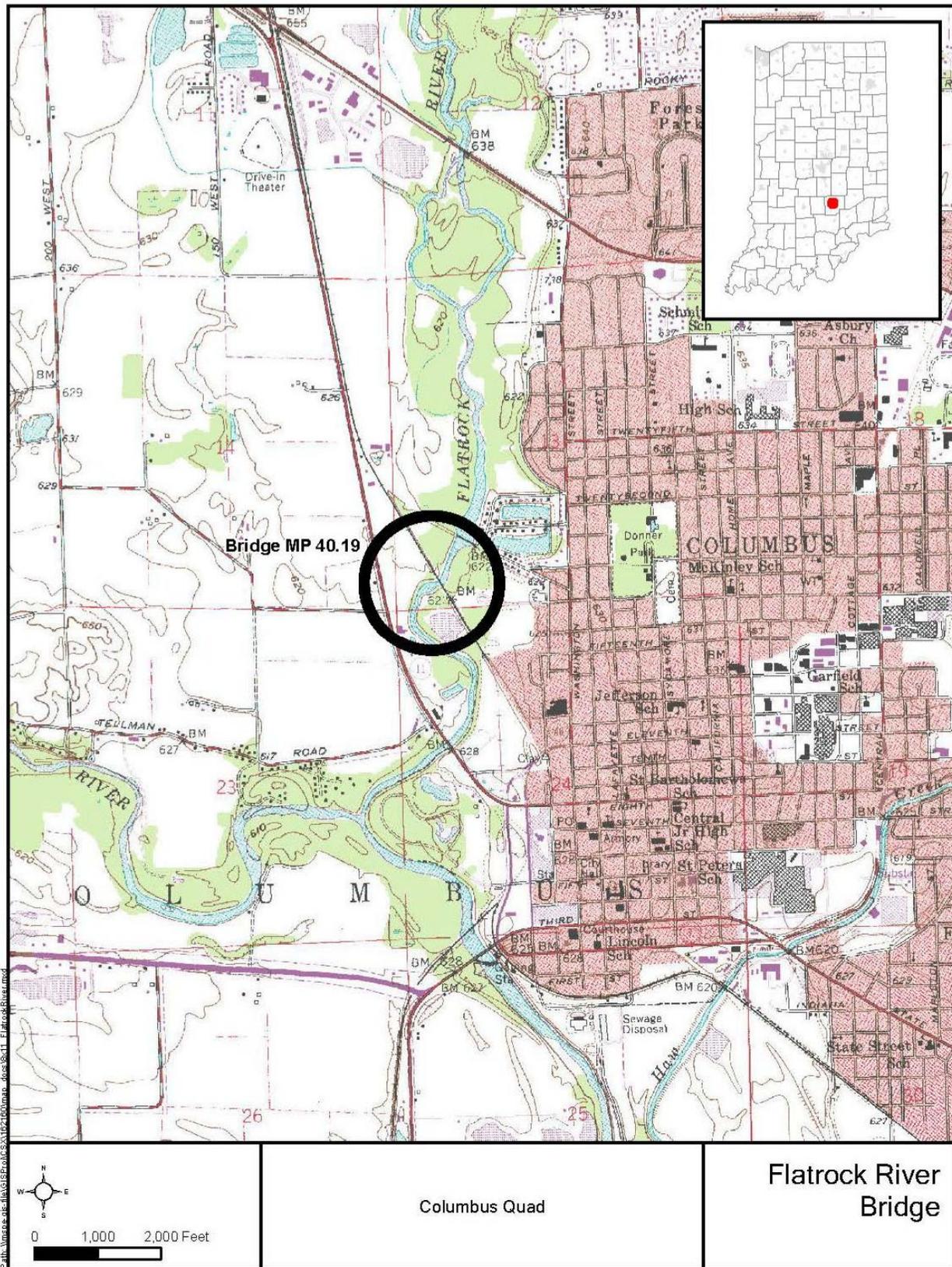


Figure 2.1-7. Existing Flatrock River Bridge, MP 40.19

CSXT's current train operations in the region, specifically centered on Louisville, are shown in Error! Reference source not found. and **Figure 2.1-9** below. In addition, current and proposed train traffic is described below.

Figure 2.1-8. CSXT Current Train Traffic

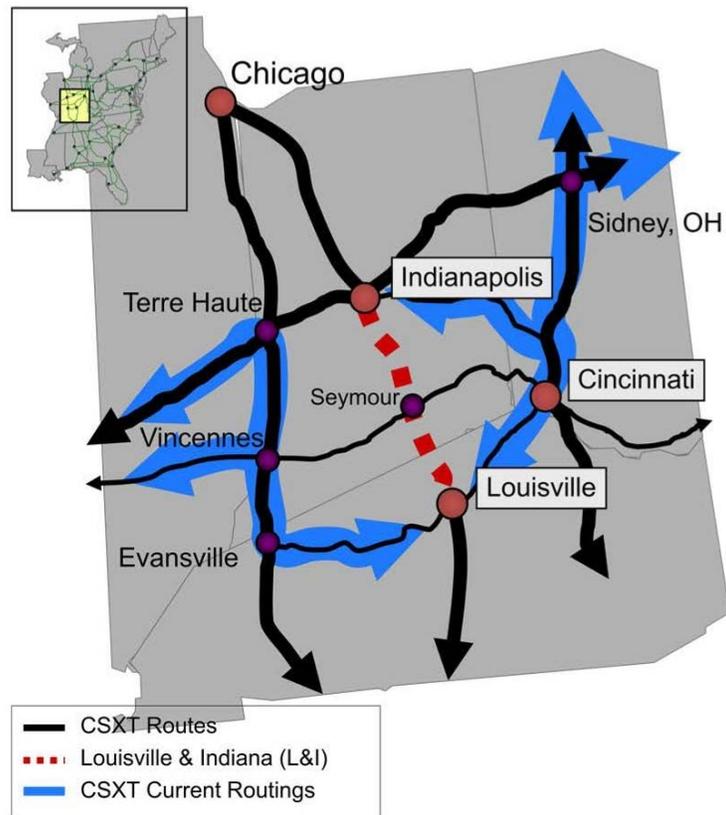
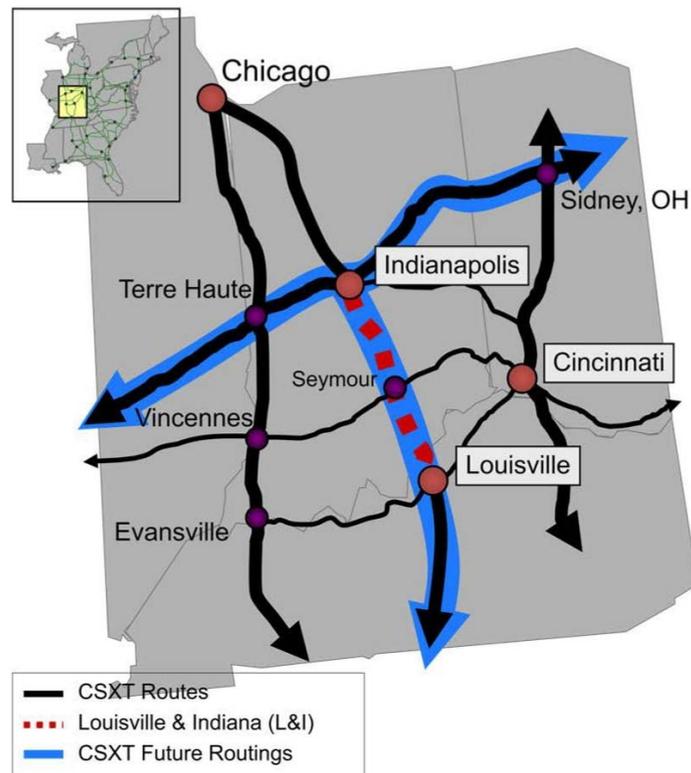


Figure 2.1-9.. CSXT Future Train Traffic



The following four CSXT routes would be affected by the Proposed Transaction (see Figure 2.1-10):

- 1) Louisville, Kentucky to Sidney, Ohio route (via Cincinnati): Currently nine trains a day run from Louisville over the LCL Subdivision to Cincinnati, Ohio. From Cincinnati, trains move to Hamilton, Ohio. From Hamilton, trains move to Sidney. Under the Proposed Transaction, trains would move from Louisville over the Line to Indianapolis, Indiana. From Indianapolis, trains would move to Muncie, Indiana, and on to Sidney.
- 2) Louisville to East St. Louis, Illinois route: Currently one train a day moves over this route. From Louisville, the train moves to the Ohio River crossing at Henderson, Kentucky/Evansville, and moves to Vincennes, Illinois. From Vincennes, the train moves to East St. Louis. Under the Proposed Transaction, trains would move from Louisville over the Line to Indianapolis. From Indianapolis, the train would move over the Indianapolis Terminal Subdivision to East St. Louis.
- 3) Louisville to Sidney route (via Seymour): Currently, two trains a day operate between Louisville and Sidney, utilizing existing trackage rights over the L&I. From Louisville, the trains move over the Line to Seymour and from Seymour the trains move to Cincinnati. From Cincinnati trains move to Hamilton and then onto Sidney. Under the Proposed Transaction, trains would move from Louisville over the Line to Indianapolis. From Indianapolis, trains would move to Muncie, Indiana, and on to Sidney.
- 4) Indianapolis to Louisville route: From Indianapolis, trains would move east to Hamilton and then onto Cincinnati where it crosses the Ohio River. From Cincinnati trains would move over the LCL Subdivision to Louisville.” Under the Proposed Transaction, three new trains would move from Indianapolis over the Line to Louisville.

As a result of the Proposed Transaction, CSXT would eliminate two trains that it currently operates over its Indiana Terminal Subdivision (between Cincinnati and Seymour) and thence over the L&I to Louisville.³⁴ In the future, these trackage rights trains would operate over the LCL Subdivision, which would be a result of available capacity created by routing trains over the Line instead of the LCL Subdivision. CSXT would maintain the ability to enter and exit the Line at Seymour.

According to Applicants, the Proposed Transaction would allow CSXT to better serve its customer base by operating more efficiently within the region. Acquisition of the Easement would afford CSXT greater flexibility, and control over the routing and handling of its trains in the Midwest region, especially between Louisville, Kentucky, and Cincinnati, Ohio. Increased flexibility would enable CSXT to more efficiently route trains to, from, and through the region, which would lower CSXT’s operating costs and improve the consistency and performance CSXT can offer to current and future customers. In addition, the entire CSXT network would benefit from more efficient and consistent operations in the region and the

³⁴ These two trains operate over the LIRC pursuant to the Trackage Rights Agreement.

improved operations would reduce fuel consumption and emissions. The Proposed Transaction would also enable L&I to move heavier and taller railcars and increase the speed of its trains, thereby, enhancing L&I’s operating efficiencies as well.

Figure 2.1-10. CSXT Routes Affected by the Proposed Transaction

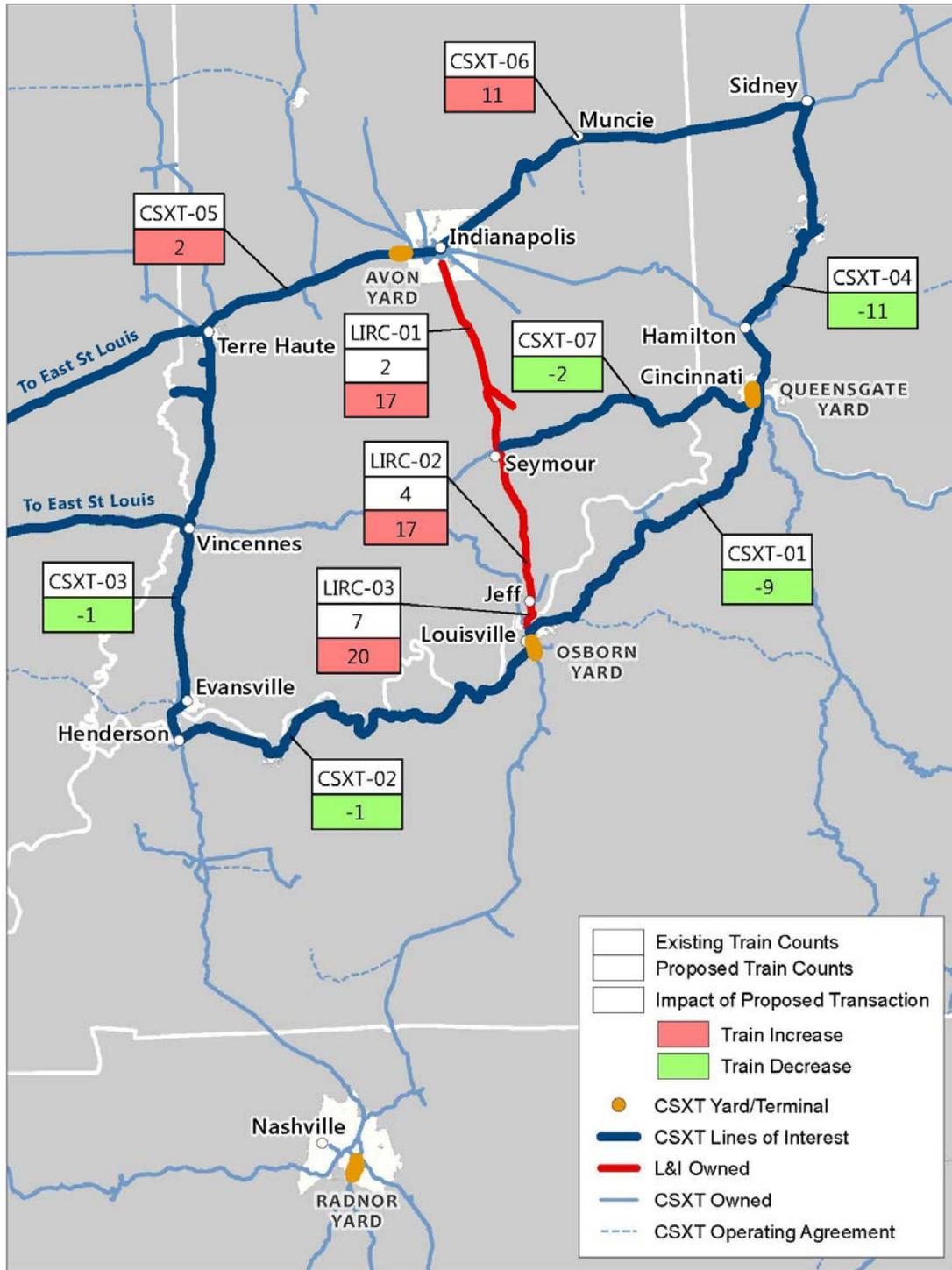


Figure 2.1-10 shows current traffic on the Line as well as traffic as a result of the Proposed Transaction. CSXT and L&I are the only carriers that use or would use the Line.

Figure 2.1-11.. CSXT Train Traffic Changes

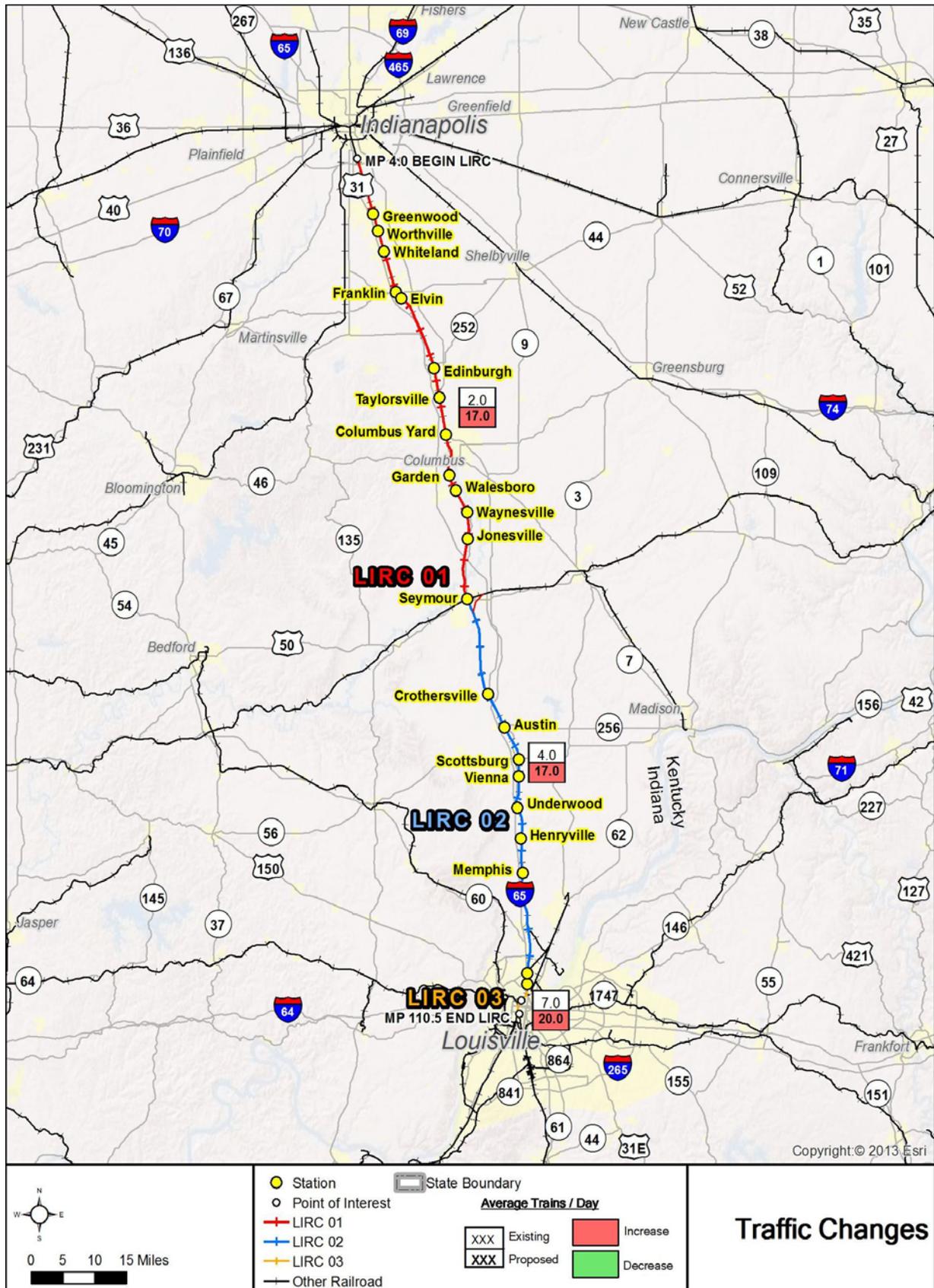


Table 2.1-3 represents the changes that would occur on the Line from the Proposed Transaction.³⁵ Two of the projected trains added on LIRC-01 would exit the Line at Seymour and, therefore, would not operate on segments LIRC-02 and LIRC-03.

Segment No.	Subdivision	Length (miles)	Begin Station	End Station	Existing Trains per Day	Proposed Trains per Day	Change in Trains per Day
LIRC-01	L&I	55.3	Indianapolis	Seymour	2	17	+15
LIRC-02	L&I	45.2	Seymour	Jeff Yard	4	17	+13
LIRC-03	L&I	6.0	Jeff Yard	CSXT Junction, Louisville	7	20	+13

Source: CSXT 2011, L&I Easement Information Request, June 1, 2011.

CSXT operates a mix of trains over the region of its network that would be affected by the Proposed Transaction, including automobile trains, bulk commodities, coal, intermodal, merchandise, and others. CSXT expects the average length of train operated over the Line to be 7,200-foot-long and to weigh 6,000 tons. CSXT expects to increase the size of its trains over the Line if general economic and market conditions warrant. CSXT does not expect trains to exceed, on average, 7,200 feet in length over the Line for at least five years. L&I operates trains that are 3,160-foot-long and weigh 4,000 tons. L&I does not anticipate changes to its number, length, or tonnage of trains as a result of the Proposed Transaction. Should L&I decide to increase the height or tonnage of its trains, and thus benefit from the proposed upgrades, L&I could do so but would pay CSXT a fee.

The Proposed Transaction would not add passenger or commuter rail traffic to the Line. Amtrak currently operates one or two excursion trains annually on the Line and there are no commuter trains that operate on the Line.

2.2 No-Action Alternative

CEQ's regulations implementing NEPA (40 C.F.R. § 1502.12(d)) require consideration of a No-Action Alternative. Consideration of the No-Action Alternative provides a basis for understanding the benefits and potential adverse impacts of the Proposed Transaction. Under the No-Action Alternative, CSXT would not acquire an operating easement from L&I, would not upgrade the Line, and would not jointly use the Line with L&I. CSXT would continue to use the Line for its current load of overhead traffic and would not make any improvements to the Line or make any changes to existing rail operations. Under the No-Action Alternative, the traffic increases on the Line that would occur under the Proposed Transaction would not take place, but the potential transportation-related benefits of this project to CSXT and L&I that would result from the upgrades that CSXT plans to make would not occur either.

³⁵ Proposed trains are CSXT's best estimate for the next three to five years. However, actual train counts would be highly dependent on general economic conditions, market factors, and transportation demand.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

Chapter 3.0 describes the affected environment and potential direct and indirect impacts from construction and operation of the Proposed Transaction, and for the No-Action Alternative. Impacts areas addressed include transportation, community resources and land use, socioeconomics, geology and soils, water resources, biological resources, air quality and climate, noise and vibration, energy resources, cultural resources, environmental justice and cumulative effects.

3.1 Transportation

This section discusses the affected environment and potential environmental impacts from the alternatives as they relate to the local road network, railroad operations and safety, hazardous materials transportation, and emergency response.

3.1.1 Grade Crossing Delay

This section discusses the affected environment as it relates to grade-crossing vehicular delay and the effects due to changes in train frequency, length, and speed as a result of the Proposed Transaction.

3.1.1.1 Affected Environment

Grade crossings along the Line were analyzed for delay under existing conditions in 2011. There are 176 public and 49 private crossings located along the Line. Of the 176 public crossings, 22 are grade-separated and 154 are at-grade crossings. The environmental analysis focuses on the public at-grade crossings that would experience an increase in the number of trains per day as part of the Proposed Transaction Table C-1 in Appendix C summarizes the number of existing public at-grade crossings along the Line. The figures in Appendix C also illustrate where these at-grade public crossings are located.

To characterize the existing conditions along the Line, the analysis estimated existing vehicular traffic delays due to the train movements at the 154 public at-grade crossings. The analysis focused on calculating delays to characterize the existing effects on vehicular traffic from current train movements.

For the existing roadways, the analysis estimated delay by using the existing number of trains, existing average train speed, length of trains, and the number of traffic lanes for each highway/rail at-grade crossing. The calculation is based on the 2011 average daily traffic (ADT) volumes—number of vehicles per day (vpd).

The existing level of service (LOS) for each highway/rail at-grade crossing was also determined. LOS refers to the efficiency at which a highway/rail at-grade crossing operates when a train passes through. For this analysis, the LOS determination is based on the average delay for all vehicles (Dv). LOS ranges from A to F, with LOS A indicating relatively free-flowing traffic and LOS F indicating extreme congestion.

To characterize the existing traffic and train delay at the public highway/rail at-grade crossings, several data sources were used:

- FRA location and inventory databases for information about highway/rail at-grade crossings, including ADT data;
- CSXT company databases for train lengths and speeds;
- L&I company database for train lengths and speeds; and
- State, regional, and local departments of transportation databases for roadway ADT data. The ADT volumes are from 1986 to 2010. A one-percent growth rate was applied to determine the existing ADT volumes.

The most current and available ADT ranges from less than 100 vpd at County Road (CR) #700 N in Taylorsville, Indiana, to 36,000 vpd at State Road (SR) #46 in Columbus, Indiana (see Tables C-1 and C-6 in Appendix C, which present the public at-grade crossings in geographic order from north to south).

All of the crossings analyzed exhibit some level of delay under 2011 existing conditions. The average delay per delayed vehicle at the 154 at-grade crossings on the Line currently ranges from approximately one to four minutes. For the 154 at-grade crossings, the total vehicle traffic delay ranges from less than one minute per day to approximately 449 minutes per day (Table C-1). Currently, nine at-grade crossings have total vehicle delays that exceed 100 minutes per day and these crossings include:

- County Line Road South in Marion County, IN (approximately 106 minutes/day);
- SR #46 in Bartholomew County, IN (approximately 171 minutes/day);
- W. Morgan Drive in Scott County, IN (approximately 145 minutes per/day);
- Main Street/SR #256 in Scott County, IN (approximately 139 minutes/day);
- McClain Street/SR #56 in Scott County, IN (approximately 245 minutes/day);
- SR #403 in Clark County, IN (approximately 145 minutes/day);
- Hamburg Pike in Clark County, IN (approximately 158 minutes/day);
- Charlestown Road in Clark County, IN (approximately 449 minutes per day); and
- 11th Street in Jefferson County, KY (approximately 326 minutes/day).

The queue analysis results showed the longest vehicular queues at the at-grade crossings of Hanna Avenue in Indianapolis and Hamburg Pike in Cementville, Indiana and McClain Street/SR #56 in Scottsburg, Indiana. Each at-grade crossing of the Line was also analyzed to determine the effects of the queue lengths. When a queue is so long that it blocks a major roadway, the mobility of the community is considered to be affected. On the other hand, when queues block no roadways or a local roadway only, the mobility of the community is not considered to be affected.

Under the 2011 existing conditions:

- Queues on Shelby Street block Hanna Avenue in Indianapolis, Indiana; Queues on Bartholomew Blvd.(Jeffersonville, Indiana), Morgan Drive (Indianapolis, Indiana), SR #256 (Austin, Indiana), SR #403 and Charlestown Road (Jeffersonville, Indiana) block U.S. 31; and
- Queues on SR #258 block SR #11 in Seymour, Indiana.

Currently, the LOS at all but one of the 154 at-grade crossings on the Line is LOS A, which means the traffic is free flowing at each crossing. The lone exception is 11th Street in Kentucky, which currently experiences traffic LOS B. However, these traffic conditions are still considered reasonably free flowing.

3.1.1.2 Environmental Impacts

Analysis of the Line includes potential effects of the Proposed Transaction on roadway traffic and transportation. The analysis thresholds listed in Table 3.1-1 are used to evaluate the potential traffic and transportation effects of the Proposed Transaction and the No-Action Alternative for 2014³⁶ conditions. The analysis included determining the effects on local and regional roadway systems resulting from projected increases in train traffic.

The effects of the Proposed Transaction and the No-Action Alternative on the public at-grade public crossings were evaluated by determining the vehicle delay at the highway/rail at-grade crossings and then assessing how increased delays from the Proposed Transaction would affect delay and overall operations.

Table 3.1-1. Transportation Analysis Thresholds	
Transportation Impact Area	Analysis Thresholds
Highway/Rail At-Grade Crossings	Expected 2014 traffic volumes greater than 2,500 average daily traffic (ADT) on intersecting roadways; or
	Change of three or more trains per day on roadways with greater than 2,500 ADT.
	Crossings closer than 800 feet apart

Source: STB 2008, *Draft Environmental Impact Statement for the Proposed Canadian National Acquisition of the Elgin, Joliet & Eastern Railway Company*, Finance Docket No. 35087.

The threshold of 2,500 ADT is based on general traffic engineering standards, field observations, and thresholds used in previous rail mergers and acquisitions including the CN/EJ&E merger (*Canadian National Railway Company and Grand Trunk Corporation-Control-EJ&E West Company*, STB Docket No. FD 35087 [STB served December 24, 2008]). OEA believes that the use of these thresholds is reasonable and conservative. Impacts on roadways with average daily traffic volumes below 2,500 and the additional vehicular delay that would result from Transaction-related increased train traffic would be minimal. Using the thresholds in Table 3.1-1, 71 public at-grade crossings were analyzed (see Table C-6 in Appendix C).

Proposed Transaction

As part of the Proposed Transaction, the number of trains per day operating on the rail line in 2014 is anticipated to increase to 17 trains per day along LIRC-01 and LIRC-02 and to 20 trains

³⁶ All 3 rail line segments are projected to see an increase in trains by 2014.

per day along LIRC-03. The analysis calculated LOS, queue lengths (feet), average delay per delayed vehicle (min), and total vehicle traffic delay in a 24-hour period (min) for the approaching roadways and crossings at each of the 71 public at-grade crossings that met the Board's thresholds for analysis. The analysis also accounted for slower speeds through the road crossings that were located about 0.5 mile from the end of the four sidings. In addition, the roadway crossing locations in each community were analyzed to determine the potential effects of the Proposed Transaction. Table C-6 in Appendix C presents results of the highway/rail at-grade crossing analysis for the Line. The increase in average train length, train speed, and the average number of trains expected per day directly affect the extent of increase in motorist delay and vehicle queues.

The analysis indicates that there would be some effects on each crossing due to the Proposed Transaction. In 2014, ADT at crossings on the Line would range from 100 vpd at St. Louis Avenue South in Jackson County, IN to 37,100 vpd at SR #46 in Bartholomew County, IN (Table C-6). Under the Proposed Transaction, the average delay per delayed vehicle would be comparable to or slightly less than existing conditions, ranging from approximately one to three minutes. These future delays per vehicle are comparable to or less than existing conditions because future trains, although more frequent and generally longer, would be moving at faster speeds.

However, the number of at-grade crossings on the Line that would experience total vehicle traffic delays that exceed 100 minutes per day would increase from nine crossings under existing conditions to 45 crossings under the Proposed Action because of the proposed increase in train traffic per day. The crossings representing the 10 largest total vehicle traffic delays include:

- Hanna Avenue in Marion County, IN (approximately 643 minutes/day);
- Southport Road in Marion County, IN (approximately 662 minutes/day);
- Stop 11 Road in Marion County, IN (approximately 1,020 minutes/day);
- County Line Road South in Marion County, IN (approximately 1,243 minutes/day);
- 11th Street in Bartholomew County, IN (approximately 1,740 minutes/day);
- 8th Street in Bartholomew County, IN (approximately 2,001 minutes/day);
- SR #46 in Bartholomew County, IN (approximately 6,454 minutes/day);
- Tipton Street/U.S. 50 in Jackson County, IN (approximately 1,712 minutes/day);
- McClain Street/SR #56 in Scott County, IN (approximately 677 minutes/day); and
- Charlestown Road in Clark County, IN (approximately 2,579 minutes/day).

The LOS at the vast majority of at-grade crosses on the Line would remain at LOS A under the Proposed Transaction. However, the LOS at the following five at-grade crossings would decrease to LOS C under the Proposed Transaction, which is considered stable flow or near free flow:

- 11th Street in Bartholomew County, IN;
- 8th Street in Bartholomew County, IN;
- SR #46 in Bartholomew County, IN;
- Charlestown Road in Clark County, IN; and
- 11th Street in Jefferson County, KY.

The greatest effects under the Proposed Transaction would occur in segments LIRC-01 and LIRC-03, at SR #46 in Columbus, Indiana and Charlestown Road in Jeffersonville, Indiana, respectively. According to Guidance On Traffic Control Devices At Highway-Rail Grade Crossings (Federal Highway Administration [FHWA] 2002), highway/rail grade crossings should be considered for grade separation or otherwise eliminated across the railroad right-of-way whenever one or more of the following conditions exist:

- The highway is a part of the designated Interstate Highway System;
- The highway is otherwise designed to have full controlled access;
- The posted highway speed equals or exceeds 70 mph;
- ADT exceeds 100,000 in urban areas or 50,000 in rural areas;
- Maximum authorized train speed exceeds 110 mph;
- An average of 150 or more trains per day or 300 million gross tons per year;
- An average of 75 or more passenger trains per day in urban areas or 30 or more passenger trains per day in rural areas;
- Crossing exposure (the product of the number of trains per day and ADT) exceeds 1,000,000 in urban areas or 250,000 in rural areas;
- Passenger train crossing exposure (the product of the number of passenger trains per day and ADT) exceeds 800,000 in urban areas or 200,000 in rural areas;
- The expected accident frequency (EAF) for active devices with gates, as calculated by the U.S. Department of Transportation (USDOT) Accident Prediction Formula including 5-year accident history, exceeds 0.5; or
- Vehicle delay exceeds 40 vehicle hours per day (2,400 minutes).

Under the Proposed Transaction, two at-grade crossings would have a delay over 40 hours, SR #46 and Charlestown Road. These crossings did not exceed any other threshold criteria. However, OEA additional conducted of the SR #46 and Charlestown Road crossings. The additional analysis looked at the mobility of the areas surrounding the SR#46 and Charlestown Road crossings. The existing and future LOS conditions were evaluated for major roadways to the east and west of these two crossings to determine the impact of the delay on the existing traffic network. The analysis also looked at the queue length for these two crossings to determine whether they would block any major roads to the east or the west.

While total 24-hour traffic delay, queue length, and major road impacts were estimated for each crossing, only two crossings, SR #46 and Charlestown Road, exhibited a total 24-hour traffic delay of greater than 40 hours (i.e., 2,400 minutes). Existing and future LOS conditions were evaluated for major roadways to the east and west of these two crossings to determine the impact of the delay on the existing traffic network. Table 3.1-2 presents the results of this analysis. LOS of the roadway network is not expected to change from current conditions to the design year, 2014.

Table 3.1-2. LOS of Major Roadways Near High-Delay Roadway Crossings			
Roadway	Functional Classification	2011 LOS	2014 LOS
Near SR #46 Crossing			
SR #46	Other Principal Arterial	D	D
SR #11	Urban Minor Arterial	C	C
Near Charlestown Road Crossing			
Charlestown Rd	Urban Minor Arterial	B	B
U.S. 31	Urban Minor Arterial	A	A

Source: *INDOT 2011, Functional Classification Maps,*
http://dotmaps.indot.in.gov/apps/PlanningDataViewer/FC_Maps/FC_listing.asp.

The queue on SR #46, at an estimated length of 1,472 feet under the Proposed Transaction (Table C-6 in Appendix C), would not block any major roads to the east or to the west. The nearest major roadway to the west, I-65, is more than one mile away. A few hundred feet to the east of the crossing, SR #46 meets SR #11. However, westbound traffic comes through two channelized right-turn lanes from the north leg of the intersection because the west leg is one way. The right-turn lanes have a storage length that far exceeds half of the estimated queue, 736 feet (half of queue length is used because the queue is split between 2 lanes). Due to the layout of the intersection, the Proposed Transaction is not expected to reduce mobility of the community of Columbus, IN in the area of the SR #46 crossing.

The queue at Charlestown Road is estimated to be 600 feet long under the Proposed Transaction (Table C-6 in Appendix C). However, there is a T-intersection with U.S. 31 about 100 feet to the west of the crossing, resulting in potential traffic backups on U.S. 31. The ADT on U.S. 31 under 2014 conditions is expected to be 7,800 vpd, significantly lower than the 12,600 vpd on Charlestown Road (Table C-6). The queue on U.S. 31; therefore, would be shorter than the queue on Charlestown Road. The queues are not expected to have an impact on the mobility of the community of Jeffersonville, IN in the area of the Charleston Road crossing.

The vehicle queue length of 600 feet at Charlestown Road does not block the adjacent intersections on the east leg of the roadway. However, the vehicle queue would block the exit ramp of I-65 on the west leg of the roadway. The exit/entrance ramp is a signalized intersection. In addition, the Veteran's Parkway Overpass is located less than one mile away.

Applicants have offered voluntary mitigation measures in response to these potential grade crossing delays (see Voluntary Mitigation [VM] 33, VM 34, VM 35, VM 37 and VM 49). Applicants propose to examine planned train operations for ways of reducing highway/rail at-grade crossing blockages. Applicants would also cooperate with the appropriate state and local agencies and municipalities to: evaluate the possibility that one or more roadways listed in Table C-6 could be closed at the point where it crosses the Line, in order to eliminate the at-grade crossing; improve or identify modifications to roadways that would reduce vehicle delays by improving roadway capacity over the crossing by construction of additional lanes; assist in a survey of at-grade crossings for a determination of the adequacy of existing grade crossing signal systems, signage, roadway striping, traffic signaling inter-ties, and curbs and medians; and

identify conditions and roadway, signal, and warning device configurations that could trap vehicles between warning device gates on or near the at-grade crossing. Additionally, Applicants would install power switches along the Line where they determine that manual switches could cause stopped trains to block grade crossings for excessive periods of time and that power switches would increase the speed of trains and reduce the likelihood of such blockages.

In addition, OEA preliminarily recommends that Applicants be required to develop a Grade Crossing Mitigation Plan (MM 1), consider potential crossing delay implications when designing sidings (MM 2), and establish a Community Liaison to (1) consult with affected communities, businesses, agencies, concerned citizens and others and (2) cooperatively develop potential solutions to local concerns including grade crossing delays (MM 16).

No-Action Alternative

For the purposes of the No-Action Alternative analysis, the number of trains per day operating on the rail line would remain constant through 2014. The only difference between the No-Action and the 2011 existing conditions analysis is the increase in ADT, which is a one-percent compounded increase for three years. Table C-5 in Appendix C presents the train data used in calculating delay for the No-Action alternative and the ADT used for the delay calculations.

As part of the No-Action Alternative analysis, LOS, queue lengths (feet), average delay per delayed vehicle (min), and total vehicle traffic delay in a 24-hour period (min) were calculated. Table C-6 in Appendix C provides a summary of the traffic delay analysis for the No-Action Alternative.

The time required for the train to enter the intersection and clear the at-grade crossing is the same range as the 2011 existing condition because the train speed and train length would remain constant. The analyzed at-grade crossings exhibit a minimal increase in the number of vehicles delayed from the 2011 existing conditions due to the minimal increase in the traffic along the roadway.

3.1.2 Grade Crossing Safety

Because the Proposed Transaction would increase both the speed and number of trains operating over the Line, the forecasted number of accidents at at-grade highway and rail crossings is expected to be affected.

3.1.2.1 Methodology

There are 154 public at-grade crossings on the Line (see Appendix C, Table C-1). Each crossing has a unique FRA identification number which defines the location and the name of the railroad and roadway. FRA established and maintains a centralized database that provides specific information regarding each of these crossings. This unique identification number and centralized database allows communities, railroads, states, and the federal government to evaluate, analyze, plan for and implement safety improvements. Information in the FRA database includes the number of tracks, number of vehicle travel lanes, type of safety warning devices, number of trains, ADT count, and posted speed of the roadway and tracks.

The 154 public at-grade crossings on the Line were analyzed using FRA guidelines along with the following additional data sources:

- FRA's grade-crossing database and Public Crossing Accident Prediction System;
- CSXT information on train traffic;
- Current ADT information from roadway authorities; and
- Forecasted ADT information.

For the Affected Environment discussion, OEA compiled historical (most recent five-year period) accident data and highway/rail characteristics for the public at-grade crossings within the study area, and the calculated risk of accidents at at-grade crossings. The calculation relied on a methodology developed by FRA. The report, *Summary of the DOT Rail-Highway Crossing Resource Allocation Procedure-Revised* (FRA 1987), describes this method. The method calculates the risk of an accident occurring at an at-grade crossing based on the characteristics of the grade crossing and statistical information on historic accident experience. The historic data are based on FRA records of accidents, along with the inventory of relevant characteristics of the crossings. For the purpose of this analysis, five-year accident history is based on years 2006 through 2010 (the most recent and complete five-year history).

OEA quantitatively analyzed the traffic safety at existing grade crossings using the accident history from the past five years and calculated the potential change in the number of years between accidents due to the Proposed Transaction. OEA used FRA's Personal Computer Accident Prediction System (PCAPS) to calculate baseline accident frequencies and accident frequencies that could result from the Proposed Transaction. In doing so, OEA used the information on public grade crossings in FRA's Office of Safety Analysis database (FRA 2011a, 2011b). It also factored train count and ADT information in the equation.

The train count information used in the analysis requires that the analyst specify the number of day trains, the number of night trains, and the number of switching trains. Based on guidance from Applicants, OEA assumed that the trains are 50 percent night trains, 50 percent day trains, and 0 percent switching trains. It is OEA's understanding that this is consistent with how the railroads, which are the source of the train count information, normally report their information to FRA (i.e., assume an equal distribution between day and night). Roadway authorities provided ADT information, which was adjusted to reflect 2014 projected ADTs.

Under the Proposed Transaction, expected trains and ADT counts are based on 2014 forecasts. The accident prediction formula includes all types of motorized vehicles, including cars, trucks, buses, motorcycles, and any other motorized roadway users. The prediction formula does not include a breakdown of accident by type of vehicle.

The crossings were further analyzed to identify those that would have a predicted accident frequency of greater than 0.15 accidents per year. This is the equivalent of one accident every seven years, which is used as an indicator that the crossing should be considered for an upgrade of its warning devices or, if the warning devices are already sufficient, additional measures such as median barriers, active advance signing, removal of sight obstructions, nighttime lighting, geometric modifications to the roadway approaches, special signing, or other measures that could lower the frequency of accidents. This frequency of predicted accident rate is consistent with

past STB analysis, most recently the *Canadian National Railway Company and Grand Trunk Corporation-Control-EJ&E West Company*, STB Docket No. FD 35087 (STB served December 24, 2008) (the *CN December 24 Decision*). This indicator identifies crossings that are predicted to have a high accident frequency.

The analysis of the predicted accidents at each crossing for this Draft EA also looked for specific crossings that had a change in predicted accident frequency of 0.05 accidents per year, which is the equivalent of one accident every 20 years. This frequency is not considered an acceptable or unacceptable change but an indicator of crossings that are predicted to show a significant change. This change in predicted accident rate is consistent with past STB analysis, most recently the *CN December 24 Decision*. The analysis of a significant change in predicted accidents is intended to highlight those crossings that would experience a significant increase in predicted accidents because of the Proposed Transaction. A significant change in accident prediction is an indicator of where the Proposed Transaction would likely make a significant change in safety.

3.1.2.2 Affected Environment

Ten of the existing public at-grade crossings experienced accidents during the five-year baseline period from 2006 through 2010 (see Table C-8 in Appendix C). One accident was reported at eight of these crossings and two accidents at two of the crossings (W. Morgan Drive in Scott County, Indiana and Riley Drive in Clark County, Indiana). However, based on the above formula, which includes actual accident data, no crossing met or exceeded a predicted accident frequency of greater than 0.15 accidents per year during the five-year baseline period.

3.1.2.3 Environmental Impacts

Proposed Transaction

As calculated for existing conditions, including actual accidents on the Line, no public crossing would meet or exceed a predicted accident frequency of 0.15 accidents per year (i.e., one accident every seven years) under the Proposed Transaction (see Table C-8 in Appendix C). Additionally, as described in Table C-8 in Appendix C, no individual crossing under the Proposed Transaction, taking into account the change in trains, would experience a change in predicted accident frequency that meets or exceeds 0.05 accidents per year (i.e., one accident every 20 years).

The potential increase in predicted accidents on an individual crossing basis is not significant enough to require or suggest site-specific mitigation. Nevertheless, CSXT has offered voluntary mitigation (VM 1 through VM 5, and VM 36 through 38), which offers a preemptive and focused approach to informing the public of these issues and reaching out to the schools and communities along the Line. Under the voluntary mitigation measures, Applicants would coordinate with the appropriate state departments of transportation, counties, and affected communities along the Line to install temporary notification signs or message boards, where warranted, in railroad ROW at at-grade crossings, clearly advising motorists of the increase in train traffic on affected rail line segments. The format and lettering of these signs would comply with the Federal Highway Administration (FHWA)'s *Manual on Uniform Traffic Control*

Devices (FHWA 2009) and would be in place no less than 30 days before and six months after the proposed acquisition by CSXT of a freight easement over the Line.

Applicants would also consult with affected communities to improve visibility at public at-grade crossings by clearing vegetation and other obstructions. Additionally, within six months of acquisition of a freight easement over the Line, Applicants would cooperate with the INDOT and other appropriate local agencies to coordinate a review of corridors surrounding public at-grade crossings to examine safety and adequacy of the existing warning devices, and identify remedies to improve safety for highway vehicles.

Also within six months of acquisition of a freight easement over the Line, Applicants would cooperate with school and park districts to identify public at-grade crossings where additional pedestrian warning devices could be warranted. Applicants would adhere to all applicable Federal Occupational Safety and Health Administration (OSHA), FRA, and state construction and operational safety regulations to minimize the potential for accidents and incidents on the Line.

For each of the public at-grade crossings on the Line, Applicants would provide and maintain permanent signs prominently displaying both a toll-free telephone number and a unique grade-crossing identification number in compliance with Federal Highway Regulations (23 C.F.R. Part 655). The toll-free number would enable drivers to report accidents, malfunctioning warning devices, stalled vehicles, or other dangerous conditions and would be answered 24 hours per day by the Applicants' personnel.

Applicants would continue on-going efforts with community officials to identify elementary, middle, and high schools within 0.5 miles of the Line's ROW and provide, upon request, informational materials concerning railroad safety to such identified schools. Applicants would also consult with state departments of transportation and other appropriate agencies and would abide by the reasonable requirements of INDOT or KYTC prior to constructing, relocating, upgrading, or modifying public at-grade crossing warning devices on the Line.

A letter from the Johnson County Highway Department dated August 22, 2011, requested that CSXT provide increased vegetation removal and management along their railroad property fence line to allow for a clear line-of-sight for vehicular traffic crossing the rail on at-grade crossings before increasing train traffic for the Proposed Transaction (Johnson County Highway Department 2011). VM 4 addresses the County's concern. The county also requested that CSXT coordinate with the Indianapolis Regional Transportation Council and the Indianapolis Metropolitan Planning Organization (MPO). The project description was sent to the Indianapolis MPO which provided comments and information on regional rail and roadway plans and issues.

No-Action Alternative

Under the No-Action Alternative, there would be no changes in the rail traffic over the Line and accident frequency would be expected to remain unchanged.

3.1.3 Hazardous Materials Transportation Safety

Several federal agencies have established requirements for the transportation of hazardous materials on rail lines, including procedures for planning for transportation incidents (releases)

and responding to them. These agencies include USDOT, the U.S. Environmental Protection Agency (USEPA), and the Occupational Safety and Health Administration (OSHA). FRA has authority to ensure the safe movement of rail traffic.

USDOT regulates the source of the hazardous materials risk, the types of containers that hold hazardous materials, such as railcars, and the way these containers are managed. It also oversees signaling, train control, and track safety. The objective is to maximize safety and minimize risks to human health and the environment generally. Federal regulations do not include requirements for buffer corridors or safe distances along rail lines with respect to particular types of structures, such as residences, schools, or hospitals. In practice, hazardous materials are routinely transported along rail lines and highways across the U.S., through areas with many types of land uses, including industrial, commercial, and residential, as well as through environmentally sensitive regions.

Freight railroads have established recommended operating practices for the transportation of hazardous materials pursuant to Association of American Railroads (AAR) *Recommended Railroad Operating Practices for Transportation of Hazardous Materials*, Circular No. OT-55-I (CPC-1174, Supplement No. 1) (AAR 2006). Among the operating practices is the designation of “key trains” and “key routes.” A key train is any train with: 1) five or more tank carloads of toxic inhalation hazard (TIH) compounds; 2) 20 or more carloads with a combination of TIH and other referenced chemicals; or 3) one or more carloads of radioactive material. A key route is a route with annual volumes of either 10,000 carloads of hazardous materials or 4,000 carloads of TIH and other referenced materials. Key trains and key routes must meet safety requirements defined in *Recommended Railroad Operating Practices for Transportation of Hazardous Materials*, Circular No. OT-55-I (CPC-1174, Supplement No. 1) (AAR 2006).

USEPA regulations address spill prevention and cleanup. Most USEPA regulations address fixed facilities rather than transport activities. However, USEPA regulations in 40 C.F.R. Part 263 are applicable to transporters of hazardous waste, and specify immediate response actions, discharge cleanup, and other requirements for transporters of hazardous waste. Finally, OSHA regulations in 29 C.F.R. § 1910.120 address hazardous waste operations and emergency response, and specify emergency response and cleanup operations for releases of hazardous substances and substantial threats of such releases.

3.1.3.1 Affected Environment

Based on data from the Applicants, 14 carloads of TIH material moved on the Line in 2010. Other hazardous materials totaled 187 carloads in 2010. Based on the AAR recommendations noted above, the Line is not considered to be a key route.

3.1.3.2 Environmental Impacts

Proposed Transaction

According to CSXT, it would not move railcars containing hazardous materials over the Line under the Proposed Transaction. Therefore, the Proposed Transaction would not have any impacts on the transportation of hazardous materials. It is anticipated that the L&I would

continue to move a small volume of hazardous materials on the Line. The potential for a release of hazardous materials has historically been, and should continue to be extremely minimal because of existing regulatory requirements and best management practices (BMPs) employed. Nevertheless, Applicants have volunteered nine mitigation measures related to hazardous materials shipments (VM 40 through 48).

No-Action Alternative

Under the No-Action Alternative, there would be no additional shipments of hazardous materials over the Line by CSXT. L&I would continue to carry minimal amounts of hazardous materials. The potential for a release of hazardous materials would continue to be extremely minimal.

3.1.4 Emergency Response

Historically, the communities in the project area developed along existing rail lines. Emergency responders within these communities had to grow and adapt to rail traffic and have factored rail traffic into their existing procedures and operations. Moreover, as these facilities developed and expanded their coverage areas over time, they had to adapt to fluctuating conditions. Varying dispatch procedures, altering service routes, building new facilities, and establishing mutual aid agreements with neighboring communities are some ways that emergency service providers adapt to fluctuating conditions, including the existence of any trains. While the presence of rail traffic is not a new factor that emergency service responders within the project area would need to adapt to, the potential increase in train traffic from the Proposed Transaction is. Therefore, this analysis considered delay due to train traffic increases.

3.1.4.1 Affected Environment

There are 154 at-grade public crossings on the Line. Under current operating conditions, these crossings are blocked for 1.9 to 6.3 minutes by each passing train. Although trains have the potential to affect emergency access for police and fire vehicles, the communities on the Line maintain mutual aid agreements and other forms of intergovernmental agreements to contact each other in the event of a blocked at-grade crossing.

3.1.4.2 Environmental Impacts

Proposed Transaction

Passing trains would block public at-grade crossings located on the Line between 1.46 and 3.09 minutes under the Proposed Transaction. These times are slightly less than existing conditions because trains, although more frequent and generally longer, would be moving at faster speeds. Nevertheless, OEA evaluated the crossings with the projected maximum delays and potential impacts to emergency service providers.

There are five crossings that would be exposed to the maximum estimated delay of 3.09 minutes. Those crossings are identified in Table 3.1-3 and include 11th Street, 8th Street, SR #46, and Charlestown Road in Indiana, and 11th Street in Kentucky. As an alternate route to the at-grade crossing at Charlestown Road, emergency response vehicles could take Hamburg Pike to the grade separation at Eastern Boulevard (Clark County, IN). When the at-grade crossing at SR

#46 (Bartholomew County, IN) is blocked, emergency response vehicles could use the Veteran's Parkway Overpass as an alternative. When the at-grade crossing at 11th Street (Jefferson County, KY) is blocked, emergency response vehicles could take Broadway to the north or Breckinridge Street to the south and use the grade separation located at 12th Street. In addition, trains would block the at-grade crossing at 11th Street (Jefferson County, KY) for a shorter amount of time under the Proposed Transaction than under existing conditions (Table 3.1-3). There are no alternate routes for the at-grade crossings at 11th Street, and 8th Street in Bartholomew County, IN.

Table 3.1-3. Blocked Crossing Time per Train for Crossings Blocked for the Longest Period under the Proposed Transaction

Segment No.	Street	County, State	Existing Train Speed (mph)	Proposed Train Speed (mph)	Delay in Minutes	
					No-Action ¹	Proposed Transaction ¹
LIRC-01	11 th St	Bartholomew County, IN	20	20	1.49	3.09
LIRC-01	8 th St	Bartholomew County, IN	20	20	1.49	3.09
LIRC-01	SR #46	Bartholomew County, IN	20	20	1.49	3.09
LIRC-03	Charlestown Rd	Clark County, IN	20	20	2.21	3.09
LIRC-03	11 th St	Jefferson County, KY	10	20	4.09	3.09

Source: CSXT 2011, L&I Easement Information Request, June 1, 2011; FRA 2011b, Crossing Inventory Reports, <http://safetydata.fra.dot.gov/OfficeofSafety/publicsite/crossing/crossing.aspx>.

¹ The year 2014 is used because that is when CSXT expects to move trains.

OEA also used a screening process to evaluate the potential effects of at-grade crossings blocked by passing trains on emergency service providers. Emergency service providers are defined as police stations, fire stations (including emergency medical services) and hospitals or medical centers with 24-hour medical/trauma care or emergency rooms. In the first step of the screening process, OEA identified at-grade crossings at which vehicles delays would increase by 30 seconds or more per vehicle and 30 minutes or more per day for all vehicles as a result of the Proposed Transaction because OEA believes that longer delays can potentially cause a substantial effect on emergency service response times. There are five such crossings on the Line (see Table 3.1.4)

Next, OEA identified emergency service providers located within two miles of these at-grade crossings (i.e., crossings at which emergency responders could be delayed by passing trains under the proposed Transaction)(see Table C-7 in Appendix C) and greater than one mile from the nearest grade-separated crossing (crossings at which emergency responders would not be delayed and offer an alternative route to emergency responders).

Through this process, OEA identified six emergency service providers (including two police stations, three fire departments and one hospital as identified below) that are within two miles of an at-grade crossing that would experience Transaction-related increased vehicle delays (i.e., 30 second increase per vehicle and 30 minute increase per day for all vehicles) and are more than one mile from the nearest grade-separated crossing. OEA considers these emergency service providers to be subject to potentially substantial effects.

Table 3.1-4. At-Grade Crossings with Increased Delay of 30 seconds per vehicle and 30 minutes per day						
Segment No.	At-Grade Crossing Location	County, State	Average Delay per Delayed Vehicle (Minutes)		Total Vehicle Traffic Delay (24-Hr) (Minutes)	
			No-Action	Proposed Transaction	No-Action	Proposed Transaction
LIRC-01	11 th St	Bartholomew, IN	1.49	3.09	47.57	1739.65
LIRC-01	8 th St	Bartholomew, IN	1.49	3.09	54.70	2000.60
LIRC-01	SR #46	Bartholomew, IN	1.49	3.09	176.48	6454.11
LIRC-01	Tipton St/U.S. 50	Jackson, IN	1.26	1.91	87.67	1712.12
LIRC-03	Charlestown Rd	Clark, IN	2.21	3.09	459.62	2578.78

In Columbus, IN, Columbus Fire Department Station 1 at 1101 Jackson Street and the Columbus Police Department administrative offices at 123 Washington Street are located within two miles of the 11th Street, 8th Street and SR 46 at-grade crossings. Both facilities are also more than one mile away from the nearest grade-separated crossing and first responders from these facilities could experience delays if 11th Street, 8th Street or SR 46 were blocked by a passing train at the time of an emergency response. However, the Columbus Fire Department operates five other fire stations that would likely be able to provide emergency response relief if the subject crossings were blocked by a passing train. Therefore, OEA would not expect the Proposed Transaction to have a substantial effect on Columbus Fire Department emergency responses.

OEA would not expect the Proposed Transaction to have a substantial impact on emergency response times by the Columbus Police Department because police officers responding to calls are not limited to those stationed at the administrative offices but are typically deployed throughout a community patrolling in vehicles.

In Seymour, IN, the Seymour Fire Station at 318 East Pine Street, Seymour Police Station at 205 N. Ewing Street, Hamilton Township Fire Station at 414 W. 2nd Street, and the Schneck Medical Center at 411 W Tipton Street are located within two miles of the Tipton St./U.S. 50 at-grade crossing in Seymour, IN and more than one mile away from the nearest grade-separated crossing. However, the two fire stations are located on opposite sides of the Line and would likely be able to provide emergency response relief for each other if the Tipton St./U.S. 50 and other nearby at-grade crossings were blocked by a train. The Seymour Fire Department also maintains two other fire stations that could provide additional response relief. Therefore, OEA would not expect the Proposed Transaction to have a substantial effect on Hamilton fire department emergency responses.

OEA does not expect the Proposed Transaction to have a substantial impact on emergency response times by the Seymour Police Department because police officers responding to calls are not limited to those stationed at one location but are typically deployed throughout a community patrolling in vehicles.

OEA believes that the Proposed Transaction could have a substantial effect on emergency service providers transporting patients to the Schneck Medical Center, particularly those responders on the east side of the Line attempting to transport patients west to Schneck Medical Center at the time a stopped or slowly moving train is blocking the Tipton St./U.S. 50 and other at-grade crossings in Seymour. To address this concern, OEA has preliminarily recommended a mitigation measure that would require Applicants to purchase, install and maintain a camera system that would enable the emergency service providers in Seymour to identify (1) blocked at-grade crossings in the city and (2) alternative routes for emergency service providers to take to Schneck Medical Center (see MM 4).

Applicants have also volunteered mitigation (see VM 49) where it would notify Emergency Service Dispatching Centers for all communities along the Line when a stopped train may be unable to move from at-grade crossings for a significant amount of time. OEA has supplemented that voluntary mitigation with a recommendation that Applicants contact the appropriate Emergency Service Dispatch Centers when a stopped or slowly moving train will not clear a public at-grade crossing within 10 minutes (MM 3).

Additionally, although the Proposed Transaction could affect emergency access for police, fire and emergency medical technician vehicles, the communities along the Line would be expected to continue implementing existing mutual aid agreements and other forms of intergovernmental agreements to contact each other in the event of blocked at-grade crossings.

The Proposed Transaction does not modify CSXT's existing rights, which are limited the operation of overhead or through trains over the Line. CSXT does not and would not have the right to serve local customers. As such, CSXT would not stop trains to serve local industries and its trains would have minimal impacts on existing crossing delays.

No-Action Alternative

Under the No-Action Alternative, there would be no change in train traffic and thus, there would be no change in delay due to train traffic at at-grade crossings. The No-Action Alternative would not affect existing emergency service response.

3.2 Community Resources and Land Use

This section describes the environmental setting and potential environmental impacts to community resources and land use. On related topics, potential impacts to transportation safety and mobility are discussed in Section 3.1, potential impacts to socioeconomic and environmental justice populations are discussed in Section 3.3 and Section 3.11, respectively, and potential impacts related to noise and vibration are discussed in Section 3.8. The Proposed Transaction would require construction, but would not require displacements of local residents or public facilities. Therefore, displacements are not discussed in this evaluation.

Community resources in the study area were evaluated using 2011 aerial photography and information from the municipalities crossed by the Line (Table 3.2-1). The study area is defined as the 0.25-mile buffer around the Line. The 0.25-mile buffer is a conservative distance used to encompass the noise-sensitive receptors that would be exposed to day-night noise levels of 65 dBA (A-weighted decibels) or greater and an increase in noise levels of 3dBA or greater under the Proposed Transaction (see Section 3.8, Noise and Vibration).

Segment No.	Length (miles)	Station	Existing Trains Per Day	Proposed Trains Per Day	Change	Jurisdictions
LIRC-01	55.3	Indianapolis to Seymour (Indiana)	2	17	+15	City of Indianapolis Homecroft City of Southport Edinburg Jonesville Wayne Township City of Greenwood Whiteland Pleasant Township Franklin Township City of Franklin City of Columbus New Whiteland Marion County Johnson County Bartholomew County Jackson County

Segment No.	Length (miles)	Station	Existing Trains Per Day	Proposed Trains Per Day	Change	Jurisdictions
LIRC-02	45.2	Seymour to Jeff Yard (Indiana)	4	17	+13	City of Sellersburg Town of Clarksville City of Seymour Crothersville Vernon Township City of Austin Jennings Township City of Scottsburg Vienna Township Jackson County Scott County Clark County
LIRC-03	6.0	Jeff Yard to CSXT Junction, Louisville (Indiana and Kentucky)	7	20	+13	Clarksville City of Jeffersonville Clark County City of Louisville Jefferson County

Sources: CSXT 2011, L&I Easement Information Request, June 1, 2011.

In addition to researching these municipalities, OEA conducted a limited field investigation, including a hi-rail³⁷ trip in April 2011 near public roads and ROW within the Proposed Transaction area.

3.2.1 Community Resources

Community resources include bike trails, fire stations, police stations, churches, cemeteries, parks, day care centers, schools, municipal buildings, retirement homes, hospitals, and libraries. Public transportation services such as commuter rail, roadways, bike paths, pedestrian sidewalks, and trails are also considered community resources.

3.2.1.1 Affected Environment

The Proposed Transaction would take place on an existing rail line right-of-way that traverses several municipalities, rural areas, and a well-developed urbanized area including the City of Indianapolis (Table 3.2-1). In addition to the municipalities, there are other community

³⁷ A hi-rail is a self-propelled road-rail vehicle that can be legally used on both roads and rails. Sometimes referred to as a “Hyrail” or “HiRail,” they are normally converted rubber-tired road vehicles that have additional steel wheels for running on rails.

programs and initiatives such as the Indiana Rail Plan, Industrial Rail Service Fund, Build Indiana Fund, and U.S. Department of Agriculture (USDA) Rural Development Indiana that affect the Line and public facility planning in the study area. Existing public facilities in the study area include colleges, public and private schools, churches, cemeteries, local and state parks, golf courses, medical facilities, a museum, and a senior living facility.

3.2.1.2 Environmental Impacts

Proposed Transaction

Access to public facilities would not change as a result of the Proposed Transaction. Residents would continue to use existing pedestrian and vehicular crossings along the Line (Table C-1) to access the public facilities. The right-of-way of the Line traverses several municipalities; and therefore, would not separate or isolate any distinct neighborhoods. There are four public facilities (i.e., Franklin College of Indiana, Southside School, Indiana Masonic Home, and Province Park) located in the area where CSXT proposes to extend the existing Elvin siding (MP 20.8 to 22.9). There are two public facilities (Pigeon Roost Memorial Park and Vienna Elementary School) located within 0.25 miles of where CSXT's proposed Underwood siding would be located (MP 81.5-83.9). There are no public facilities within 0.25 miles of the Brooks or Crothersville sidings. However, construction activities would be limited to the existing ROW. Therefore, the Proposed Transaction is not anticipated to adversely impact these public facilities.

Although increased train traffic from the Proposed Transaction would increase train-related noise along the Line, the Proposed Transaction would be congruent with historic, current, and future land uses. Therefore, any impacts from these increased noise levels on community resources would likely be minimal.

No-Action Alternative

Under the No-Action Alternative, there would be no adverse effects to public facilities or services.

3.2.2 Land Use

National Environmental Policy Act (NEPA) regulations at 40 C.F.R. § 1502.16(c) require an analysis of the effects of the Proposed Transaction on land use and on the consistency of the proposed project with existing land use plans. This section addresses existing land use, future land use and zoning, planned development, development trends, and special land use designations in the study area.

There are seven regional planning agencies that manage and plan for different land use aspects within the study area: Marion County Department of Metropolitan Development, Johnson County Planning and Zoning, the City of Columbus Planning Department, Scott County Economic Development Corporation, Clark County Planning Commission, the City of Louisville Metro Planning & Design Services Division, and the Kentuckiana Regional Planning and Development Agency. These agencies as well as, digital land use maps and information from the municipalities listed in Table 3.2-1, were used to find existing and proposed land use plans for the study area.

3.2.2.1 Affected Environment

According to local municipal land use inventory data and 2011 aerial photographs, land use within the study area primarily consists of agriculture. Other land uses include developed land uses such as commercial/retail, institutional, transportation, residential, utility ROWs, and parks and recreational areas. Figure 3.6-1 shows conservation and recreation lands in the study area.

The *Indianapolis Regional Transportation Plan for 2025* discusses freight rail's important role in the region and the preservation and enhancement of efficient and safe freight movement in the Metropolitan Planning Area (Indianapolis Metropolitan Planning Organization 2001). The *Columbus, Indiana Comprehensive Plan – Land Use Plan Element and the Bartholomew County Comprehensive Plan Element II – Land Use Plan* encourages the development of industrial business parks along existing rail lines (Columbus/Bartholomew Planning Department 2002, 2003). The Johnson County comprehensive plan, *Plan the Land 2030*, states that businesses are attracted to areas that have easy access to rail as many companies are returning to rail for shipping goods between locations (Johnson County Government 2010). In general, all these plans call for supporting and retaining existing industry and infrastructure, including rail transportation facilities. They also share the goal of encouraging additional growth through promoting the region's strong rail infrastructure and existing resources.

3.2.2.2 Environmental Impacts

Proposed Transaction

The Line is an existing rail facility within both heavily developed and rural areas. Construction would be associated with the Proposed Transaction; however, all construction activities would be within the Line's ROW. The Proposed Transaction would accommodate continuing freight rail use in a more efficient manner and would be congruent with historic, current and future land uses and land use plans. Therefore, the Proposed Transaction is not anticipated to affect land use in the study area.

No-Action Alternative

Under the No-Action Alternative, no changes to land use would occur.

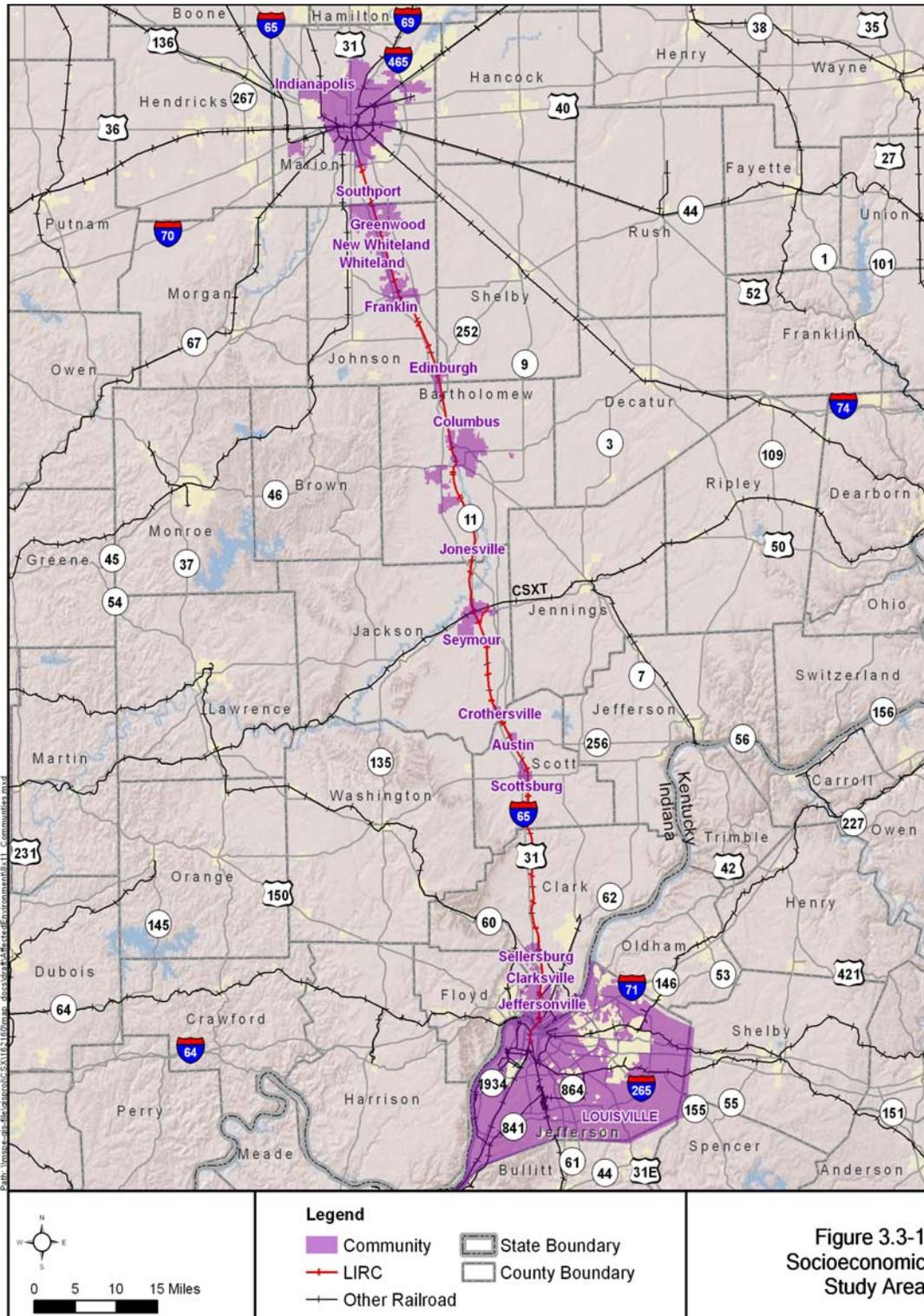
3.3 Socioeconomics

CEQ's implementing regulations for NEPA state that the human environment "shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment" (40 C.F.R. § 1508.14). The same regulations state that, although "economic or social effects are not intended by themselves to require preparation of an environmental impact statement," when "economic or social and natural or physical environmental effects are interrelated, then the environmental document will discuss all of these effects on the human environment." The Proposed Transaction is not anticipated to result in direct socioeconomic effects, as it would not generate increased expenditures in the local economy or generate increased labor demand in the local economy.

This section describes the socioeconomic setting and potential socioeconomic impacts in the vicinity of the Line. This analysis considered socioeconomic conditions along the Line. The

study area for socioeconomic conditions is made up of census block groups adjacent to the Line’s ROW (Figure 3.3-1). This analysis also compared socioeconomic conditions of the study area to those of the corresponding municipalities.

Figure 3.3-1. Socioeconomics Study Area



**Figure 3.3-1
Socioeconomic
Study Area**

3.3.1 Affected Environment

The study area traverses the following counties: Bartholomew, Clark, Jackson, Johnson, Marion, and Scott Counties in Indiana; and Jefferson County in Kentucky. Table 3.3-1 shows the population change from 2000 to 2010 for sample municipalities traversed by or adjacent to Line. The census data generally show variable population changes throughout the study area.

Table 3.3-1. Population by Municipality			
Municipality	2000 Total Population	2010 Total Population	Change in Population
Indianapolis, IN	781,870	820,445	4.9
Southport, IN	1,852	1,712	-7.6
Greenwood, IN	36,037	49,791	38.2
New Whiteland, IN	4,579	5,472	19.5
Whiteland, IN	3,958	4,169	5.3
Franklin, IN	19,463	23,712	21.8
Edinburgh, IN	4,505	4,480	-0.6
Columbus, IN	39,059	44,061	12.8
Jonesville, IN	220	177	-19.5
Seymour, IN	18,101	17,503	-3.3
Crothersville, IN	1,570	1,591	1.3
Austin, IN	4,724	4,295	-9.1
Scottsburg, IN	6,040	6,747	11.7
Sellersburg, IN	6,071	6,128	0.9
Clarksville, IN	21,400	21,724	1.5
Jeffersonville, IN	1,804	1,506	-16.5
Louisville, KY ^a	256,231	597,337	133.1

Source: U.S. Census 2000, 2010, Table P1, Total Population, <http://factfinder2.census.gov/main.html>.

Notes:

^a Data currently only available for a larger geographic area in 2010.

Table 3.3-2 presents the labor force numbers and unemployment rates for the counties traversed by the Line. Of the counties within the study area, Scott County in Indiana and Jefferson County in Kentucky had the highest unemployment rate (10.7 and 9.7 percent, respectively), which is above the average unemployment rate for the U.S. (9.2 percent) (U.S. Department of Labor 2013).

County	Labor Force	Unemployment Rate (%)
Bartholomew County, IN	37,451	6.7
Clark County, IN	55,526	9.6
Jackson County, IN	20,332	7.7
Johnson County, IN	72,177	7.9
Marion County, IN	445,710	9.5
Scott County, IN	10,472	10.7
Jefferson County, KY	372,663	9.7

Source: U.S. Department of Labor 2013, *Local Area Unemployment Statistics*, <http://www.bls.gov/lau/#tables>.

3.3.2 Environmental Impacts

3.3.2.1 Proposed Transaction

Socioeconomic impacts generally depend on the extent to which increased expenditure and/or labor demand of a proposed project stimulate migration to an area and create increased demands for housing and public services. OEA's analysis showed that there would be negligible impacts to the local economy or other socioeconomic conditions associated with the change in rail operations and construction activities resulting from the Proposed Transaction. Although several representatives of state and local governments and industrial interests expressed support for the Proposed Transaction, none identified any specific increases in rail shipping activity or new industrial development that would result from the Proposed Transaction.³⁸ Because of the limited scope of the proposed upgrades to the Line under the Proposed Transaction, any increases in construction-related employment opportunities would be minimal. Likewise, increased CSXT overhead train traffic on the Line under the Proposed Transaction would generate negligible employment opportunities. There would be no displacement of population in the area. Therefore, the Proposed Transaction would not generate any pressure on housing or public services that could not be absorbed by the existing infrastructure. Because negligible impacts are expected, socioeconomic-related mitigation measures have not been proposed.

³⁸ The letters of support for the Proposed Transaction were submitted on the transportation merits of this case. The subject letters and other filings on the Proposed Transaction are available on the Board's website at www.stb.dot.gov by going to "E-Library," selecting "Filings," and then conducting a search for Docket No. FD 35523.

3.3.2.2 No-Action Alternative

Under the No-Action Alternative, there would be no construction. Current operations would continue, and no substantive increase or decrease in train traffic would occur. Socioeconomic conditions would not change as a result of the No-Action Alternative.

3.4 Topography, Geology, and Soils

This section describes the topography, geology, and soils anticipated to be encountered during construction and operation of the Proposed Transaction.

3.4.1 Affected Environment

The landscape and subsurface of central Indiana and northern Kentucky have been altered by a variety of surficial processes. Most notably are the multiple periods of glaciation which resulted in deposits of outwash, glacial till, and lowland silts across the study area. The most recent glaciation (Wisconsinian) only covered the northern portion of the study area and is known to have terminated near Columbus, Indiana. Underlying the glacial deposits is siltstone and limestone bedrock that ranges between 600 and 400 feet above mean sea level (msl). Alluvial deposits of sand and silt overlie the glacial deposits along rivers and streams within the study area.

There are 161 soil units in the study area reflecting a variety of formation factors and composition. Moderately to well-drained soils in the study area (largely silt and loam) support cultivation of row crops such as corn and soybeans. More poorly drained soils in the study area are used primarily as pasture or are left as wooded areas or wetlands. The USDA Natural Resources Conservation Service (NRCS) has identified 1.07 million acres of prime farmland within Indiana (USDA-NRCS 2009). Nearly all of the land along the northern portion of the Line is considered prime farmland. However, south of Jackson County the percentage of prime farmland decreases to less than half. Thirty-four and 26 of the 161 soil units have moderate and severe road/trail potentials for erosion hazard, respectively. Table D-1 in Appendix D shows a list of study area soils and their potential for erosion hazard.

The terrain along the existing rail line ROW is relatively flat but contains scattered, gently rolling hills. Most of the ROW lies between 710 and 160 feet above msl. A few locations have elevation increases, but rugged, steeply sloping topography is not present in the vicinity of the ROW.

3.4.2 Environmental Impacts

Soils

Because construction activities would disturb more than one acre, Applicants would need to obtain a National Pollutant Discharge Elimination System (NPDES) permit from the Indiana Department of Environmental Management (IDEM). To prevent and contain soil erosion, the NPDES permits would require adequate design, grading, and use of BMPs to ensure that the soil resources would not be affected by the Proposed Transaction. The limited construction areas would result in relatively minimal impacts on soils. The Proposed Transaction would not result

in erosion or siltation that would lead to measurable air or water degradation and would not result in a loss of topsoil that would cause a measurable decline in agricultural or habitat uses.

In addition to the required NPDES permit, Applicants have agreed to additional mitigation measures. Applicants would commence reclamation of disturbed areas as soon as reasonably practicable after Transaction-related construction ends along a particular stretch of the Line. The goal of reclamation would be the rapid and permanent reestablishment of native ground cover on disturbed areas. If weather or season precludes the prompt reestablishment of vegetation, Applicants would use measures such as mulching or erosion control blankets to prevent erosion until reseeding could be completed (VM 27). Applicants would limit ground disturbance to only the areas necessary for Transaction-related construction activities (VM 28). Applicants would review the limits of land disturbance prior to construction to determine whether any U.S. Department of Commerce, National Geodetic Survey monuments (i.e., a government owned permanent survey marker) would be disturbed. If any survey monuments would be disturbed, Applicants would give a 90-day notification to the National Geodetic Survey (VM 29). Applicants would require contractors to dispose of waste generated during Transaction-related construction activities in accordance with all applicable federal, state, and local regulations (VM 30). Applicants would make reasonable efforts to identify all utilities that are reasonably expected to be materially affected by the proposed construction within their existing ROW or that cross their existing ROW. Applicants would notify the owner of each such utility identified prior to commencing Transaction-related construction activities and coordinate with the owner to minimize damage to utilities. Applicants would also consult with utility owners to design the rail line so that utilities are reasonably protected during Transaction-related construction activities (VM 31). During construction activity, Applicants would take reasonable steps to ensure contractors use fill material appropriate and in accordance with applicable regulations for the project area (VM 32).

Hazardous Waste Sites

OEA reviewed environmental databases maintained by IDEM and USEPA were reviewed to assist in determining if hazardous waste sites or hazardous material spill sites are or might be present on or near the Line. If present, project construction could result in environmental consequences if contaminated groundwater was disturbed, or if contaminated soil was disturbed or removed and relocated elsewhere as fill. Removal by excavation or dewatering could release or expose contaminants and other hazardous substances, which could increase risks to human health (including that of project-related construction workers and nearby residents, workers, etc.) or the environment.

OEA also reviewed reported releases of hazardous materials on railroad properties from the National Response Database from as far back as 1999. There were no reported releases for the Line within that time period.

The following IDEM, Office of Land Quality online environmental databases were reviewed:

- Active Permitted Solid Waste Sites;
- Industrial Waste Sites;
- Brownfields;

- Construction and Demolition Waste Facilities;
- State Cleanup Sites;
- Composting Facilities;
- Confined Feeding Operation Facilities;
- Corrective Action Sites;
- Institutional Control Sites;
- Leaking Underground Storage Tanks;
- Manufactured Gas Plants;
- Superfund Program Facilities;
- Old Landfills;
- Open Dump Sites;
- Restricted Waste Sites;
- Septage Waste Sites;
- Waste Tire Sites;
- Waste Transfer Stations;
- Treatment, Storage, and Disposal Sites;
- Underground Storage Tanks; and
- Voluntary Remediation Program Sites.

Table E-1 (in Appendix E) summarizes the sites that appear to be in the vicinity of the Line and are listed in the IDEM environmental databases. The USEPA EnviroMapper program was not used to track sites in Indiana because the IDEM environmental databases were used.

The USEPA EnviroMapper program was used to look for sites that are being tracked by USEPA for the portion of the Line that is within the State of Kentucky. The EnviroMapper provides general information for sites listed under the Brownfields, Resource Conservation and Recovery Act, Superfund, Federal Facilities, and Recovery Act sites. There were no databases that listed the Line or L&I. Table 3.4-1 lists sites that are located adjacent to the Line and that were tracked through USEPA. The status of these facilities is unknown.

Table 3.4-1. USEPA-Listed Facilities Adjacent to the Line in Kentucky				
Site Name	Address	City	State	Zip
Vbm Corporation Challenger Lifts Division	1402 W Main St	Louisville	KY	40203
Atlas Machine & Supply Inc.	1328 W Jefferson St	Louisville	KY	40203
Ast/Acme, Inc.	728 S 13 th St	Louisville	KY	40210
Louisville Tin & Stove Company	737 S 13 th St	Louisville	KY	40201
Strathmore Press	816 S 11 th St	Louisville	KY	40210

Source: USEPA 2011, EnviroMapper, <http://www.epa.gov/envirofw/emef/>.

CSXT plans to lengthen two existing sidings, at Elvin and Brook in Indiana, and construct up to two new sidings, Crothersville and Underwood in Indiana. Each of these four sidings would be able to accommodate 10,000-foot-long trains (Figure 2.1-2, Figure 2.1-3,

). CSXT would also replace the Flatrock River Railroad Bridge in Columbus, Indiana. These rehabilitation and construction activities would be limited to work upon and within the existing ROW.

A review of the published IDEM environmental database was conducted within a 500-foot buffer area surrounding the proposed construction areas for the Line. Additional information on the status of the facilities was obtained from IDEM virtual file cabinet through July 15, 2011. Construction activities are expected to only occur within the State of Indiana; therefore, no analysis was conducted in Kentucky.

Elvin Siding (Siding 1)

The construction activities for the Elvin siding would add capacity to the existing siding within the existing ROW. There are no known IDEM-listed environmental tracked sites within the 500-foot buffer surrounding the Elvin siding.

Brook Siding (Siding 2)

The construction activities for the Brook siding would add capacity to the south of the existing siding. Figure 3.4-1 shows the location of the Brook siding and the location of IDEM-listed environmental sites. Table 3.4-2 lists the sites within the 500-foot buffer surrounding the proposed construction.

There are three leaking underground storage tank (LUST) sites within the 500-foot buffer area for the Brook siding (Table 3.4-2). The LUST at the Conrail (L&I) site was removed and approximately 171 tons of petroleum-contaminated soils were removed from and disposed of offsite. A closure assessment report was submitted to IDEM in 1995 for the site. However, IDEM records indicate that residual contamination may exist on site and correspondence was issued to the L&I for further action. OEA recommends a mitigation measure to address potential residual soil contamination (MM 9). IDEM records for the Pepsi-Cola LUST site indicate that diesel and gasoline underground storage tanks (UST) were removed in 1989. The diesel UST was determined to have leaked and was given a low priority LUST status. IDEM records indicate that a final closure report was not filed. According to IDEM, the Columbus Warehouse & Carr Inc. LUST site was closed in 1989, and the tanks were removed.

There are two USTs located within the 500-foot buffer area surrounding the Brook siding (Table 3.4-2). The status of the Columbus Container, Inc. UST is unknown. There were no records available through IDEM's virtual file cabinet for this facility. The Ralph E Hoard UST status is unknown. IDEM attempted to conduct a site visit to the facility in 2007 and found the facility to be abandoned. According to IDEM's records, the 1,000-gallon (gal) UST contained mineral spirits. IDEM records indicate that an application to close the UST was submitted in 2001. However, a closure report was not filed with IDEM.

Applied Laboratories, Inc. is a chemical manufacturing/distribution facility that generates hazardous waste. IDEM records did not indicate that the facility is out of compliance, and there are no records of spills for the facility.

IDEM ID/ Tracking No.	Site Name	Address	Zip	Database
19633	Conrail M Of W Storage	1010 Depot St	47201	UST/L
7797	Pepsi-Cola Columbus	3855 N Indianapolis Rd	47201	UST/L
8316	Columbus Warehouse & Carr Inc.	4401 N Indianapolis Rd Box 167	47201	UST/L
24575	Columbus Container, Inc.	Unknown	47201	UST
24642	Ralph E Hoard	2561 N Indianapolis Rd	47201	UST
INR000100842	Applied Laboratories Inc.	3240 N Indianapolis Rd	47201	RCRA-SQG

Source: IDEM 2011 www.idem.gov.

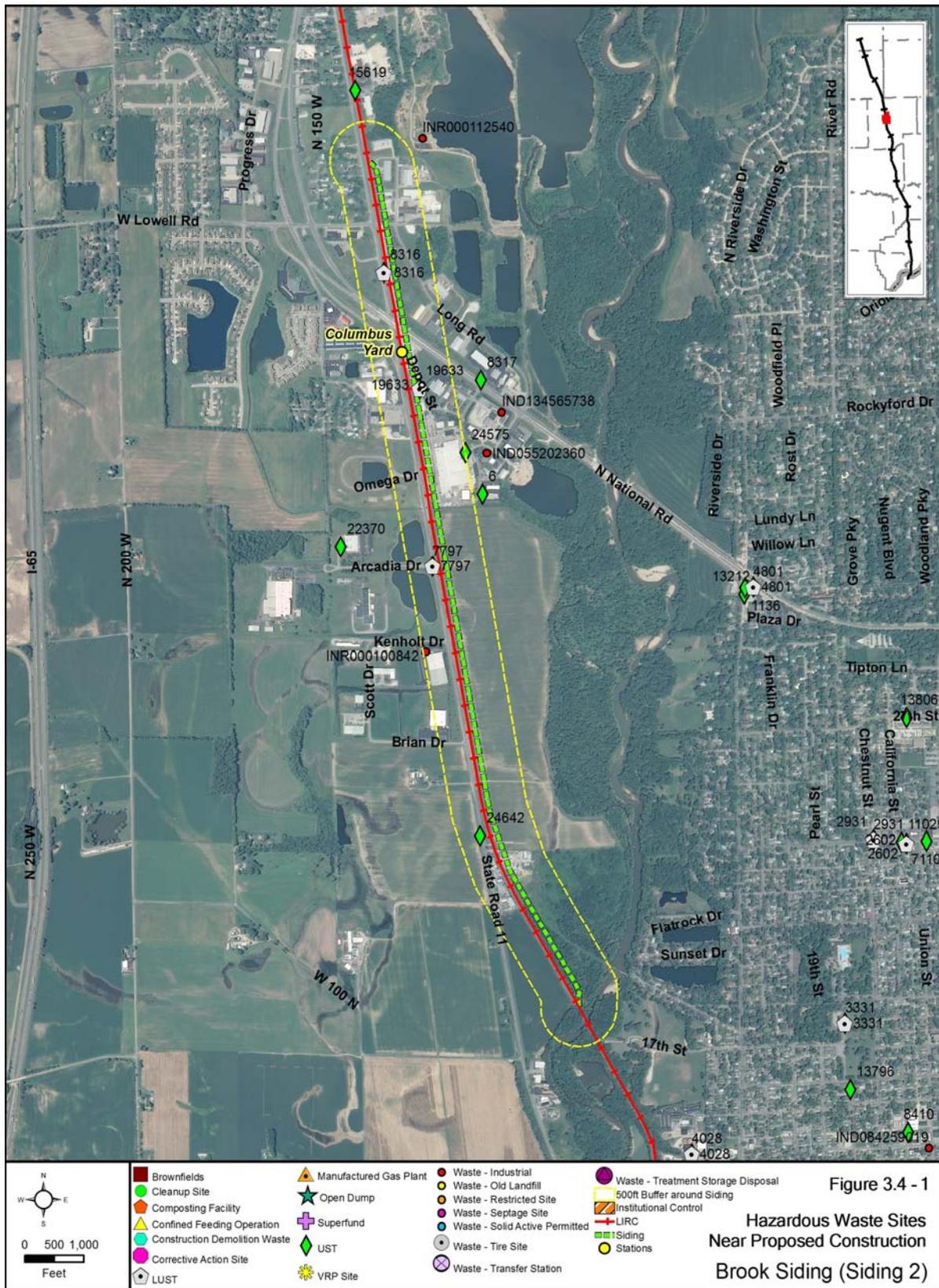
Notes:

UST/L – Leaking Underground Storage Tank

UST – Underground Storage Tank

RCRA-SQG- Resource Conservation and Recovery Act – Small Quantity Generator

Figure 3.4-1. Hazardous Waste Sites near Proposed Construction – Brook Siding



Crothersville Siding (Siding 3)

The proposed construction activities for the proposed Crothersville siding would include adding a new siding within the existing ROW. There are no known IDEM-listed environmental tracked sites within the 500-foot buffer surrounding the proposed Crothersville siding.

Underwood Siding (Siding 4)

The proposed construction activities for the proposed Underwood siding would include adding a new siding within the existing ROW. There are no known IDEM-listed environmental tracked sites within the 500-foot buffer surrounding the proposed Underwood siding.

Flatrock River Bridge

The proposed construction activities for the Flatrock River Railroad Bridge would include replacing the bridge's superstructure with a similar steel girder structure to allow for the handling of 286,000-pound carloads, double-stack intermodal trains, and multi-level cars. There are no known IDEM-listed environmental tracker sites within the 500-foot buffer surrounding the proposed replacement of the Flatrock River Bridge.

Based on the review of the IDEM environmental databases, there would be no impacts to hazardous waste sites due to the proposed construction activities. However, for the Brook siding, residual contamination from the LUST incident at the former Conrail, now an L&I property, could be encountered during construction activities. Contractors should be prepared for the possibility of encountering affected soils and be prepared to detect, excavate, document, and dispose of affected material in compliance with applicable environmental laws and regulations if contaminated soils are encountered. OEA recommends a mitigation measure to address this concern. Construction activities would be within the L&I ROW. Therefore, impacts from the other facilities are not anticipated.

3.4.2.1 No-Action Alternative

Under the No-Action Alternative, there would be no construction. Current operations would continue, and no substantive increase or decrease in train traffic would occur. Topography, geology, and soil conditions would not change as a result of the No-Action Alternative. The No-Action Alternative would not involve construction activities or the disturbance of any groundwater or soils along the Line. No impacts from hazardous waste sites are anticipated.

3.5 Water Resources

This section discusses the affected environment and potential environmental effects of the Proposed Transaction on water resources in the project area. Water resources are natural and man-made sources of water that are available for use by, and for the benefit of, humans and the environment. This section evaluates potential impacts to groundwater, surface water, floodplains, wetlands, and water quality. Water resources were identified using U.S. Geological Survey (USGS) 7.5-minute series quadrangle topographic maps, local USGS National Hydraulic Datasets, USFWS National Wetland Inventory (NWI) maps, NRCS soil surveys, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), lists of impaired

waters for Indiana and Kentucky prepared under the Section 303(d) of the Clean Water Act (CWA), USEPA Reach Address Database, and publicly available 2011 aerial photographs. The review examined water resources crossed by or immediately adjacent to the Line.

Although USEPA has administration oversight over Sections 402 and 404 of the CWA, as well as the Safe Drinking Water Act, USACE administers and enforces Section 404 of the CWA. Most states, including Indiana and Kentucky, have been delegated with the authority to enforce Section 402 of the CWA and the Safe Drinking Water Act. Operational activities that could have potential impacts on water resources may be regulated by several state and federal agencies, including the following:

USEPA:

- Section 402 of the CWA – NPDES authorizes stormwater discharges to waters of the U.S., including wetlands
- Section 404 of the CWA – USEPA reviews and comments on USACE Section 404 permit applications for compliance with the Section 404(b) (1) guidelines and other statutes and authorities within its jurisdiction.; and
- Safe Drinking Water Act (42 U.S.C. § 300f *et seq.*) protects the quality of public drinking water and its sources.

USACE:

- Section 10 of the Rivers and Harbors Act regulates placement of wharfs, piers, jetties, and other structures over, under, or within waters of the U.S.;
- Section 404 of the CWA regulates discharge of fill material to waters of the U.S.;
- EO 11990, Protection of Wetlands (24 May 1977); and
- EO 11988, Floodplain Management (24 May 1977).

U.S. Coast Guard:

- Section 9 of the Rivers and Harbors Act regulates placement of bridges, dams, dikes, and causeways over, under, or within navigable waters of the U.S.

IDEM and Kentucky Department for Environmental Protection (KY DEP):

- Section 401 of the CWA – Water Quality Certification; and
- Section 402 of the CWA – General NPDES permit for construction-related stormwater discharges.

3.5.1 Affected Environment

The Line is located in the Upper White, Driftwood, Flatrock-Haw, Upper East Fork White, Muscatatuck, and Silver-Little Kentucky river basins.

3.5.1.1 Surface Water

Surface water resources are defined as lakes, ponds, rivers and streams adjacent to the Line. Table 3.5-1 lists the rivers, streams, and other surface water features crossed by the Line.

Table 3.5-1. Surface Flow Crossings		
Surface Flow Name	County and State	Flow Type
Lick Creek	Marion County, IN	Unknown
Little Buck Creek	Marion County, IN	Perennial
Buffalo Creek	Marion County, IN	Intermittent
Pleasant Run Creek	Marion County, IN	Perennial
Jolly Brook	Johnson County, IN	Intermittent
Pleasant Creek	Johnson County, IN	Perennial
Grassy Creek	Johnson County, IN	Perennial
East Grassy Creek	Johnson County, IN	Perennial
Brewer Ditch	Johnson County, IN	Intermittent
Graham Ditch	Johnson County, IN	Intermittent
Canary Ditch	Johnson County, IN	Perennial
Unnamed tributaries to Youngs Creek	Johnson County, IN	Intermittent
Hurricane Creek	Johnson County, IN	Perennial
Amity Ditch	Johnson County, IN	Perennial
Sugar Creek	Johnson County, IN	Unknown
Unnamed tributary to Sugar Creek	Johnson County, IN	Perennial
Big Blue River	Johnson County, IN	Unknown
Flatrock River	Bartholomew County, IN	Unknown
Unnamed tributary to Flatrock River	Bartholomew County, IN	Perennial
Opossum Creek	Bartholomew County, IN	Perennial
Denios Creek	Bartholomew County, IN	Perennial
Unnamed tributaries to Thompson Slough	Jackson County, IN	Perennial and Intermittent
East Fork White River	Jackson County, IN	Unknown
Unnamed tributary to East Fork White River	Jackson County, IN	Perennial
Von Fange Ditch	Jackson County, IN	Intermittent
Luther McDonald Ditch	Jackson County, IN	Intermittent
Unnamed tributary to Luther McDonald Ditch	Jackson County, IN	Intermittent
Rider Ditch	Jackson County, IN	Unknown

Table 3.5-1. Surface Flow Crossings		
Surface Flow Name	County and State	Flow Type
Vernon Fork Muscatatuck River	Jackson County, IN	Unknown
East Arm	Jackson County, IN	Perennial
Unnamed tributary to East Arm	Jackson County, IN	Intermittent
Grassy Creek	Jackson County, IN	Perennial
Blau Ditch	Jackson County, IN	Unknown
Nehrt Ditch	Jackson County, IN	Unknown
Muscatatuck River	Scott County, IN	Unknown
Unnamed tributary to Hutto Creek	Scott County, IN	Intermittent
Hutto Creek	Scott County, IN	Perennial
Stucker Fork	Scott County, IN	Unknown
Iola Run	Scott County, IN	Perennial
Scottsburg Drain	Scott County, IN	Intermittent
Bird Run	Scott County, IN	Intermittent
Maple Run	Scott County, IN	Intermittent
Elm Branch	Scott County, IN	Intermittent
Tree Creek	Scott County, IN	Perennial
Sycamore Run	Scott County, IN	Intermittent
Pigeon Roost Creek	Scott County, IN	Perennial
Unnamed tributary to Underwood Run	Clark County, IN	Intermittent
Underwood Drain	Clark County, IN	Intermittent
Silver Creek	Clark County, IN	Perennial
Wheel Run	Clark County, IN	Intermittent
Miller Fork	Clark County, IN	Perennial
Unnamed tributaries to Wheel Run	Clark County, IN	Perennial and Intermittent
Meal Run	Clark County, IN	Intermittent
Wolf Run	Clark County, IN	Perennial
Caney Fork	Clark County, IN	Perennial
Lodge Creek	Clark County, IN	Perennial
Blue Lick Creek	Clark County, IN	Perennial
Unnamed tributaries to Silver Creek	Clark County, IN	Perennial and Intermittent
Muddy Fork	Clark County, IN	Unknown
Mill Creek	Clark County, IN	Perennial

Table 3.5-1. Surface Flow Crossings		
Surface Flow Name	County and State	Flow Type
Ohio River	Jefferson County, KY	Perennial
Several unnamed creeks	All counties	Perennial and Intermittent

Source: USGS 2011, National Hydrography Dataset, <http://nhd.usgs.gov/>.

Notes: Perennial means present in all seasons of the year; intermittent means not continuous.

There are also 24 pond features, as defined by USFWS NWI, crossed by or adjacent to the Line.

3.5.1.2 Groundwater

The groundwater system in the project area consists mainly of sand and gravel deposits of the stream valley aquifers, and alluvium and glacial sediments in the Ohio River valley. In Southern Indiana, the valleys of the Eel, Ohio, Wabash, and Whitewater rivers, as well as the East Fork, West Fork, and main stem of the White River, are underlain by thick deposits of outwash sand and gravel (IDEM 2011). In central Indiana, outwash sand and gravel, limestone, and dolomite bedrock aquifers (IDEM 2011) are present. In the project area within western Kentucky, the main source of groundwater is the Ohio River alluvial aquifer (Palmquist and Hall 1960).

Across the region, groundwater is used for public water supplies (community and non-community systems), individual domestic supplies (where public water supplies are unavailable), and industrial and recreational purposes. Access to and display of information on public water supplies is limited for purposes of homeland security.

The Safe Drinking Water Act requires states to develop a wellhead protection program to protect public water supplies from pollution. In Indiana, IDEM administers the wellhead protection program. This program is regulated through the Indiana Wellhead Protection Rule (327 Indiana Administrative Code 8-4.1). In Kentucky, the wellhead protection program is administered by KY DEP and is regulated through the Water Supply Planning Regulation (Kentucky Administrative Regulation 401 4:220). These programs limit new potential sources and potential routes of contamination within fixed radii around public water supply wells.

3.5.1.3 Floodplains

Floodplains are the low, flat, periodically flooded lands adjacent to rivers, streams and lakes. Floodplains are regulated at both the state and federal levels to promote and ensure sound land-use development in floodplain areas.

FEMA has mapped floodplains nationwide. FEMA defines a 100-year flood zone as “the flood elevation that has a 1-percent chance of being equaled or exceeded each year.” The 100-year flood is the standard used by most federal and state agencies and is used by the National Flood Insurance Program as the standard for floodplain management and determination of flood insurance qualification (FEMA 2010).

OEA reviewed FEMA maps and determined that the Line crosses or is adjacent to the following water bodies in Indiana with designated 100-year floodplains: Driftwood River, Big Slough,

Flatrock River, Opossum Creek, Denios Creek, East Fork White River, Thompson Slough, Vernon Fork Muscatatuck River, East Arm, Grassy Creek, Blau Ditch, Muscatatuck River, Stucker Fork, Hutto Creek, Scottsburg Drain, Pigeon Roost Creek, Silver Creek, Wheel Run, Wolf Run, Caney Fork, Lodge Creek, Muddy Fork, Camp Run, Lick Run, Mill Creek, and Ohio River. The Ohio River floodplain also falls within the state of Kentucky. There are also floodplain zones that are adjacent to or crossed by the Line that are classified as 500-year elevations (500-year elevations is defined as a flood having a 0.2% or greater annual probability of occurring).

3.5.1.4 Wetlands

Wetlands are areas where water is at or near the surface for all or some part of the year, including the growing season. Under normal conditions (which refer to areas not filled, developed, or drained), wetlands are defined by 1) a predominance of plant species adapted to prolonged presence of water (hydrophytes), 2) the presence of hydric soils that develop in wetland conditions, and 3) water at or near the surface for a defined portion of the growing season.

OEA used USFWS NWI mapping to identify wetlands located adjacent to the Line. Starting in the 1970s, the USFWS produced the NWI maps based on aerial photographs and NRCS soil survey maps. Because land use has changed since the 1970s, wetlands shown on the NWI maps are sometimes inconsistent with current wetland conditions; however, NWIs are the most accurate and readily available database of wetland resources. The following wetlands by type are adjacent to or crossed by the Line: four palustrine emergent wetlands, 29 palustrine forested wetlands, one palustrine emergent/forested wetland, and one palustrine scrub/shrub wetland. Some of these wetland areas are part of a larger wetland complex and/or wetland areas associated with major waterways. Wetlands are also considered to be habitat for a variety of plants and animals. Section 3.6, Biological Resources, addresses habitat considerations for these wetland areas.

3.5.1.5 Water Quality

Section 303(d) of the CWA requires states to publish a list of streams and lakes every two years that are not meeting their designated uses because of excess pollutants. These are referred to as impaired waters. In Indiana and Kentucky, IDEM and KY DEP determine each state’s respective 303(d) waters. Twelve of the waterways crossed by the Line are considered impaired, and all are located within Indiana. Table 3.5-2 presents the impaired waters crossed by the Line and their respective designated use and 303(d) listed impairment.

Table 3.5-2. 303(d) CWA-Listed Water Resources		
Resource Name	Designated Use	Impairment
Pleasant Run Creek – Buffalo Creek	Recreation, Fish Consumption, and Aquatic Life	Elevated fecal coliform, impaired biotic communities
East Grassy Creek	Recreation, Fish Consumption, and Aquatic Life	Elevated fecal coliform

Canary Ditch	Recreation, Fish Consumption, and Aquatic Life	Elevated fecal coliform
Hurricane Creek	Recreation, Fish Consumption, and Aquatic Life	Elevated fecal coliform
Amity Ditch tributary	Recreation, Fish Consumption, and Aquatic Life	Elevated fecal coliform
Big Blue River	Recreation, Fish Consumption, and Aquatic Life	Elevated fecal coliform, polychlorinated biphenyls, and mercury
East Fork White River	Recreation, Fish Consumption, and Aquatic Life	Elevated fecal coliform, aluminum, iron, mercury, and polychlorinated biphenyls
Muscatatuck River	Recreation, Fish Consumption, and Aquatic Life	Elevated fecal coliform, and low dissolved oxygen
Stucker Fork (W L McLain Ditch)	Recreation, Fish Consumption, and Aquatic Life	Elevated Ammonia, low dissolved oxygen, and impaired biotic communities
Silver Creek – Unnamed tributary	Recreation, Fish Consumption, and Aquatic Life	Impaired biotic communities
Miller Fork	Recreation, Fish Consumption, and Aquatic Life	Elevated fecal coliform
Ohio River – Battle Creek to McAlpine Dam	Recreation, Fish Consumption, and Aquatic Life	Elevated fecal coliform, and polychlorinated biphenyls

Source: IDEM 2010, 2010 Draft 303(d) List of Impaired Waters, Table Att11_2010 Draft 303d (Cat 5), http://www.in.gov/idem/nps/files/303d_2010_notice_listing_tables.xls.

3.5.2 Environmental Impacts

3.5.2.1 Proposed Transaction

Construction activities associated with the Proposed Transaction would include adding capacity to two existing sidings (at Elvin and Brook), and adding two new sidings (at Crothersville and Underwood) to allow for up to 10,000-foot-long trains. In addition, the railroad bridge over the Flatrock River would be replaced to accommodate heavier trains and double stack and multi-level railcars. All construction activities would be limited to work upon and within existing ROW.

Because neither the U.S. Coast Guard nor USACE classifies Flatrock River as navigable (U.S. Coast Guard 2011; USACE 2011), the Proposed Transaction would not be subject to Section 9 or Section 10 of the Rivers and Harbors Act.

Wetlands would be impacted by the extension of the Elvin and Brook sidings, construction of the new Crothersville siding, and replacement of the Flatrock River Railroad Bridge. Any discharge

of dredged or fill material into waters of the U.S., including wetlands, would require a permit under Section 404 of the CWA from the USACE before work could begin on or around wetlands or streams. CSXT would also be required to obtain a Section 401 Water Quality Certification (WQC) from IDEM. A WQC ensures that a proposed discharge of dredged or fill material into a water of the U.S. would not violate state water quality standards; and therefore, would maintain the integrity of such waterway. Impacts to wetlands would be mitigated in accordance with USACE's Mitigation Regulations (VM 11) and Section 404 and WQC permit requirements (MM 11 and 12).

In its response letter dated July 28, 2011, the USFWS recommends that CSXT locate work areas and access routes to avoid wetland disturbance; avoid discharge of demolition debris, waste material, or other pollutants into streams or wetlands; use BMPs to contain disturbed soils and prevent soil runoff to waterways or wetlands if earthmoving were required; and minimize disturbance of stream channels and avoid work in perennial and large intermittent streams during the primary fish spawning season (April 1 to June 15) if bridge reconstruction were required (USFWS 2011).

In response to the USFWS's recommendations, Applicants have proposed mitigation measures that would minimize sedimentation into streams and waterways during construction. These measures include: use of silt fences and straw bale dikes; disturb the smallest area possible around any streams; establish staging and lay down areas for Transaction-related construction material and equipment; require all contractors to use BMPs; prohibit Transaction-related construction vehicles from driving in or crossing streams at other than established crossing points unless approved by permit; and ensure that any fill placed below the ordinary high water line of wetlands and streams is in compliance with section 409 permit restrictions (see VM 12 through VM 17).

Because construction activities would disturb more than one acre of land, the Proposed Transaction would also be subject to Section 402 of the CWA and CSXT would need to obtain a NPDES stormwater permit. Construction activities associated with extension of the existing Elvin siding would take place in Elvin, Indiana; construction activities associated with extension of the existing Brook siding and replacement of the Flatrock River Bridge would occur in the City of Columbus, Indiana; and construction activities associated with the two new sidings north of Crothersville and north of Underwood would occur in unincorporated areas of Jackson and Scott counties, respectively.

The existing Elvin siding is located in Johnson County, which has been designed as a Municipal Separate Storm Sewer System (MS4).³⁹ In addition, the City of Columbus, Indiana, and Bartholomew County are both MS4 areas. MS4 entities have their own storm water program; and therefore, each entity located in the study area would review the Applicant's Stormwater Pollution Prevention Plan (SWPPP) to ensure it meets their respective stormwater requirements

³⁹ Municipal Separate Storm Sewer System (MS4) is a conveyance or system of conveyances owned by a state, city, town, or other public entity and is designed or used for collecting or conveying storm water. A MS4 includes roads with drains, municipal streets, catch basins, curbs, gutters, storm drains, piping, channels, ditches, tunnels, and conduits.

before a NPDES stormwater permit is issued. Therefore, CSXT would have to develop and submit a SWPPP (as part of the Construction Plan) to the City of Columbus and Bartholomew and Johnson counties. Construction activities associated with the two new sidings between Crothersville and Seymour and between Underwood and Vienna would occur in unincorporated areas of Jackson and Scott counties, respectively. Neither Jackson County nor Scott County is designed as a MS4. Therefore, CSXT would have to submit its SWPPP to the appropriate Soil and Water Conservation District in order to obtain a NPDES stormwater permit.

Construction activities associated with the Proposed Transaction would occur on three floodplains:

- Extension of the existing Brook siding (MP 37.9 to 40.0) would occur in the floodplain of Flatrock River;
- Construction of the new Crothersville siding (MP 64.0 to 66.0) would occur in the floodplain of Rider Ditch; and
- Construction of the new Underwood siding (MP 81.5 to 83.9) would occur in the floodplain of Pigeon Roost Creek.

Applicants must obtain a Construction in a Floodway permit from INDNR before construction can begin in each of the floodplains (MM 10). If INDNR determines that significant impacts would occur as a result of the Proposed Transaction, the Applicant would work with INDNR to make necessary changes to reduce these potential impacts. In addition, activities associated with a Construction in a Floodway permit application could require mitigation for impacts on fish, wildlife, and botanical resources within a floodplain (Indiana Register 2013). Therefore, should the Proposed Transaction impact any of these resources, mitigation measures would be discussed with INDNR and implemented in a way that would reduce impacts. In addition, Applicants have agreed to nine voluntary mitigation measures (VM 11 through VM 19) during construction in order to avoid or minimize impacts to water resources in the study area. These voluntary mitigation measures include use of silt fences and straw bale dikes to minimize soil erosion, sedimentation, runoff, and surface instability; use of drainage ditches as permanent vegetated swales to provide stormwater retention and treatment; placement of staging and lay down areas for construction material and equipment at least 50 feet from waters of the U.S.; and use of turbidity control measures. With the implementation of appropriate mitigation measures, impacts associated with construction activities on the floodplains are not anticipated to be significant.

No construction activities would occur within 303(d)-listed water resources. Therefore, no impacts to impaired waters are anticipated as a result of the Proposed Transaction.

3.5.2.2 No-Action Alternative

Because construction activities are not associated with the No-Action Alternative, impacts to water resources are not anticipated as a result of this alternative.

3.6 Biological Resources

This section describes the affected environment and potential impacts to vegetation, wildlife, and threatened and endangered species resulting from the Proposed Transaction and No-Action Alternative. Activities that could potentially impact biological resources are regulated by USFWS through the Endangered Species Act (ESA) of 1973 (16 U.S.C. §§ 1531–1544), which protects federally designated endangered or threatened species and critical habitat. The Proposed Transaction may also be regulated by:

- Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703–712, as amended);
- Fish and Wildlife Coordination Act of 1934, as amended in 1946, 1958, and 1977 (16 U.S.C. §§ 661–667c);
- Indiana Nongame and Endangered Species Act of 1973 (Indiana Code [IC] 14-22-34)
- Indiana Nature Preserves Act (IC 14-31-1);
- INDNR Fish and Wildlife Administrative Rules (312 Indiana Administrative Code § 9); and
- Kentucky Administrative Regulations (Title 301 - Tourism, Arts, and Heritage Cabinet Department of Fish and Wildlife Resources § 3:061 Endangered Species of Fish and Wildlife).

3.6.1 Affected Environment

OEA identified existing biological resources in the vicinity of the Proposed Transaction by using 2011 aerial photography, USGS topography maps, geographic information systems files and consultations with the following agencies:

- USFWS (Indiana and Kentucky offices);
- INDNR;
- Kentucky Department of Fish and Wildlife Resources (KDFWR);
- IDEM; and
- KY DEP.

A description of the Proposed Transaction and a location map were sent to these and several other agencies in July 2011 (Appendix A). Agency input was requested to identify potential environmental effects that should be considered in the preparation of this Draft EA. USFWS (Bloomington field office), KYTC, Johnson County Highway Department, IDEM, and KY DEP responded to the inquiries (Appendix A).

3.6.1.1 Vegetation

The Line lies within the northern part of the Interior Low Plateau physiographic region. The native vegetation of Indiana and Kentucky consist mainly of deciduous hardwood forests, prairie grasses, and water-tolerant grasses and sedges (Purdue University 2011) in the Interior Low Plateaus. Undisturbed and protected areas of vegetation can be found within the state parks and wildlife areas discussed in Section 3.2, Community Resources and Land Use. Vegetation outside of these parks and protected areas differs from the native vegetation and contains forest-grassland mosaics and roadside vegetation. A majority of the Line parallels public roadways with managed roadside vegetation. INDOT produces its own wildflower and native grass seeds

for use along the shoulders of existing roads. The plants provide natural, low-maintenance groundcover and wildlife habitat while beautifying Indiana roadways and reducing erosion. There is ongoing vegetation maintenance along public roadways and private railways in Indiana and Kentucky. Applicants conduct vegetation maintenance practices along their respective rail lines as required by maintenance and safety plans.

3.6.1.2 Wildlife Habitat

A 0.25-mile buffer around the Line was used as a study area to identify potential wildlife habitat. INDNR and KY DEP, along with other state-level departments, federal agencies, and county and local agencies manage the parks, preserves, and natural areas in the study area.

Often, local, state, and federal parks and other managed areas serve as wildlife habitat in urban areas and supplement habitat in rural areas. The Line crosses or lies within 0.25 miles of four parks (See Table 3.6-1 and Figure 3.6-1). Section 3.2, Community Resources and Land Use, discusses public facilities within the study area, including parks.

Park Name	Address	Activities
Falls of the Ohio State Park	201 West Riverside Drive Clarksville, IN 47129-3148	Fishing, hiking, fossil viewing, bird watching, picnicking
Clark State Forest	New Pekin, IN 47165	Camping, fishing, hunting, shooting, picnicking, hiking, biking
Stucker Fork Fish and Wildlife Area	Near Scottsburg, IN	Hunting
Pigeon Roost Memorial Park	U.S. Highway 31 Underwood, IN 47177	Picnicking

Sources: INDNR 2011a, *Falls of the Ohio*, <http://www.in.gov/dnr/parklake/2984.htm>; INDNR 2011b, *Clark State Forest*, <http://www.in.gov/dnr/forestry/4827.htm>; INDNR 2011c, *Where to Hunt – Indiana’s Public Hunting Areas*, http://www.in.gov/dnr/fishwild/files/fw-hg_wheretohunt.pdf; Fun City Finder 2011, *Pigeon Roost Massacre State Historic Site in Scottsburg, Indiana*, <http://indianapolis-indiana.funcityfinder.com/2010/04/20/pigeon-roost-massacre-state-historic-site-in-scottsburg-indiana/>.

Wetland habitat exists in the study area. Section 3.5 discusses wetlands and other water resources.

3.6.1.3 Federal Threatened, Endangered, and Rare Species

A review of online databases maintained by the USFWS determined that up to 16 different federally listed threatened or endangered and candidate species may occur in the Indiana and Kentucky counties in which the Line is located (See Appendix F, Table F-1). However, based on project-specific consultations, the USFWS narrowed the federally listed species of interest to the Indiana bat (*Myotis sodalis*), gray bat (*Myotis grisescens*), sheepsnose mussel (*Plethobasus cyphus*), rayed bean mussel (*Villosa fabalis*), and snuffbox mussel (*Epioblasma triquetra*). Each of these species is described below. Critical or priority habitat mapped areas that are available for these federally listed species near the Proposed Transaction are shown in Figure 3.6-1.

Figure 3.6-1. Priority Habitat in the Vicinity of the Proposed Transaction

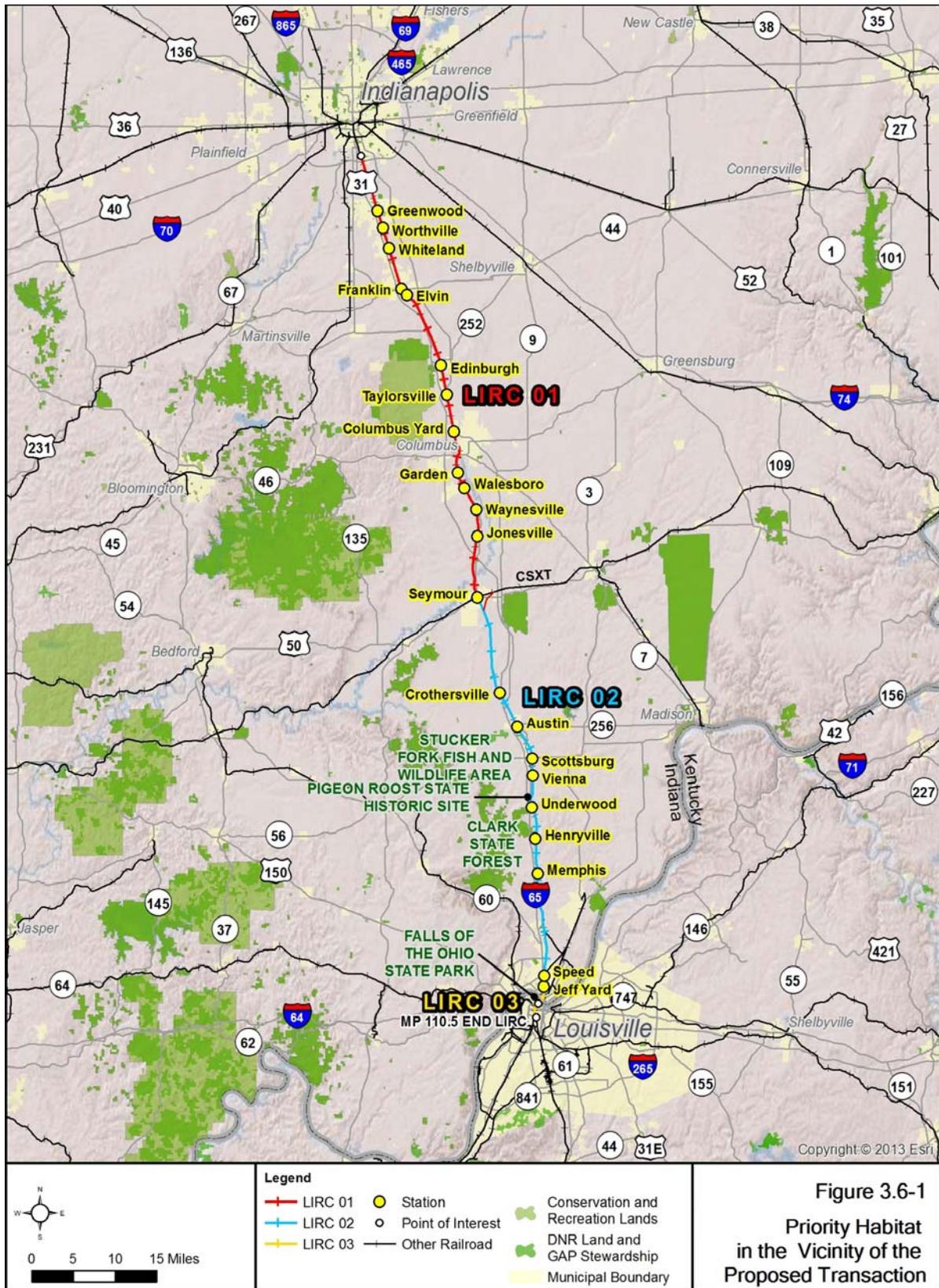


Figure 3.6-1
Priority Habitat
in the Vicinity of the
Proposed Transaction

Indiana bat

The Indiana bat was first listed as endangered in 1967 (USFWS 2011d). Critical habitat was designated for the endangered Indiana bat on September 24, 1976 and includes 11 caves and two mines in six states where the bat was known to hibernate. Of those caves, four are found in Indiana and Kentucky: Big Wyandotte Cave (Crawford County) and Ray's Cave (Green County) in Indiana; and Bat Cave (Carter County) and Coach Cave (Edmonson County) in Kentucky. All four caves are located more than 50 miles from the study area (USFWS 2007). Indiana bats hibernate during winter in caves or occasionally, in abandoned mines. Hibernation requires cool, humid caves with stable temperatures, under 50° F but above freezing. Very few caves within the range of the species have these conditions. The 2009 population estimate (Indiana bats are surveyed in hibernation caves every two years) was 417,185, a 10.8-percent decrease from the 2007 estimate (USFWS 2011e). This species had shown a population increase from 2001 until 2007. The recent decrease is likely attributable to deaths caused by the white-nosed syndrome (USFWS 2011d).

Gray bat

The gray bat was listed as endangered on April 28, 1976. With rare exceptions, gray bats live in caves year-round. During the winter, gray bats hibernate in deep, vertical caves. In the summer, they roost in caves which are scattered along rivers. These caves are in limestone karst areas of the southeastern U.S. The gray bat does not use houses or barns. The bats eat a variety of flying, aquatic, and terrestrial insects present along rivers or lakes, and occupy a limited geographic range in limestone karst areas of the southeastern U.S. They are mainly found in Alabama, northern Arkansas, Kentucky, Missouri, and Tennessee. A few can be found in northwestern Florida, western Georgia, southeastern Kansas, southern Indiana, southern and southwestern Illinois, northeastern Oklahoma, northeastern Mississippi, western Virginia, and possibly western North Carolina (USFWS 1997b).

Large gray bat sites are found in Indiana (quarry near Sellersburg, Clark County) and Kentucky (Coach and Jesse James Cave, Edmonson County). A total of eight gray bats (two adult males and six lactating females) were netted at Muddy Fork Creek (which is crossed by the Line), in Clark County in 1978. In 1982, a colony of gray bats was found in an abandoned quarry at Sellersburg, Clark County, about three miles south of Muddy Fork Creek. The quarry was in a bluff at the edge of a lake. The lake extended into and throughout the quarry (Whitaker et al. 2001). The Line is near the quarry site in Clark County.

Gray bats are endangered largely because they live in very large numbers, but in only a few caves. As a result, they are extremely vulnerable to disturbance. USFWS has developed a recovery plan that describes actions needed to help the bat survive (USFWS 1997b).

Sheepnose Mussel

Today, the sheepnose mussel is found in Alabama, Illinois, Indiana, Iowa, Kentucky, Minnesota, Mississippi, Missouri, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin. The lower third of the Eel River in Indiana contains a population of this mussel (INDNR 2011d). The Eel River is located more than 75 miles north of the Line.

Threats to the sheepsnose mussel include dams, sedimentation, pollution, channelization, small population size and fragmentation, and invasion of non-native species. Dams affect both upstream and downstream mussel populations by disrupting natural river flow patterns, scouring river bottoms, changing water temperatures, and eliminating habitat. Large rivers throughout most of the sheepsnose mussel's range have been impounded, leaving short, isolated patches of habitat below dams. Sedimentation reduces the ability of mussels to remove food and oxygen from the water. Adult mussels are easily harmed by toxins and degraded water quality from pollution because they are sedentary. Most populations of sheepsnose are small and geographically isolated. These small populations, which live in short sections of rivers, are susceptible to extirpation from single catastrophic events, such as toxic spills. The invasion by the non-native zebra mussel (*Dreissena polymorpha*) also poses a serious threat. Zebra mussels multiply quickly, depleting food resources. The Zebra mussel also attach to native mussel shells in such large numbers that the native mussel cannot open its shell to eat or breathe (USFWS 2011g).

Rayed bean Mussel

The rayed bean mussel was designated as a candidate species for listing as threatened or endangered in 2004. USFWS is now proposing to list it as endangered (USFWS 2011h). The rayed bean mussel is generally found in smaller headwater creeks, but records exist in larger rivers. They are usually found in or near shoal or riffle areas, and in the shallow wave-washed areas of glacial lakes, including Lake Erie. The rayed bean mussel historically was found across a wide expanse that included parts of the Midwest, the eastern U.S., and north to Ontario, Canada. The species has been extirpated from Illinois, Kentucky, Tennessee, and Virginia but is still found in Indiana, Michigan, New York, Ohio, Pennsylvania, West Virginia, and Ontario, Canada. In November 2000, the Ohio River Valley Ecosystem Team, Mollusk Subgroup, conducted a cursory review of the status of 19 imperiled, wide-ranging mussels centered in the Ohio River system including a detailed status assessment for the rayed bean mussel. The rayed bean mussel was historically found in 109 streams, lakes, and canals, but the species is now found in only 22 streams and a single lake. Of those locations, only nine streams contain viable rayed bean populations (USFWS 2011i). None of the 22 streams or the lake is crossed by the Line. Threats to the rayed bean mussel are the same as for other mussels: dams, pollution, sedimentation, and displacement by non-native species (USFWS 2011a).

Snuffbox Mussel

The snuffbox mussel is a species that USFWS has proposed to list as endangered (USFWS 2011j). The snuffbox mussel is usually found in areas with a swift current in small to medium-sized creeks and some larger rivers, although it is also found in Lake Erie and some larger rivers. Historically, the snuffbox mussel was widespread, occurring in 208 streams and lakes in 18 states and Ontario, Canada. The Line crosses four streams where this species is documented: Sugar Creek, Little Buck Creek, Muscatatuck River, and Graham Ditch. The population has been reduced to 74 streams and lakes in 14 states and Ontario. Most remaining populations are small and geographically isolated from one another. Threats to snuffbox mussels include dams, pollution, sedimentation, and displacement by non-native species such as zebra mussels and the round goby. The long-term survival of this species is dependent upon healthy populations of

host fishes and the presence of suitable habitat. There are five species of fishes that have been determined to be suitable hosts via laboratory infections. They are: Hornyhead chub (*Nocomis biguttatus*), Banded sculpin (*Cottus carolinae*), Ozark sculpin (*Cottus hypselurus*), Blackspotted topminnow (*Fundulus olivaceus*), Logperch (*Percina caprodes*), and Blackside darter (*Percina maculata*) (USFWS 2011j).

3.6.1.4 State Threatened, Endangered, and Rare Species

In addition to federally protected species, INDNR and KDFWR list species as threatened, endangered, or candidate for their states. Potential state-listed species habitat in the study area were identified using 2011 aerial photography, USGS topographic maps, and GIS files. OEA conducted a limited field investigation, of the Line, ROW and nearby public roads in April 2011. Table F-2 in Appendix F shows the state-listed species that could be found within the study area.

3.6.1.5 Migratory Birds

The Line lies within the Mississippi Flyway, which is one of several primary migration routes for North American birds (North American Migration Flyways 2011). Undeveloped park, forest, prairie, and wetland habitats associated in the region provide important habitats for migrating bird species. These various habitats support critical flyways for migratory birds as part of the Mississippi Flyway.

Falls of the Ohio State Park, Clark State Forest, Stucker Fork Fish and Wildlife Area, and Pigeon Roost Memorial Park are within 0.25 miles of the Line (Figure 3.6-1). These areas are considered important breeding habitat for migratory birds. Because it is well-timbered and watered, the entire region affords ideal conditions for great hosts of migrating birds including ducks, geese, shorebirds, blackbirds, sparrows, warblers, and thrushes (USGS 2011). The Mississippi River and its major tributaries provide a migration corridor for hundreds of thousands of dabbling ducks (*Anas* sp.) and significant numbers of other ducks including ring-necks (*Aythya collaris*), canvasbacks (*Aythya valisineria*) and scaup (*Aythya* sp.). Managed areas and restored bottomland forests provide wintering and migration habitat for mallards (*Anas platyrhynchos*), black ducks (*Anas rubripes*), wood ducks (*Aix sponsa*), northern pintails (*Anas acuta*) and Canada geese (*Branta canadensis*) (Ducks Unlimited 2011).

The parks and wildlife areas in the study area are composed of a heterogeneous patchwork of important bird habitat for maintaining both migratory and breeding bird populations. Migrants find diverse food resources within the large preserves, such as native seeds, fruits, and insects, while finding resting habitat sufficient to protect them from predation and inclement weather. Together, the collection of large, natural areas is vital to the survival of many migratory birds.

3.6.2 Environmental Impacts

3.6.2.1 Proposed Transaction

The study area was examined for potential impacts to vegetation, wildlife and wildlife habitat, and federally listed and state-protected threatened and endangered species.

Vegetation

The Proposed Transaction is not anticipated to cause adverse impacts to vegetation within the study area. Vegetation maintenance practices along the existing rail line would continue as required by maintenance and safety plans. The proposed increases in capacity, additional sidings, and bridge reconstruction would not require permanent vegetation removal or alteration, or increased vegetation maintenance outside of the existing ROW. Temporary impacts to vegetation from construction could occur. To mitigate any temporary impacts to vegetation from construction Applicants agree to confine, to the extent reasonably practicable, traffic to temporary access roads within the construction ROW or established public roads; to commence reclamation of disturbed areas as soon as reasonably practicable after construction ends; include invasive species control measures during post-construction revegetation; and to limit ground disturbance to only the areas necessary for construction-related activities (VM 10, 27, 23 and 28).

Wildlife and Wildlife Habitat

Transaction-related construction activities would not affect wildlife habitat outside of the existing ROW. Construction would not occur near Falls of the Ohio State Park, Clark State Forest, or Stucker Fork Fish and Wildlife Area (Figure 3.6-1). However, the Line crosses Pigeon Roost Memorial Park, located between MP 81.5 and 83.9, where CSXT proposes to build a new siding north of Underwood, Indiana. Because construction activities would occur within the existing ROW, impacts to wildlife habitat are not anticipated.

CSXT does not track animal strikes/kills on its own lines, nor has it ever tracked such occurrences on the Line. The proposed increase in train traffic on the Line could result in an increase in wildlife strikes. However, as noted previously, the proposed increase in train traffic on the Line would result from CSXT diverting existing train traffic from its connecting rail lines. Therefore, any increase in animal strikes on the Line could be offset by fewer animal strikes on CSXT's connecting rail lines.

Transaction-related construction activities would be temporary and limited to the existing ROW; however, short-term impacts to wildlife associated with construction activities are anticipated. To mitigate these short-term impacts, Applicants have agreed that during construction, temporary barricades, fencing, and/or flagging would be used in sensitive habitats to contain construction-related impacts to the area within the ROW (VM-22).

To minimize impacts to fish, the USFWS also recommends that channel disturbance during any Transaction-related bridge replacement in perennial and large intermittent stream avoid the primary fish spawning period. OEA recommends a mitigation measure to address this USFWS concern (MM 13).

Federal Threatened, Endangered, and Rare Species

In response to the project information, USFWS responded that the Proposed Transaction is within the range of the federally endangered Indiana bat and gray bat and the federally proposed endangered rayed bean mussel, snuffbox mussel, and sheepsnose mussel. USFWS recommends avoiding a take of the federally endangered Indiana bat by not clearing trees in the Indiana portion of the Proposed Transaction during this species roosting period (April 1 to September 30). The USFWS also states that if this avoidance measure is implemented, USFWS concurs

that the Proposed Transaction is not likely to adversely affect the Indiana bat. USFWS also concurs that the Proposed Transaction is not likely to adversely affect the gray bat, and states that if BMPs are used to protect water quality, the Proposed Transaction is not likely to adversely affect the rayed bean mussel, snuffbox mussel, or the sheepsnose mussel (USFWS 2011f).

Applicants have agreed to limit project-related tree removal during the Indiana bat's roosting period (VM 21). Additionally, Applicants have agreed to BMPs during project-related construction to protect water quality and minimize or avoid potential impacts to the three mussel species discussed above (VM 12, VM 13, VM 14, VM 15, VM 16, VM 17, VM 18, VM 19, VM 27, and VM 28).

State Threatened, Endangered, and Rare Species

Suitable habitat for state-listed species (see Appendix F, Table F-2) could be present within the study area. Transaction-related construction activities would not occur near Falls of the Ohio State Park, Clark State Forest or Stucker Fork Fish and Wildlife Area. However, Transaction-related construction activities would occur in the vicinity of Pigeon Roost Memorial Park, which could provide habitat for state-protected species. Noise associated with Transaction-related construction activities in the vicinity of Pigeon Roost Memorial Park could temporarily impact any state-listed species located in this park. As part of its voluntary mitigation measures, CSXT would work with its contractors to minimize, to the extent reasonably practicable, construction-related noise disturbances.

To mitigate any potential short-term impacts to state protected species, before beginning Transaction-related construction activity, CSXT would survey all suitable habitats potentially impacted by the activity for state-listed threatened or endangered plant species. If any listed plant species are located, CSXT would implement a mitigation plan in consultation with the appropriate state agencies.

The proposed increase in train traffic on the Line could result in an increase in train strikes of state-protected animal species. However, as noted previously, the proposed increase in train traffic on the Line would result from CSXT diverting existing train traffic from its connecting rail lines. Therefore, any increase in animal strikes on the Line could be offset by fewer animal strikes on CSXT's connecting rail lines.

Migratory Birds

There is suitable habitat in the study area for migratory birds using the Mississippi flyway. However, a survey for the presence or absence of suitable habitat for migratory bird species within the study area has not been conducted.

Existing and proposed rail traffic could result in bird strikes along the Line. However, any increase in animal strikes on the Line could be offset by fewer animal strikes on CSXT's connecting rail lines. There would be no Transaction-related construction activities in the state park, wildlife area, or state forest. However, Transaction-related construction activities would occur in the vicinity of Pigeon Roost Memorial Park where CSXT proposes to construct a new siding (MP 81.5 to 83.9). Because all construction activities would occur within a limited area

(existing ROW) and would be temporary, it is not anticipated that the Proposed Transaction would affect any migratory bird species.

3.6.2.2 No-Action Alternative

Vegetation

Under the No-Action Alternative, vegetation maintenance practices along the existing Line would continue as required by maintenance and safety plans.

Wildlife and Wildlife Habitat

The No-Action Alternative would not result in a change in wildlife habitat impacts along the Line.

Federal Threatened, Endangered, and Rare Species

The No-Action Alternative would not result in a change in federally protected species impacts along the Line.

State Threatened, Endangered, and Rare Species

The No-Action Alternative would not change existing impacts to state-protected species along the Line.

Migratory Birds

The No-Action Alternative would not change existing impacts to migratory bird species along the Line.

3.7 Air Quality and Climate

This section presents a description of the air quality and climate in the Proposed Transaction study area. For this discussion, the study area is defined as Jefferson County, Kentucky, and Bartholomew, Clark, Jackson, Johnson, Marion, and Scott counties in Indiana.

Air quality generally is determined by comparing monitored pollutant concentrations with prescribed standards. The maximum level of a pollutant considered to be acceptable is specified by USEPA under the Clean Air Act (CAA). The CAA established two types of National Ambient Air Quality Standards (NAAQS). The primary standards set limits to protect public health, and the secondary standards set limits to protect public welfare (42 U.S.C. § 7409). USEPA's Office of Air Quality Planning and Standards has set NAAQS for the following 6 criteria pollutants: ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM₁₀ and PM_{2.5}), and lead (Pb). Ambient air quality standards adopted by Indiana and Kentucky are no more stringent than the national standards.

Table 3.7-1 shows the NAAQS for these pollutants expressed in parts per million (ppm) by volume, milligrams per cubic meter of air (mg/m³), or micrograms per cubic meter of air (µg/m³), as applicable. To determine compliance with NAAQS, concentrations of pollutants are

measured and averaged over a specified duration (ranging from one hour to one year, depending on the pollutant and standard) for comparison with the applicable standard.

Pollutant	Primary Standards	Averaging Times	Secondary Standards
Carbon Monoxide (CO)	9 ppm (10 mg/m ³)	8-hour	None
	35 ppm (40 mg/m ³)	1-hour	None
Lead (Pb)	0.15 µg /m ^{3b}	Rolling 3-month average	Same as primary
Nitrogen Dioxide (NO ₂)	53 ppb (100 µg /m ³)	Annual (arithmetic mean)	Same as primary
	100 ppb	1-hour	None
Particulate Matter (PM ₁₀)	50 µg /m ³	Annual (arithmetic mean)	50 µg/m ^{3e}
	150 µg /m ³	24-hour	Same as primary
Particulate Matter (PM _{2.5})	15.0 µg /m ³	Annual ^g (arithmetic mean)	Same as primary
	35 µg /m ³	24-hour	Same as primary
Ozone (O ₃)	0.075 ppm (2008 standard)	8-hour	Same as primary
	0.08 ppm (1997 standard)	8-hour	Same as primary
	0.12 ppm	1-hour (Applies only in limited areas)	Same as primary
Sulfur Dioxide (SO ₂)	0.03 ppm	Annual (arithmetic mean)	0.5 ppm 3-hour
	0.14 ppm	24-hour	
	75 ppb	1-hour	None

Source: USEPA 2011, National Ambient Air Quality Standards, <http://www.epa.gov/air/criteria.html>.

3.7.1 Affected Environment

3.7.1.1 Air Quality

This section presents a discussion of the existing air quality and NAAQS attainment status of the study area. Information on ambient air monitoring for this area also is provided.

Throughout the study area, numerous air monitoring stations measure pollutants. IDEM operates the official (for NAAQS attainment determination) air monitoring stations in Bartholomew, Clark, Jackson, Johnson, Marion, and Scott counties, Indiana (IDEM 2011). The Louisville Metro Air Pollution Control District operates monitors in Jefferson County, Kentucky (KY DEP 2011). These monitoring stations are used, in part, to determine attainment status for the criteria pollutants included in Table 3.7-1, above.

USEPA also designates attainment and nonattainment areas. Attainment areas are those areas designated by the USEPA as meeting the NAAQS. Nonattainment areas are designated by USEPA as not meeting the NAAQS. An area can be in attainment for one pollutant but out of attainment for another pollutant. The following discussion includes a summary of the attainment status of the study area for each of the criteria pollutants. Unless otherwise noted, the area attainment status information is from the USEPA Green Book website (USEPA 2008a).

Ozone

While ozone in the upper atmosphere benefits life by shielding the Earth from harmful ultraviolet radiation from the sun, high concentrations of ozone at ground level are a major health and environmental concern. Ozone is the major component of smog. Ozone is generally not emitted directly into the air, but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) in the presence of sunlight. Sunlight and temperature stimulate these reactions so that peak ozone levels typically occur during warmer times of the year. Transportation and industrial sources emit both VOCs and NO_x. Diverse sources emit VOCs including motor vehicle traffic, chemical manufacturing, dry cleaners, paint shops, and other sources using solvents (USEPA 2008b).

Bartholomew and Scott counties, Indiana are in attainment or are unclassifiable for the 8-hour ozone standard. USEPA designated the remaining counties of the study area as nonattainment for the 1997 8-hour ozone standard in 2004. On December 29, 2005, USEPA reclassified Jackson County, Indiana, as attainment (maintenance⁴⁰). On July 19, 2007, Clark County, Indiana, was reclassified as attainment (maintenance). On August 6, 2007, Jefferson County, Kentucky, was reclassified as attainment (maintenance). Finally, on October 19, 2007, USEPA reclassified Johnson and Marion counties in Indiana as attainment (maintenance). However, based on the 2006-2008 monitoring period, Indiana has recommended that Clark and Marion counties be redesignated as nonattainment with respect to the 0.075-ppm ozone NAAQS issued in 2008. Similarly, Kentucky has recommended that Jefferson County also be redesignated as nonattainment with respect to the 0.075 ozone NAAQS, based on the 2006-2008 monitoring period.

USEPA, however, has not yet made attainment/nonattainment redesignations with respect to the 0.075-ppm ozone NAAQS. In January 2010, USEPA proposed to tighten the standard to somewhere within the range of 0.06 to 0.07 ppm. Based on USEPA's projections at that time, all of the counties in the study area would become nonattainment (with the exception of Bartholomew and Scott counties in Indiana, as no ozone monitors exist in those counties), regardless of whether the standard was set at the higher or the lower end of this concentration range. On September 2, 2011, the Executive Office of the President directed USEPA to withdraw the proposed rule from January 2010 (Executive Office of the President 2011). As a result, USEPA will presumably begin to make attainment/nonattainment redesignations with

⁴⁰ When a nonattainment area meets NAAQS and has met all conditions of Clean Air Act redesignation requirements, USEPA will designate the area as a "maintenance area" for a period of 20 years, after which it becomes an attainment area.

respect to the 0.075-ppm ozone NAAQS. For any counties designated nonattainment, General Conformity requirements of 40 C.F.R. Part 93, Subpart B could apply presumably after a 1-year grace period following nonattainment designation.

The actions needed to address the issues associated with attainment of the 8-hour ozone standard are ongoing. These include proposed reductions of precursor pollutant emissions from power plants, and ongoing implementation of tighter emissions standards for many categories of new on-road and nonroad engines.

Nitrogen Oxides

The counties in the study area are in attainment or are unclassifiable for the annual NO₂ NAAQS. Nitrogen oxides, considered a precursor to ozone, are treated as a nonattainment pollutant for ozone nonattainment areas. USEPA has not yet made attainment/nonattainment redesignations with respect to the new 1-hour NO₂ NAAQS. However, of the two counties in the study area that have NO₂ monitors (Marion County, Indiana, and Jefferson County, Kentucky), USEPA has identified neither as a potential nonattainment area with respect to the 1-hour NO₂ NAAQS, based on 2006-2008 monitoring data.

Carbon Monoxide

The counties in the study area are in attainment or are unclassifiable for all CO NAAQS. USEPA classified a portion of Marion County, Indiana, nonattainment for CO for 1992 through 1999. The area is described as part of the City of Indianapolis (an area bounded by 11th Street on the north, Capital on the west, Georgia Street on the south, and Delaware on the east). Redesignation of this area as attainment for CO was effective March 20, 2000. This area is considered a CO maintenance area. The Line does not go through this area.

Sulfur Dioxide

The counties in the study area are in attainment or are unclassifiable for all current SO₂ NAAQS. USEPA has not yet made attainment/nonattainment redesignations with respect to the new 1-hour SO₂ NAAQS.

Particulate Matter (PM₁₀)

The counties in the study area are in attainment or are unclassifiable for the PM₁₀ NAAQS. Further, USEPA designated all counties in Indiana and Kentucky attainment or unclassifiable for PM₁₀.

Particulate Matter (PM_{2.5})

Bartholomew, Jackson, and Scott counties in Indiana are in attainment or are unclassifiable for the PM_{2.5} NAAQS. Clark, Johnson, and Marion counties in Indiana, and Jefferson County, Kentucky, are classified nonattainment for the annual PM_{2.5} standard. Johnson and Marion counties are included in the Indianapolis, Indiana annual PM_{2.5} nonattainment area, which also includes other counties that are not included in the study area. Clark County, Indiana, and Jefferson County, Kentucky, are included in the Louisville, Kentucky-Indiana annual PM_{2.5} nonattainment area, which also includes other counties that are not included in the study area.

Air Toxics

In addition to the criteria air pollutants for which there are NAAQS, USEPA also regulates emissions of so-called air toxics, some of which are also classified as hazardous air pollutants (HAP) under the CAA. Most air toxics originate from human-made sources, including on-road mobile sources, (e.g. cars, trucks, buses, locomotives, and stationary sources (e.g. dry cleaners, factories or refineries). FHWA has prepared guidance on the analysis of mobile source air toxics (MSAT) for highway projects (FHWA 2006). In this guidance, FHWA recommends no analysis, qualitative analysis, or quantitative analysis, depending on the magnitude of project-related traffic.

MSATs are a subset of the 187 HAPs identified under the CAA, plus diesel particulate matter (DPM). MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds present in fuel are emitted to the air when the fuel evaporates or passes through an engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or impurities in oil or gasoline (FHWA 2006). The principal air toxics emitted from mobile sources are acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, and DPM.

USEPA is the lead federal agency for administering the CAA and has certain responsibilities regarding the health effects of MSATs. USEPA issued a Final Rule for the Control of Hazardous Air Pollutants from Mobile Sources (FR 2007), in which it examined the impact of existing and newly promulgated mobile source emission control and fuel quality programs on emissions of MSATs. USEPA projects that between 1999 and 2030, even with a 57-percent increase in highway vehicle miles traveled and higher levels for other sectors, emissions control programs will reduce MSATs substantially nationwide.

According to USEPA estimates, the lifetime cancer risk from all sources of air pollution ranges from one to 25 cases per million people in rural areas, and from 25 to 50 cases per million people in urban areas. These risks compare with an overall lifetime cancer risk from all causes of 333,000 cases per million people. Although little is known about the existing levels of MSATs in the study area, it is apparent, based on the nationwide reductions forecast by USEPA, that MSAT concentrations and associated risks generally should decline in coming decades, even with substantial growth in mobile and stationary source activity.

3.7.1.2 Climate

Southern Indiana and Northern Kentucky have relatively temperate climates with generally mild (though occasionally cold) winters and hot, wet summers, due to their inland locations and frequent influx of moisture from the Gulf of Mexico. Summers are dominated by warm, humid air with highs generally in the low 80s, but temperatures can occasionally exceed 100°F. Late spring and summer are the wettest seasons of the year. Arctic air can occasionally move in during winters causing very cold temperatures, but the Gulf of Mexico's influence frequently moderates temperatures. The average highs in the winter months typically are in the mid-30s to low 40s. Winter months generally see precipitation as a mixture of rain and snow (Scheeringa 2002; Kentucky Climate Center 2011).

At the north end of the study area, at the Indianapolis International Airport meteorological station, the average annual temperature from 1971 to 2000 was 52.5°F, and the average annual precipitation was 40.95 inches. The average annual snowfall for these same years was 26.9 inches. Also at the Indianapolis International Airport meteorological station, the one-day maximum and minimum temperatures for 1900 through 2001 are 104°F and –27°F, respectively. The average number of days with a high temperature equal to or greater than 90°F was approximately 18 per year, and approximately seven days per year had a low temperature below 0°F. The highest one-day precipitation for the period was 5.09 inches, and the highest one-day snowfall was 10.3 inches (Midwestern Regional Climate Center 2011a, 2011b, 2011c).

At the south end of the study area, at the Louisville Standiford Airport meteorological station, the average annual temperature from 1971 to 2000 was 56.9°F, and the average annual precipitation was 44.54 inches. The average annual snowfall for these same years was 14.6 inches. Also at the Louisville Standiford Airport meteorological station, the one-day maximum and minimum temperatures for 1948 through 2001 are 106°F and –22°F, respectively. The average number of days with a high temperature equal to or greater than 90°F was approximately 33 per year, and approximately one day per year had a low temperature below 0°F. The highest one-day precipitation for the period was 7.22 inches, and the highest one-day snowfall was 15.5 inches (Midwestern Regional Climate Center 2011d, 2011e, 2011f).

For the middle of the study area, the long-term normal for temperature and precipitation totals (rainfall and snowfall) can be expected to fall between those listed for the northern and southern points discussed above. Individual temperature and precipitation one-day extremes are the result of single events. Extrapolations between locations cannot be made because the events which cause the maximums (or minimums) vary by location.

Urban Heat Island Effect

In larger metropolitan areas there is a recognized urban heat island (UHI) effect. The UHI effect is used to describe situations in which urban and suburban areas are 2°F to 10°F warmer than the surrounding area (USEPA 2008c). Heat islands form when cities replace natural land cover with pavement, buildings, and other infrastructure. These changes can contribute to higher urban temperatures in the following ways (USEPA 2008c):

- The displacement of trees and vegetation minimizes the natural cooling effect of shading and evaporation of water from soil and leaves
- Tall buildings, roads, and parking ramps absorb and reradiate heat
- Waste heat from vehicles, factories, and air conditioners may add warmth to their surroundings

Because roads, buildings, and other structures retain heat longer than surrounding rural areas, the UHI effect often is greatest about three to five hours after sunset (USEPA 2008c).

The larger metropolitan areas in the study area include Indianapolis (2009 population approximately 810,000) and Louisville (2009 population 570,000). USEPA's Heat Island Reduction Initiative (HIRI) focuses on translating research results into outreach materials, tools, and guidance to provide communities with information needed to develop heat island projects, programs, and policies. Louisville is one of the 20 cities/metropolitan areas included in HIRI-

supported research on the impacts of heat island reduction strategies. HIRI selected these cities because they had air quality and ozone problems based on monitor data, they were diverse locations (distributed across the country), and city representatives had expressed interest in introducing heat island reduction measures (USEPA 2009).

Global Climate Change

In contrast to the localized temperature differences the UHI effect causes, global climate change is a term used to describe the gradual increase or decrease in worldwide average surface temperatures, or changes in precipitation, wind, or other climate variables. While the level of human versus natural contribution to global climate change is the subject of much debate, the reality is that global climate change has become one of today's primary environmental issues. The main human contributions to global climate change are attributed to the emissions of what are commonly referred to as greenhouse gases (GHG), such as carbon dioxide (CO₂), and to changes in land cover and land use that can affect the amount of CO₂ that the land surface takes up or releases. There are currently no GHG rules that would potentially affect the Proposed Transaction.

3.7.2 Environmental Impacts

3.7.2.1 Proposed Transaction

The air emissions analysis focuses on regional improvements in CSXT efficiencies as a result of the Proposed Transaction as compared to the No-Action Alternative, and is a qualitative analysis.

Transaction-related Construction

Transaction-related construction activities would be very limited and temporary. In particular, any earthwork would likely be limited to siding-related construction activities. Potential impacts from fugitive dust and construction equipment emissions would likely be negligible because of the very limited and temporary nature of these Transaction-related construction activities. Nevertheless, Applicants have volunteered two measures to minimize fugitive dust and equipment emissions during Transaction-related construction activities.

Decrease in Regional Emissions Due To Improvements in Efficiency

As discussed in Section 1.2, the Proposed Transaction would allow CSXT to improve its efficiencies and allow greater control over the handling of its trains in the Midwest region. Table 3.7-2 summarizes the changes in trains per day within the study area. The average length of train operated on these segments is anticipated to be 7,200 feet long and weigh 6,000 tons. The L&I currently operates trains on these segments that are 3,160 feet long and weigh 4,000 tons. Assuming no other changes and only considering these increases, there would be an associated increase in fuel use along the Line and connecting rail segments, because of both the increase in train numbers and the increase in average weight; and therefore, higher air emissions. However, the additional freight being hauled on these segments would be displaced from existing lines, and to the extent that the new routes improve system-wide fuel efficiency, the Midwest region would see a net reduction in fuel use and associated emissions of criteria pollutants and GHG.

Segment No.	Length miles	Milepost		Trains Per Day		
		Begin	End	Existing	Proposed	Change
LIRC-01	55.3	4.0	59.3	2.0	17.0	+ 15
LIRC-02	45.2	59.3	104.5	4.0	17.0	+ 13
LIRC-03	6.0	104.5	110.5	7.0	20.0	+ 13

Source: CSXT 2011, L&I Easement Information Request, June 1, 2011.

In addition, CSXT anticipates funding upgrades to the Line that would allow a majority of the route to operate at 49 mph, and to add capacity to two sidings (Elvin and Brook) and add up to two more sidings (Crothersville and Underwood) to allow for up to 10,000 foot-long trains. While the presence of idling trains have the potential to impact local air quality, especially compared to the No-Action Alternative under which trains would not idle at Crothersville and Underwood, these impacts are not anticipated to be significant based on prior rail studies (e.g., STB 2008), and would be further minimized due to recent improvements in anti-idling technologies.

The overall upgrades would improve CSXT's gross-ton of freight per mile (GTM) efficiency. This improvement, along with an improved ability to control traffic in the Midwest (particularly on the current Louisville to Cincinnati corridor), would enhance efficiencies through shorter train travel times. Improvements in these efficiencies over the region and shorter travel routes for trains under the Proposed Transaction would have a tendency to have a reduction in fuel use across the region, and therefore, lower air emissions.

Therefore, for pollutants which are more significant locally (PM₁₀, PM_{2.5}, and CO), some areas within the study area could experience slight localized degradation in air quality because of the increased fuel use associated with both increases in trains and in the gross-tonnage hauled along the rail line associated with the Proposed Transaction, as compared to the No-Action Alternative. However, improvements in overall GTM efficiencies would tend to offset these decreases in air quality. For pollutants which are more significant regionally (NO_x and VOC [as precursors to ozone], SO₂, and CO₂), it is anticipated that the system-wide improvements would cause the region to experience a net benefit to air quality.

In general, rail emissions for future years would be lower than existing rail emissions for all pollutants as newer locomotives designed to meet more stringent emission standards enter the fleet (USEPA 2008d). A system-wide reduction in overall emissions in future years would also occur for CSXT and all rail operations for the same reason.

Decrease in Emissions due to Fuel Savings from Idling Reductions

Fuel savings due to reductions in idling time were not calculated, but any reduction in idling time would reduce fuel usage, and are expected as part of the overall efficiency improvements anticipated as part of the Proposed Transaction. Any reductions in fuel usage would directly reduce air emissions.

Emissions from Fuel Consumed by Delayed Vehicles

Many rail segments affected by the Proposed Transaction throughout the study area would show increases in vehicle delay and in corresponding emissions. Outside of the study area, other rail segments would show decreases in vehicle delay. Given that the new routings under the Proposed Transaction would generally move trains over shorter distances compared to the existing routing, and with generally greater speeds, the overall fuel consumption by delayed vehicles would tend to decrease slightly, assuming similar numbers of vehicles at the crossings both within and outside of the study area. However, any changes in emissions due to vehicle delay are not expected to have a significant impact on pollutants which are regional in nature, such as NO_x and VOC (as precursors to Ozone), CO₂, and SO₂. For pollutants which have a more localized impact, such as CO, PM₁₀, PM_{2.5}, and air toxics, at-grade crossings that experience an increase in vehicle delay could also experience an increase in the impact to air quality compared to the existing impact caused by vehicles currently delayed.

The potential for localized air quality impacts is greatest at at-grade crossings with the highest vehicle volumes (creating the longest queues when delayed). USEPA guidance specifies criteria based on traffic LOS for screening the roadway intersections affected by a project and selecting intersections, if necessary, for detailed air quality analysis (USEPA 1992) (See Section 3.1, Transportation, for further discussion of LOS). USEPA guidance considers signalized intersections (i.e., intersections with traffic lights) that operate at LOS D, E, or F to have sufficient traffic congestion that the associated vehicle emissions might cause or contribute to local CO and particulate concentrations that may exceed the NAAQS within maintenance and nonattainment areas. Such intersections are subject to further air quality analysis. USEPA considers signalized intersections that operate at LOS A, B, or C not to have sufficient traffic congestion to cause or contribute to local CO concentrations that might exceed the NAAQS. USEPA considers unsignalized intersections (i.e., intersections without traffic lights) not to have sufficient traffic congestion to cause or contribute to local CO or particulate concentrations that might exceed the NAAQS and does not require air quality analysis for unsignalized intersections.

Table C-6 in Appendix C shows that all of the at-grade crossings reviewed are predicted to be no worse than LOS C for both the No-Action Alternative and the Proposed Transaction. As such, these intersections are not considered to have sufficient traffic congestion to cause or contribute to local particulate concentrations that might exceed the NAAQS. Therefore, no adverse air quality impacts at localized at-grade crossings are expected as a result of vehicle delay.

Climate

Urban Heat Island Effect (UHI)

Larger metropolitan areas experience a recognized UHI effect, which occurs when cities replace natural land cover with pavement, buildings, and other infrastructure. Urban sources of fuel combustion also release heat to the urban environment, thus contributing to the UHI effect. The Proposed Transaction plans to fund two new sidings and to extend two existing sidings, but does not otherwise include any new construction of track or connections, and is expected to reduce fuel use in areas of congestion (largely urban areas) through decreased travel times compared to

the No-Action Alternative. It is not anticipated that the Proposed Transaction would have a significant impact on the local UHI as compared to the No-Action Alternative.

Global Climate Change

The Proposed Transaction's main potential contribution to global climate change would be through the emissions of GHG, primarily CO₂. However, as discussed above, fuel use is expected to decrease due to the Proposed Transaction because of expected improvements to the efficiency of the Midwest region operations. To the degree that GHG emissions have any impact on global climate, a regional reduction of fuel usage would result in a reduction of GHG emissions, and, therefore, lessen the impact to global climate change.

3.7.2.2 No-Action Alternative

Impacts to air quality and climate would not change as a result of the No-Action Alternative.

3.8 Noise and Vibration

This section describes OEA's analysis of potential noise and vibration impacts to humans from the construction activities and changes in rail operations that would occur with the Proposed Transaction. Section 3.8.1 describes noise and vibration concepts and the regulatory setting; Section 3.8.2 describes the affected environment for noise and vibration; Section 3.8.3 describes the analysis methodology; Section 3.8.4 describes potential noise and vibration impacts of the Proposed Transaction; and Section 3.8.5 discusses the No-Action Alternative.

3.8.1 Noise Concepts and Regulatory Setting

Sound is what we hear when our ears are exposed to small pressure fluctuations in the air; noise generally is considered to be unwanted or undesirable sound. In general, sound waves travel away from the source as an expanding spherical surface. The energy contained in a sound wave is spread over an increasing area as it travels, resulting in a decrease in loudness as it moves farther from the source.

A sound's intensity is determined by how much its pressure fluctuates above and below that of the atmosphere and is expressed in units of decibels (dB). Sound is described in a logarithmic dB scale that takes into account the wide range of sound pressure levels in the environment. By using this scale, the range of normally encountered sound can be expressed in values between zero and about 140 dB.

Sound-level meters measure pressure fluctuations caused by sound waves and record separate measurements for different frequency ranges; most sounds consist of a broad range of frequencies. Since the human ear does not respond equally to all frequencies (or pitches), measured sound levels (in dB at standard frequency bands) often are adjusted, or weighted, to correspond to the frequency response of human hearing and human perception of loudness. The A-weighted decibel (dBA) scale is most widely used for this purpose. Typical A-weighted noise levels for various types of sound sources are summarized in Table 3.8-1.

The sound exposure level (SEL) is the cumulative exposure from a single-noise event and represents the total amount of sound energy that enters a receiver's ears (or the measurement

microphone) during the event. SEL is a cumulative measure, which means that louder events have greater SEL values than quiet events, and events that last longer also have greater SEL values than shorter events. SEL values are used to calculate hour equivalent sound level (L_{eq}) and day-night noise level (L_{dn}) values (see below).

Varying noise levels are often described in terms of L_{eq} . Equivalent sound levels are used to develop single-value descriptions of average noise exposure over stated periods of time. The 1-hour L_{eq} values over a 24-hour period are often used to calculate cumulative noise exposure, which can be expressed using L_{dn} . L_{dn} is the A-weighted L_{eq} for a 24-hour period; an added 10-dBA penalty is imposed on nighttime noise (between 10 p.m. and 7 a.m.) since sleep interference could be an issue. L_{dn} is a metric that is often used to characterize a community’s response to noise because of the nighttime-noise penalty.

Table 3.8-1. Weighted Noise Levels and Human Response		
Sound source (distance from source to human ear)	dBA	Response Descriptor
Carrier deck jet operation	140	Limit of amplified speech
	130	Painfully loud
Jet takeoff (200 feet) Auto horn (3 feet)	120	Threshold of feeling and pain
Jet takeoff (2,000 feet)	110	
Shout (0.5 foot) New York subway station	100	Very annoying
Heavy truck (50 feet) Pneumatic drill (50 feet)	90	Hearing damage (8-hour exposure)
Passenger train (100 feet) Helicopter (in flight, 500 feet) Freight train (50 feet)	80	Annoying
Freeway traffic (50 feet)	70	Intrusive
Air conditioning unit (20 feet) Light auto traffic (50 feet)	60	
Normal speech (15 feet)	50	Quiet
Living room, bedroom, library	40	
Soft whisper (15 feet)	30	Very quiet
Broadcasting studio	20	
	10	Just audible
	0	Threshold of hearing

Source: CEQ 1970, *Environmental Quality: the First Annual Report of the Council on Environmental Quality*, Washington, DC: U.S. Government Printing Office.

The logarithmic nature of dB scales means that individual sound pressure levels for different noise sources cannot be added directly to produce the level for the combined sources. For example, two sources that produce equal dB levels at a given location will produce a combined level that is 3 dBA greater than either sound on its own. When two sources differ by 10 dBA, the combined level will be no greater than the louder source alone. People generally cannot detect differences of 1 dBA to 2 dBA between sources. Under ideal listening conditions, differences of 2 dBA or 3 dBA can be detected by some individuals. A 5-dBA change would be perceived by most people under normal listening conditions. People generally perceive a 10-dBA increase in a particular noise level as a doubling of loudness. For example, the average person will perceive a 70-dBA sound to be twice as loud as one of 60 dBA.

When distance is the only factor considered, sound levels from isolated point sources typically decrease by about 6 dBA each time the distance from the source is doubled. When the source is a continuous line (for example, vehicle traffic on a highway and trains on a rail line), sound levels decrease by about half as much (3 dBA) each time the distance from the source is doubled.

Sound levels can be affected by factors other than distance. Topographic features and structural barriers (including buildings) that absorb, reflect, or scatter sound waves can increase or decrease sound levels. In particular, buildings in urban areas block train sound from traveling directly into the adjacent neighborhoods. Noise analysis often accounts for shielding from buildings adjacent to highways and rail lines. Atmospheric conditions (wind speed and direction, humidity level, and temperature) also can affect the degree to which sound is attenuated over distance.

The Board's regulations in 49 C.F.R. § 1105.7(e)(6) require a noise analysis if rail traffic would increase by at least 100 percent as measured by annual gross ton miles, by eight or more trains per day, or if carload activity at rail yards would increase by at least 100 percent. Noise analyses are required at intermodal facilities if truck traffic would increase by 50 trucks per day or 10 percent of the ADT. If these activity thresholds are exceeded, the Board requires a determination as to whether the transaction would cause an incremental noise-level increase of at least 3 dB on an L_{dn} basis, or whether the noise level would increase to 65 dB (L_{dn}) or more. If either of these thresholds is met, the Board requires that noise-sensitive receptors (e.g., schools, libraries, hospitals, residences, retirement communities, and nursing homes) in the area be identified, and the projected noise increase for these receptors be determined. In previous transactions, OEA noted that a 3-dBA increase in L_{dn} could result from a 100 percent rise in train traffic, a substantial change in operating conditions, changed equipment, or a shift of operations from daytime to nighttime. Nighttime noise often dominates the L_{dn} because of the 10-dBA penalty.

Typically, train activities produce noise from a variety of sources, including operations, rail yards, auto and other vehicular traffic near stations, and noise from wheels and horns. The noise a train generates when it travels along a rail line is referred to as wayside noise. Wayside train noise includes locomotive engine noise, wheel/rail contact, braking, and coupling/uncoupling operations. Conversely, the noise emitted by locomotive horns is referred to as grade crossing noise (because locomotive horns often are used where public roads cross rail lines at grade).

A Quiet Zone (QZ) is a railroad grade crossing at which trains are prohibited from sounding their horns in order to minimize the noise level for nearby residents. The horns can be silenced only when appropriate safety measures compensate for their absence.

The FRA regulation (49 C.F.R. Parts 222 and 229), *Use of Locomotive Horns at Highway/Rail Grade Crossings*, took effect on June 24, 2005 (FRA 2005a). This rule requires that locomotive horns be sounded upon approaching every “unsealed” public grade crossing. An unsealed public grade crossing is defined as a train and public road crossing without grade separation, quad gating, or crossing guard with median barrier. At QZs established in accordance with the rule, locomotive horns are not routinely sounded.

Generally, FRA regulation preempts state and local laws that may have the effect of restricting or prohibiting the use of locomotive horns at public grade crossings. Communities wishing to establish QZs must equip proposed grade crossings with adequate safety measures to compensate for the decreased safety created by the elimination of horn use. The additional safety measures must be implemented at the community’s expense and must meet federal specifications. There are currently no QZs on the Line.

3.8.2 Affected Environment

The affected environment consists of lands adjacent to approximately 106.5 miles of freight rail line whose endpoints are rail yards located in Indianapolis, Indiana, and Louisville, Kentucky. The Line passes through central Indiana, a predominantly agricultural portion of the state. The Line also passes through approximately 20 municipalities between the two endpoints. Noise-sensitive receptors, as defined by the Board, exist throughout the study area (the rail corridor), and are found in greatest numbers in or near municipalities. Noise-sensitive receptors include residences, schools, libraries, hospitals, retirement communities, and nursing homes. Throughout the corridor, existing freight rail traffic averages between two and seven trains per day. When evenly distributed over a 24-hour period, this equates to approximately 0.18 trains per hour. Freight train pass-by events are common in the study area, and train noise is a common and familiar component of the ambient acoustic environment.

Existing noise levels in the study area were not measured. However, areas adjacent to the Line currently experience wheel-rail (or wayside) noise, and areas adjacent to public at-grade crossings currently experience locomotive horn noise.

3.8.3 Analysis Methodology

A train noise model was used to calculate existing train noise levels, train noise levels associated with the Proposed Transaction, and to identify receptors where the L_{dn} is anticipated to be 65 dBA or greater and noise measure would increase by 3 dBA or more. The noise modeling methodology consisted of several steps including:

- Calculate sound emission levels of train sound sources
- Calculate sound propagation from train noise sources
- Calculate the shielding due to intervening obstructions
- Identify segments of rail line with a noise emission increase ≥ 3 dBA

- Identify noise-sensitive receptors affected by $L_{dn} \geq 65$ dBA.

The tools employed for the noise modeling included the FTA fixed-guideway and stationary noise source calculations, a three-dimensional acoustical analysis software package, and a geographic information system (GIS) database created for this project.

Appendix G provides additional detail on the noise analysis methodology.

3.8.4 Environmental Impacts

3.8.4.1 Construction Noise and Vibration

Construction activities would include replacement of a bridge, adding capacity to two existing sidings (i.e., Elvin and Brook) and adding up to two new sidings (i.e., Crothersville and Underwood) to accommodate up to 10,000-foot-long trains. Construction would be limited to work upon and within existing ROW; and therefore, the work would be localized.

The construction timeframe depends on the specific design, but CSXT expects the physical construction of the sidings to be completed within a few months. The siding locations are generally in rural areas because CSXT wants their use to minimize public impact on crossings, etc. There may be nearby houses, but overall disruption would be minimal. The equipment used would be initially earthmoving equipment then track laying equipment. Overall the magnitude of noise and vibration would be similar to operating bulldozers. The bridge replacement would occur in a rural area west of Columbus, IN. Timing would depend on bridge design and USACE requirements. Installation could occur throughout a few months, and most work on all these projects would occur during daytime hours. The only reason to construct sidings at night would be to reduce the timeframe to construct and that does not appear to be an issue. Bridge work would also occur mostly during the daytime. The exception could be a few specific days where an installation phase (such as installing new span) would take longer than one day's worth of time.

A construction noise impact assessment based upon the methodology described in the Federal Transit Administration (FTA) guidance document, *Transit Noise and Vibration Impact Assessment* (FTA, 2006) was conducted. The assessment evaluated noise from construction equipment that is representative of the types of equipment that would likely be used under the Proposed Transaction. The table below identifies the equipment assumed to be in use during the loudest period of rail and siding construction activity. The table also presents the rated horsepower for each type of equipment. To estimate construction noise levels, a sound power level (SWL) was calculated by converting horsepower to kilowatts, then to SWL.

This analysis assumed that each piece of equipment would operate for 45 minutes per hour (a 75 percent utilization factor). Using that information, an adjusted SWL was determined (it takes into account the number of equipment and their utilization factor). The adjusted SWL was then converted to sound pressure level at distances of 100, 200, 500, and 1,000 feet; these results assume there is no acoustical shielding from rows of buildings that are parallel to the rail line. The sound pressure level is expressed as an hourly equivalent level (L_{eq}) in dBA. The L_{eq} is an energy based noise level assumed to occur over a one-hour period.

Table 3.8.4-1. Common Railroad Construction Equipment Noise

Equipment	HP	KW	SWL (dBA)	Quantity	Utilization factor	Adjusted SWL (dBA)	L_{eq} (dBA) at distance (feet)			
							100	200	500	1,000
Front loader	300	224	122	1	75%	121	84	78	70	64
Backhoe	150	112	119	2	75%	121	84	78	70	64
Dozer (D-7)	300	224	122	2	75%	124	87	81	73	67
Dump truck	350	261	123	4	75%	128	90	84	76	70
Water truck	350	261	123	1	75%	122	84	78	70	64
Pile driver	400	298	124	1	75%	122	85	79	71	65
Mobile crane	400	298	124	1	75%	122	85	79	71	65
Grader	300	224	122	1	75%	121	84	78	70	64
Concrete truck	350	261	123	1	75%	122	84	78	70	64
Large compactor	250	186	122	1	75%	120	83	77	69	63
Small compactor	15	11	109	1	75%	108	71	65	57	51
Crew pickup trucks	250	186	122	20	75%	133	96	90	82	76

These results conservatively over-estimate actual expected construction noise levels by assuming that all of the equipment (i.e., all of the dump trucks, or all of the pickup trucks) operate at the same location. Typically construction equipment is spread throughout the construction work zone, and it is reasonable to assume that all four dump trucks would not operate next to each other in the same (stationary) location for one hour. On this basis, analysis results in Table 3.8.4-1 somewhat over-estimate noise levels for categories of equipment that have more than one piece of equipment. In all other cases, the results are assumed to be within 3 dBA of likely construction noise levels assuming that the equipment has been properly maintained and the mufflers are in good condition.

Construction activities often generate noise and sometimes ground-borne vibration. Noise and vibration vary depending on the duration and complexity of the project. Noise and vibration as a result of construction activities associated with the Proposed Transaction are anticipated to be minor, localized, and temporary. As explained in Chapter 4, Applicants would work with its contractors to minimize, to the extent reasonably practicable, construction-related noise near any residential areas (VM 26). Additionally, CSXT would work with its contractors to maintain construction and maintenance vehicles in good working order with properly functioning mufflers to control noise (VM 56).

3.8.4.2 Operation Noise

Chapter 2 describes the Proposed Transaction, and identifies the existing and the proposed train traffic on the affected rail line segments. Many changes would occur to train traffic as a result of the Proposed Transaction. These changes would affect the noise emission levels of trains from several noise sources, including wheel/rail noise, locomotive engine noise, and locomotive horn noise. The effects can be generalized as follows:

- The change from jointed rail to continuously welded rail would generally decrease the wheel/rail noise;
- The increase in the average train length would generally increase the duration of wheel/rail noise events;
- The number of locomotives per train would not change, and so by itself would not affect noise levels;
- The increase in train speeds would generally increase wheel/rail noise;
- The increase in train speeds would generally decrease noise from locomotive engines and from locomotive horns (an increased speed would result in a shorter exposure time from these sources); and
- The increase in trains per day would generally increase noise levels from all sources, as it is often the most influential factor in changes to overall noise levels.

Based on that information, Table 3.8-2 identifies the rail line segments that are projected to experience operational changes that meet or exceed thresholds for noise analyses.

Segment No.	Length miles	Milepost		Trains Per Day		
		Begin	End	Existing	Proposed	Change
LIRC-01	55.3	4.0	59.3	2.0	17.0	+ 15
LIRC-02	45.2	59.3	104.5	4.0	17.0	+ 13
LIRC-03	6.0	104.5	110.5	7.0	20.0	+ 13

Source: L&I Easement Information Request, June 1, 2011.

Under the Proposed Transaction, the three rail segments shown in Table 3.8-2 are projected to experience an increase in rail traffic in excess of eight trains per day, which exceeds the Board's threshold for noise analyses. Therefore, potential increases in noise exposure from each of the proposed changes in rail traffic on the Line segments associated with the Proposed Transaction were assessed. Those three rail segments are divided into smaller sub-segments to facilitate this noise assessment. Table 3.8-3 shows the results of this assessment and Figure 2.1-1 shows the Line sub-segments. Rail segments projected to experience a noise increase of 3 dBA Ldn or more (shown in the "change" column below) were further evaluated as described below.

Segment No. ^a	Sub-segment No. ^a	Milepost		Noise Emission Levels ^b (dBA)		
		Begin	End	Existing	Proposed	Change
LIRC-01	01.A	4.0	20.0	74.6	80.4	+5.8
	01.B	20.0	20.7	74.6	81.1	+6.5
	01.C	20.7	37.0	74.6	80.4	+5.8
	01.D	37.0	42.0	75.5	84.0	+8.5
	01.E	42.0	58.9	74.6	80.4	+5.8
	01.G	58.9	59.3	74.6	81.7	+7.1
LIRC-02	02.A	59.3	104.5	76.4	80.4	+4.0
LIRC-03	03.A	104.5	106.0	80.3	84.8	+4.5
	03.B	106.0	108.3	83.3	84.8	+1.5
	03.C	108.3	108.9	80.3	84.8	+4.5
	03.D	108.9	109.0	85.5	84.8	-0.7
	03.E	109.0	110.5	83.3	84.8	+1.5

Source: CSXT 2011, L&I Easement Information Request, June 1, 2011.

Notes:

^a Figure 2.1-1 illustrates segments and subsegments

^b The increase in noise emission levels is comparable to the increase measured by an L_{dn} for noise exposure levels.

Traffic changes from the Proposed Transaction would increase noise levels by 3 dBA or more (on an L_{dn} basis) on approximately 102.6 miles of the 106.5-mile Line including all of segments LIRC-01 and LIRC-02 and approximately one-third of segment LIRC-03 (see Table 3.8-3). Approximately 3.9 miles of the Line would experience a 1.5 dBA increase in noise levels and approximately 0.1 mile would experience a decrease in noise levels. Because the vast majority of the Line would experience noise level increases of 3 dBA or more, OEA elected to include the entire Line in the next step of its noise analysis; that is, determine which portions of the Line would experience noise levels greater than 65 dBA L_{dn} under the Proposed Transaction. OEA then overlaid the projected 65 dBA noise contours on to digital aerial photographs and counted the number of noise-sensitive receptors that would experience noise levels of 65 dBA or more.

Color copies of the aerial photographs showing the 65 dBA L_{dn} contours and affected noise-sensitive receptors are provided in Appendix G and Table 3.8-4 summarizes the results of OEA's analysis. Currently, an estimated 2,937 noise-sensitive receptors experience rail-related noise levels of 65 dBA or more. As a result of the Proposed Transaction, this number would nearly double to 5,606 noise-sensitive receptors. The majority of the affected noise-sensitive receptors are located in towns and cities such as Franklin, Whiteland, Greenwood, Indianapolis, Seymour, Sellersburg, Scottsburg, and all in Indiana. However, over 2,000 of the affected noise-sensitive receptors would be located in unincorporated areas of Johnson, Jackson, Bartholomew, Clark and Scott counties in Indiana.

Table 3.8-4. Noise Analysis Results for 65-dBA L_{dn} Contour			
Segments Projected to Experience an Increase of at least 3 dBA L_{dn}		Number of Receptors	
	Municipality	Existing	Proposed
		65 dBA L_{dn}	65 dBA L_{dn}
Johnson County, IN	Franklin	188	440
	New Whiteland	0	21
	Whiteland	90	213
	Edinburgh	40	129
	Unincorporated	284	739
	County Subtotal	602	1,542
Marion County, IN	Greenwood	228	591
	Homecroft	23	45
	Indianapolis	118	251
	Southport	74	151
	County Subtotal	480	1,045
Jackson County, IN	Crothersville	147	188
	Seymour	363	647
	Unincorporated	99	136
	County Subtotal	609	971
Bartholomew County, IN	Columbus	32	57
	Jonesville	38	49
	Unincorporated	311	680
	County Subtotal	381	786
Clark County, IN	Clarksville	32	58
	Jeffersonville	32	53
	Sellersburg	153	217
	Unincorporated	282	422
	County Subtotal	499	750
Scott County, IN	Austin	95	131
	Scottsburg	216	304
	Unincorporated	53	75
	County Subtotal	364	510
Jefferson County, KY	Louisville	2	2
	County Subtotal	2	2
Grand Total		2,937	5,606

Opportunities to Mitigate Noise Effects

CSXT proposes to install CWR, and the noise-reducing benefits of that type of rail have already been accounted for in this analysis. Applicants have also proposed voluntary mitigation measures 54 through 60 to address noise and vibration.

Under VM 54, Applicants would work with affected communities with noise-sensitive receptors that would experience noise increases of at least 5 dBA and reach noise levels of 70 dBA because of Transaction-related train operations. Table 3.8-5 shows that up to 1,551 noise-sensitive receptors would be exposed to these adverse noise conditions because of the Proposed Transaction. These affected receptors are located in town and cities as well as unincorporated areas of Indiana (with the exception of one receptor in Louisville, KY).

Table 3.8-5: Receptors Projected to Experience Day-Night Average Noise Levels Greater than 70 dBA in the future and an increase of at least 5 dBA		
County	Municipality	Receptor Count
Johnson County, IN	Franklin	189
	New Whiteland	0
	Whiteland	92
	Edinburgh	41
	Unincorporated	248
	County Subtotal	570
Marion County, IN	Greenwood	185
	Homecroft	23
	Indianapolis	101
	Southport	53
	Unincorporated	34
	County Subtotal	396
Jackson County, IN	Crothersville	2
	Seymour	167
	Unincorporated	24
	County Subtotal	193
Bartholomew County, IN	Columbus	46
	Jonesville	38
	Unincorporated	299
	County Subtotal	383

Clark County, IN	Clarksville	0
	Jeffersonville	0
	Sellersburg	2
	Unincorporated	4
	County Subtotal	6
Scott County, IN	Austin	1
	Scottsburg	2
	Unincorporated	0
	County Subtotal	3
Jefferson County, KY	Louisville	0
	County Subtotal	0
Grand Total		1,551

Applicants would also cooperate with interested communities for the establishment of quiet zones and assist in identifying supplemental or alternative safety measures, practical operational methods, or technologies that could enable the community to establish QZs (VM 55). Applicants would work with its construction contractors to maintain Transaction-related construction and maintenance vehicles in good-working order with properly functioning mufflers to control noise (VM 56). In addition to the development of other noise mitigation measures, Applicants would consider lubricating curves where doing so would both be consistent with safe and efficient operating practices and significantly reduce noise for residential or other noise sensitive receptors. Applicants would also continue to employ safe and efficient operating procedures that, in lieu of, or as complement to, other noise mitigation measures could have the collateral benefit of effectively reducing noise from train operations. Such procedures include inspecting rail car wheels to maintain wheels in good working order and minimize the development of wheel flats; inspecting new and existing rail for rough surfaces and, where appropriate, grinding these surfaces to provide a smooth rail surface during operations; and regularly maintaining locomotives and keeping mufflers in good working order (VM 57). Applicants would comply with Federal Railroad Administration regulations establishing decibel limits for train operations (VM 58). To minimize noise and vibration, Applicants would install and maintain rail and rail beds according to American Railway Engineering and Maintenance of Way Association standards (VM 59).

3.8.4.3 Operation Vibration

Vibration impact criteria for freight train traffic generally follow the guidance given by FTA. FTA discusses the application of the transit criteria to freight trains. The frequency of train vibration events for the existing line-haul freight-train traffic is classified as “frequent events,” the highest event-frequency classification. With the Proposed Transaction, the frequency of events would remain classified as frequent.

Vibration from freight train traffic is generally assessed in terms of the maximum vibration caused by any 1 train. The maximum vibration level of the train is compared to the criteria, irrespective of the number of train pass-by events. The vibration level of a train pass-by event is affected by track conditions, the location of special track work, train speed, and the ground propagation conditions between the tracks and the receiver.

CSXT proposes to replace jointed rail with CWR. The track is in the same place, so ground propagation conditions between the tracks and the receiver would not change. However, proposed increases in train speeds would increase ground-borne vibration levels per pass-by event. Therefore, existing ground-borne vibration levels were compared with levels under the Proposed Transaction.

The criterion for ground-borne vibration impact levels at a residence or other buildings where people sleep is 72 VdB (vibration decibels) (referenced to 1 microinch per second on a root-mean-square velocity basis). The magnitude of a vibration event can be estimated using tables and graphs in the *FTA Transit Noise and Vibration Impact Assessment* (FTA 2006).

Table 3.8-6 shows distance to the 72-VdB vibration level. Analysis results shown in the table indicate that project-related changes in ground-borne vibration are small. The incremental changes in the distance to the FTA residential vibration impact threshold (72 VdB) range between five and 35 feet, with some net decreases due to the installation of CWR. Therefore, the Proposed Transaction would not result in significant vibration impacts.

Table 3.8-6. Ground-borne Vibration Analysis Results			
Segment No.	Sub-segment No.	Distance to 72-VdB Vibration Level Distance (ft)	
		Existing	Proposed
LIRC-01	01.A	175	190
LIRC-01	01.B	175	160
LIRC-01	01.C	175	190
LIRC-01	01.D	145	85
LIRC-01	01.E	175	190
LIRC-01	01.F	145	140
LIRC-01	01.G	175	140
LIRC-02	02.A	175	190
LIRC-03	02.A	145	85
LIRC-03	02.B	80	85
LIRC-03	02.C	145	85
LIRC-03	02.D	50	85
LIRC-03	02.E	80	85

Source: FTA 2006, *Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-03, http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf.

3.8.5 No-Action Alternative

The No-Action Alternative would not result in any changes to existing train traffic. Therefore, no impacts from noise or vibration would be anticipated as a result of the No-Action Alternative.

3.9 Energy Resources

Under the STB’s environmental regulations, OEA must consider the energy requirements and conservation potential of the Proposed Transaction. Specifically, OEA must consider the effect of the Proposed Transaction on energy resources, the transportation of recyclable commodities, and the potential for the Proposed Transaction to result in an increase or decrease in overall energy efficiency.

This section describes the environmental setting and potential environmental impacts to energy resources from the Proposed Transaction. Energy resources evaluated include fuel consumption. The Proposed Transaction is not expected to affect the amount or route of energy-producing and recyclable commodities transported through the study area. Therefore, these items were not quantified.

3.9.1 Affected Environment

This analysis calculated the current energy use across CSXT’s entire system of rail lines. As Table 3.9-1 shows, it is estimated that CSXT currently uses 490 million gallons of diesel fuel per year, including fuel for freight trains and for yard switching trains. Assuming 365 days of activity per year, CSXT’s system-wide fuel use on current routes is approximately 1.3 million gallons per day.

Type of Locomotive	Annual Fuel Use (gal)^a	Daily Fuel Use (gal)^b
Freight	441,779,849	1,210,356
Yard Switching	48,269,900	132,246
TOTAL	490,049,749	1,342,602

Source: STB 2011, *Class I Railroad Annual Report to the Surface Transportation Board for the Year Ending December 31, 2010*, <http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9ODgzMzh8Q2hpbGRJRD0tMXxUeXBIPtM=&t=1>.

Notes:

^a U.S. gallons.

^b Assumes fuel use is spread evenly over 365 days per year.

CSXT’s annual report for 2010 (STB 2010), submitted to the Board, lists a total of approximately 455.7 billion gross-ton per mile (GTM) of freight hauling. Dividing this value by the annual freight-related fuel use in Table 3.9-1 gives a system-wide fuel efficiency of 1,031 GTM per gallon of diesel fuel.

3.9.2 Environmental Impacts

3.9.2.1 Proposed Transaction

Fuel Consumption

The Proposed Transaction would improve the efficiency, consistency, and reliability of CSXT's operations in the Illinois, Indiana, Ohio, Kentucky, and Tennessee area. The Proposed Transaction would enable CSXT to have greater control over the handling of its trains in the Midwest region, especially between Louisville, Kentucky, and Cincinnati, Ohio. This increased control would improve the speed at which CSXT's trains operate and improve asset utilization. Any decreases in total miles traveled by CSXT trains throughout the region and in idling time would tend to result in fuel reductions.

Fuel Savings from Mileage Reductions

CSXT's operations are anticipated to be more efficient and flexible within the region as a result of the Proposed Transaction. The efficiency and flexibility, as a general rule, would translate to improvements in fuel efficiency on a GTM-travelled basis.

Fuel Savings from Idling Reductions

Because the Proposed Transaction would give CSXT greater control over the handling of its trains in the Midwest region, net reductions in idling times are anticipated across the affected system. The current ability to direct trains around the existing route and avoid a major classification yard in Cincinnati, Ohio, is minimal. The Proposed Transaction would improve CSXT's routing flexibility and performance in the Midwest region, which would also tend to result in reductions in idling times. Fuel savings due to reductions in idling time was not calculated, but any reduction in idling time would reduce fuel usage. In general, rail companies attempt to limit idling times as good business practice, and there is an industry-wide movement to increase the use of anti-idling technology, which limits fuel usage for stopped trains. The anti-idling technology includes the use of smaller engines to keep the locomotive systems warm, allowing the larger diesel locomotive engines to be shut off until the train needs to move again.

Fuel Consumption by Delayed Vehicles

Motor vehicles are currently, and would continue to be, delayed at at-grade crossings on rail segments affected by the Proposed Transaction. Section 3.1, Transportation, includes detailed calculations of vehicle delay at public at-grade crossings that would experience an increased number of trains per day as part of the Proposed Transaction. While these at-grade crossings show increases in vehicle delay, other at-grade crossings which were not analyzed for vehicle delay (because they would experience decreases in train traffic or because they are on other lines affected by, but not directly within the Proposed Transaction) would be expected to experience decreases in vehicle delay. Assuming a fuel consumption rate of 0.5 gal per hour of idling, the total daily increase in delay for the Line is approximately 480 hours (see Appendix C, Table C-6), which equates to approximately 240 gal of fuel (Clark et al. 2005; Gaines et al. 2006). This increase in fuel consumption would be offset by fuel savings and decreases at non-analyzed crossings within and outside of the study area. Therefore, the overall change in fuel consumption by delayed vehicles would be minimal. Additionally, the Proposed Transaction is

expected to improve efficiency and train speeds, in general, which should allow trains to clear at-grade crossings more quickly on a system-wide average.

Transportation of Commodities

Commodities that are currently transported along the Line would not change as a result of the Proposed Transaction. In addition, transportation of commodities is expected to be more efficient as part of the overall expected efficiency improvements. The Proposed Transaction is not expected to have any adverse impact on the transportation of commodities.

3.9.2.2 No-Action Alternative

Under the No-Action Alternative, energy use would not change from its existing use. Therefore, the No-Action Alternative would not impact energy use. However, unlike the Proposed Transaction, the No-Action Alternative would not result in fuel savings from mileage and idling reductions.

3.10 Cultural Resources

Historic property is defined as any district, site, building, structure, or object eligible for listing on the National Register of Historic Places (National Register). Eligibility for listing on the National Register requires a property to demonstrate integrity and significance as outlined in National Park Service guidance.

Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended) requires a federal agency to consider potential adverse effects to historic property as a result of an agency permit or other approval. In order to fully achieve compliance with Section 106 requirements, the federal agency must consult with the state historic preservation office on the scope of the review and on any adverse effects to historic property. On OEA's behalf, CSXT consulted with the Commonwealth of Kentucky, Kentucky Heritage Council (Kentucky State Historic Preservation Office or Kentucky SHPO), and INDNR, Division of Historic Preservation & Archaeology (Indiana SHPO). CSXT also consulted with the following Native American tribes:

- Miami Tribe of Oklahoma;
- Ottawa Tribe of Oklahoma;
- Peoria Tribe of Indians of Oklahoma;
- Wyandotte Nation;
- Shawnee Tribe;
- Eastern Band of Cherokee Indians;
- Forest County Potawatomi Community;
- Hannahville Indian Community;
- Pokagon Band of Potawatomi Indians;
- Citizen Potawatomi Nation;
- Delaware Nation;
- Kickapoo Tribe of Indians of the Kickapoo Reservation in Kansas;
- Kickapoo Tribe of Oklahoma; and

- Prairie Band of Potawatomi Nation.

3.10.1 Affected Environment

The Line traverses the following counties: Bartholomew, Clark, Jackson, Johnson, Marion, and Scott in Indiana, and Jefferson in Kentucky. Approximately 29 historic properties are listed on the National Register in Bartholomew County, 12 in Clark County, 13 in Jackson County, 14 in Johnson County, 245 in Marion County, three in Scott County, and 482 in Jefferson County. Many more eligible properties—those that meet the criteria but that have not been formally nominated and listed—are assumed to exist in these counties, and could be adjacent to the project area.

3.10.2 Environmental Impacts

3.10.2.1 Proposed Transaction

A letter from Indiana SHPO, dated August 9, 2011, recommends that in preparation of the EA, OEA review applicable data regarding historic properties found in the Indiana Survey of Historic Sites and Structures reports, in the State Historic Architectural and Archaeological Research Database (SHAARD), along with Indiana properties included in the National Register of Historic Places. Indiana SHPO also provided a list of eight archaeological sites and six cemeteries that have been recorded adjacent to the Line. Indiana SHPO states that any, construction activities are subject to Indiana Code (IC) 14-21-1-27 (duties when buried human remains or burial grounds are disturbed) and IC 14-21-1-29 (duties on discovering artifacts or burial objects). If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, it must be reported to the Indiana SHPO within two business days. Indiana SHPO also stated that adherence to IC 14-21-1-27 and 29 does not obviate the need to adhere to applicable federal statutes and regulations. OEA recommends a mitigation measure to address Indiana SHPO's concerns for these archaeological sites (MM 15).

In an effort to determine if the Flatrock River Railroad Bridge at milepost 40.19 is a historic property, CSXT reviewed SHAARD, however, no information on the Flatrock River Railroad Bridge was available in SHAARD. The Flatrock River Railroad Bridge is a through-truss bridge common to the Line vicinity and likely dates to the early 1900s. CSXT provided Indiana SHPO information regarding the location, age, and type of the bridge and requested Indiana SHPO render an opinion regarding the NRHP eligibility of the bridge. A second letter sent to Indiana SHPO on September 9, 2011, stated that CSXT anticipates reconstruction of the Flatrock River Bridge (L&I Bridge MP 40.19).

A letter from Indiana SHPO dated October 11, 2011 stated that based on its analysis of the information provided to them on September 9, 2011, it believes that the Flatrock River Railroad Bridge meets the criteria of eligibility for inclusion in the National Register. Indiana SHPO notes that the bridge appears to be significant under Criteria A and C because of its association with transportation and as a good example of a heavily built Pratt through-truss bridge. Because replacement of the Flatrock River Railroad Bridge would constitute an adverse effect to a potentially eligible historic property, CSXT must work with OEA and Indiana SHPO to either (1) submit the necessary material to the Indiana SHPO to obtain a no adverse effect

determination or (2) execute a Memorandum of Agreement regarding mitigation of the adverse effect determination. Either scenario would need to be completed before the Board could issue its final decision in this case. OEA preliminarily recommends mitigation requiring that no construction of the bridge begin until completion of the section 106 process (MM 14).

A letter from Kentucky SHPO dated August 1, 2011 states that, although the Proposed Transaction would be limited to existing ROW, there is potential for direct and indirect effects to cultural resources along the path of the Line. Kentucky SHPO also states that an area of potential effect for the portion of the Proposed Transaction in Kentucky must be determined with its concurrence. Additionally, a survey of above-ground resources over 50 years of age needs to be submitted for review. Any ground-disturbance activities associated with the Proposed Transaction would require an archaeological survey (Kentucky Heritage Council 2011). However, the Proposed Transaction would not entail construction activities in the state of Kentucky. Therefore, an archaeological survey would not be required. Pending the outcome of further Section 106 consultations with the Kentucky SHPO, OEA recommends a mitigation measure to address Kentucky SHPO's concerns (MM 15).

A letter from Delaware Nation dated July 20, 2011 requested the list of counties within the study area (Delaware Nation 2011). This information was submitted in an email on July 21, 2011. A letter from the Peoria Tribe of Indians of Oklahoma dated August 9, 2011 stated they were interested in consulting on the project. The Peoria Tribe requested that all information concerning this project as it pertains to Native American interests be shared with them and that they be included on all mailings (Peoria Tribe of Indians of Oklahoma 2011).

3.10.2.2 No-Action Alternative

Under the No-Action Alternative, there would be no construction activities. Operation and use of the current rail line would not change. Therefore, no adverse impacts to cultural resources are anticipated as a result of the No-Action Alternative.

3.11 Environmental Justice

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, directs each federal agency to “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 populations and low-income populations.” CEQ, which oversees the federal government’s compliance with EO 12898 and NEPA, developed guidelines (CEQ 1997) to assist federal agencies in incorporating the goals of EO 12898 into the NEPA process. The CEQ guidance does not provide a standard approach or formula for identifying and addressing environmental justice issues. Instead, it offers federal agencies general principles for conducting an environmental justice analysis under NEPA, including that federal agencies should consider the population structure within the affected area to determine whether minority populations, low-income populations, or Indian tribes are present and, if so, whether there may be disproportionately high and adverse human health or environmental effects on any of these groups.

CEQ guidance defines “minority” and “low income” in the context of environmental justice analysis. Minority individuals are members of the following population groups: American Indian or Alaska Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. CEQ identifies these groups as minority populations when either:

- The minority population of the affected area exceeds 50 percent, or
- The minority population percentage in the affected area is meaningfully greater than the minority population percentage in the general population or appropriate unit of geographical analysis (CEQ 1997).

This Draft EA uses the second option for identifying potential minority populations. The minority population percentages of the counties traversed by the Line range from 2.9 percent to 40.5 percent, and the entire study area (100 census block groups) has a minority population of 15.3 percent (see Appendix H, Table H-1). For this analysis, “meaningfully greater” refers to 10 percent. Because the Line traverses several counties with minority populations ranging from 2.9 to 40.5 percent, the study area is used as the “appropriate unit of geographical analysis.” Potential minority populations were identified as Census block groups where the minority population is 25.3 percent or greater.

A low-income household is one where the household income is below the U.S. Department of Health and Human Services’ poverty guidelines as reported by the Bureau of the Census. The 2011 poverty guideline for a family of four is \$22,350 (U.S. Department of Health and Human Services 2011). A potential low-income population exists when the median household income for a block group is less than the 2011 poverty guideline.

To evaluate potential environmental justice impacts, a sequential, four-step methodology was followed.

1. Identify the potential environmental justice populations located in the study area using the definitions described above.
2. Assess whether any potential impacts would be high and adverse.
3. Assess whether any high and adverse effects would be borne by environmental justice populations.
4. Determine whether any potentially high and adverse effects would be disproportionately borne by environmental justice populations.

This section describes the environmental setting and potential environmental impacts to environmental justice populations under the Proposed Transaction. The following environmental justice analysis was conducted for the socioeconomic conditions study area, which includes the census block groups adjacent to the Line (see Table H-1).

3.11.1 Affected Environment

Step 1 of the analysis identified demographic data for the population in the study area. Table H-1 in Appendix H includes the demographic information for the census block groups within the study area as well as information for the counties traversed by the Line. Minorities make up approximately 15.3 percent of the population in the entire study area, and counties traversed by the Line have minority populations comprising from 2.9 to 40.5 percent of the population. OEA

identified Census block groups as having minority populations if minorities made up 25.3 percent or more of the population. Based on this criterion, 17 of the 100 Census block groups contain minority populations, eight of which also contain low-income populations (see the figures included in Appendix H).

Table H-2 shows the median household income for the census block groups within the study area, as well as, information for the counties traversed by the Line. The annual median household income of the census block groups ranges from \$5,417 to \$64,135 (U.S. Census Bureau 2000). Potential low-income populations were identified where the census block groups have a median household income below the 2011 poverty guideline for a family of four (\$22,350). Based on this criterion, 11 of the 81 census block groups contain low-income populations, eight of which also contain minority populations (Appendix H). The Census Bureau's file Summary File 3 does not provide income data for 19 of the 100 census block groups (Table H-2), and it is possible that these block groups contain low-income populations that are not currently being identified. As shown in the Appendix H figures, the census block groups containing low-income populations are relatively scattered along the Line in Indiana to the Kentucky border. In Kentucky, all of the census block groups along the Line are minority and low-income.

Based on the analysis, there are minority and low-income populations within the study area. The following section includes an evaluation of potential environmental consequences of the Proposed Transaction's predicted increase in train traffic on minority and low-income populations in the study area.

3.11.2 Environmental Impacts

3.11.2.1 Proposed Transaction

The change in rail operations associated with the Proposed Transaction would result in an increase in average daily train traffic between Indianapolis, Indiana, and Louisville, Kentucky, as shown in Table 3.11-1. Two of the projected trains added on segment LIRC-01 would exit the Line at Seymour and, therefore, would not operate on segments LIRC-02 and LIRC-03.

Segment No.	Length (miles)	Begin Station	End Station	Existing Trains	Proposed Trains	Change
LIRC-01	55.3	Indianapolis	Seymour	2	17	+15
LIRC-02	45.2	Seymour	Jeff Yard	4	17	+13
LIRC-03	6.0	Jeff Yard	CSXT Junction, Louisville	7	20	+13

Source: CSXT 2011, L&I Easement Information Request, June 1, 2011.

Step 2 of the analysis assessed potential impacts to determine whether high and adverse health or environmental impacts to human populations would occur as a result of the Proposed Transaction.

Adverse effects to air quality are not anticipated as a result of the increase in train traffic; however, impacts to traffic delay and noise levels are anticipated as a result of the Proposed Transaction.

As discussed in Section 3.1, the traffic analysis indicates that there would be some effects on each crossing due to the Proposed Transaction. The greatest effects are located in segments LIRC-01 and LIRC-03, at SR #46 and Charlestown Road, respectively. The at-grade crossing at SR #46 in Columbus, Indiana, would experience approximately 108 hours of delay within a 24-hour period. The at-grade crossing of Charlestown Road in Jeffersonville, Indiana, would experience approximately 43 hours of delay. These two crossings did not exceed any other threshold criteria.

The vehicle queue length of 1,472 feet at SR #46 does not block the adjacent intersections. The vehicle queue length of 600 feet at Charlestown Road does not block the adjacent intersections on the east leg of the roadway. However, the vehicle queue would block the exit ramp of I-65 on the west leg of the roadway.

Potential effects to ambient noise conditions vary among the three segments as a function of the increase in trains per day. The larger the incremental increase in traffic, the larger the incremental increase in predicted noise levels. The detailed analysis in Section 3.8 shows that the projected noise increases for the segments are anticipated to be as follows:

- LIRC-01: +5.8 to +8.5dBA
- LIRC-02: +4.0dBA
- LIRC-03: -0.7 to +4.5dBA

Although any increase in noise can be considered an adverse effect, the increases in noise levels along the majority of the Line are not considered high and adverse based on the relatively small increase in noise levels. An increase of +3 dBA is generally barely perceptible to normal-hearing adults. The increase of +5 dBA is considered perceptible to normal-hearing adults, but is still not a great increase. The +8.5-dBA increase along the 0.4-mile subsection of LIRC-01 (Sub-segment 01.G, Table 3.8-3) could be considered a high and adverse effect, as a +10-dBA increase would be perceived as a doubling of the noise level. Therefore, Steps 3 and 4 of the analysis were completed for this segment.

Step 3 of the analysis assessed potential impacts to determine whether environmental justice populations would bear high and adverse health or environmental impacts. With regard to the traffic delays, the area where SR #46 crosses the Line at-grade is not located in a block group containing potential minority or low-income populations. The area where Charlestown Road crosses the Line at-grade is partially located within a block group containing minority and low-income populations, west of the Line. The ramp to I-65, which would experience blocking, is also located in this block group. However, Veterans Parkway, approximately one mile to the north, provides access to the area west of the Line as well as access to I-65.

As the figures in Appendix H show, there are minority and low-income populations distributed along the entire Line. Therefore, it is possible that minority and low-income populations would experience the anticipated increase in noise levels. However, none of the minority or low-income populations appears to be located in the sub-segment of LIRC-01 anticipated to experience a +8.5-dBA increase in noise levels.

Step 4 of the analysis evaluated potential impacts to determine whether environmental justice populations would disproportionately bear any potentially high and adverse effects.

The traffic analysis indicates that one of the two traffic delay impacts would affect a block group containing a minority and low-income population. However, none of the other block groups adjacent to the Charlestown Road at-grade crossing contain minority or low-income populations. All travelers on Charlestown Road and on I-65 using the Charlestown Road exit would experience the traffic delay. Veterans Parkway, approximately one mile to the north, provides access to the area west of the Line as well as access to I-65. Therefore, environmental justice populations would not disproportionately bear any potentially high and adverse effects associated with traffic delay.

The noise analysis indicates that the majority of additional receivers anticipated to be impacted are located in Johnson County, Indiana. None of the 17 census block groups containing potential minority populations is located in Johnson County. Only one of the 16 census block groups containing potential low-income populations is located in Johnson County. Therefore, environmental justice populations would not disproportionately bear any potentially high and adverse effects associated with noise.

3.11.2.2 No-Action Alternative

Under the No-Action Alternative, current operations would be anticipated to continue, and no substantive increase or decrease in train traffic is anticipated to occur. No high or adverse impacts to human populations would occur under the No-Action Alternative. Therefore, there was no need to conduct Steps 3 and 4 of the impact assessment for this alternative.

3.12 Cumulative Effects

CEQ regulations that implement NEPA define cumulative effects as “The impact on the environment which results from the incremental consequences of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions”(40 C.F.R. § 1508.7).

Cumulative effects include both direct and indirect, or induced, effects that would result from the proposed project, as well as the effects from other projects (past, present, and reasonably foreseeable future actions) not related to or caused by the proposed project. Therefore, included in the cumulative effects analysis are the direct effects and indirect effects of the Proposed Transaction and effects of other past, present, and reasonably foreseeable actions. The cumulative effects analysis also evaluates the magnitude of the cumulative effect on resources.

In addition to the limited direct effects attributable to the Proposed Transaction that are identified in this Draft EA, the cumulative effects analysis considered whether the approval of the Proposed Transaction would result in any indirect effects.

CEQ defines indirect effects as “...effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems”(40 C.F.R. § 1508.8).

In many cases, these indirect effects would occur outside of a specific project area. As to the cause and effect relationship between the project and the indirect impact, CEQ states that indirect effects may include induced changes to land use resulting in resource impacts. Other indirect effects include the potential alteration of or encroachment on the affected environment. Examples of this include fragmentation of a habitat and functional effects to water resources.

Under the Proposed Transaction, CSXT would acquire a perpetual, non-exclusive freight easement and upgrade the Line, resulting in FRA Class 4 track standards that would allow a majority of the route to operate at 49 mph. CSXT also plans to add capacity to two existing sidings, Elvin and Brook, and add up to two more sidings, Crothersville and Underwood, to accommodate up to 10,000-foot-long trains (Figure 2.1-2 through

), and replacement of a bridge would be replaced. However, the construction activities would be limited to work upon and within existing ROW. Indirect effects to resources analyzed in this Draft EA are not anticipated from the Proposed Transaction.

The change in rail operations associated with the Proposed Transaction would result in an increase in average daily train traffic of +15, +13, and +13 trains for Segments LIRC-01, LIRC-02, and LIRC-03, respectively, and this change in operations is not anticipated to result in indirect impacts to resources analyzed in this Draft EA.

As described in this Draft EA, the Proposed Transaction would result in no or only negligible impacts to community resources and land use; socioeconomics; topography, geology, and soils; water resources; biological resources; air quality and climate; cultural resources; environmental justice populations; energy resources; or vibration. Therefore, these resources were not considered in the cumulative effects analysis.

The Proposed Transaction could result in impacts to traffic delays (transportation) and noise, and this section addresses cumulative effects to these conditions. The geographic area for the cumulative effects analysis for noise is 0.5 miles from the portion of the Line that would experience an increase in train traffic as a result of the Proposed Transaction. A 0.5-mile buffer was developed to identify past, present, and reasonably foreseeable future actions that may interact with the Proposed Transaction to result in cumulative effects to traffic delays and ambient noise levels.

The analysis evaluated potential cumulative effects of existing and reasonably foreseeable projects to take place within the 0.5 mile buffer from the portion of the Line that would experience an increase in train traffic. They are as follows:

- ***I-65 Widening*** – This project will add travel lanes from I-65 from I-465 to Whiteland Road and improve interchanges at Southport Road, County Line Road, Main Street, and Whiteland Road. The project is located in Marion and Johnson counties, Indiana, and is scheduled for completion in 2016 (INDOT 2011).
- ***I-465/ I-65 Interchange Modification on South Side of Indianapolis*** – This project will modify the existing multiplex interchange at I-465 to add additional lanes to ramps. The project is scheduled for completion in 2014 (INDOT 2011).
- ***I-65 at State Road 11*** – The project includes an interchange modification for improved traffic flow and safety. The project is located in Jackson County, Indiana, and has been completed (INDOT 2011).
- ***I-65 Clark County from SR 311 to Memphis Road / I-65*** – This project includes the addition of travel lanes, an interchange modification, and two overhead bridges. The project is located in Clark County, Indiana. Initially scheduled for completion in 2015, it is currently listed as “To Be Determined” due to lack of funding (INDOT 2011).
- ***I-65 Ohio River Bridge*** – This project would add a new six lane I-65 bridge into downtown Louisville and the existing Kennedy Bridge would be transitioned into a six-lane northbound bridge. Approximately 1.5 miles of I-65 would require reconstruction and expansion approaching the bridge. Kentucky will reconstruct the Kennedy interchange which is where I-65, I-64, and I-71 come together in downtown Louisville. Construction of a new bridge connecting East Clark County to East Louisville could have very positive economic benefits for Clark County. The Indiana Port in Jeffersonville as well as the 4,000-acre River Ridge Commerce Center (formerly the Indiana Army Ammunition Plant) are both located in proximity to the proposed east end bridge and would benefit greatly from eased interstate access and cross-river mobility. This project, located in Clark County, Indiana, and Jefferson County, Kentucky, is currently in the development phase, and while the schedule for completion is unknown (KYTC 2006; INDOT 2011), the project is considered to be reasonably foreseeable.
- ***I-65 Ramp Modifications*** – This project would improve traffic flow, safety and access associated with ramps along I-65 from Crittenden Drive to St. Catherine Street. This project is located in Jefferson County, Kentucky, and a scoping study has been completed (KYTC 2006). The schedule for completion is not known; however, the project is considered to be reasonably foreseeable.

3.12.1 Traffic Delay

As discussed in Section 3.1, the traffic analysis indicates that there would be some effects on each crossing due to the Proposed Transaction. The greatest effects are located in segments LIRC-01 and LIRC-03, at SR #46 and Charlestown Road, respectively. The at-grade crossing at SR #46 in Columbus, Indiana, would experience approximately 108 hours of delay within a 24-hour period. The at-grade crossing at Charlestown Road in Jeffersonville, Indiana, would experience approximately 43 hours of delay. These two crossings did not exceed any other threshold criteria.

The vehicle queue length of 1,472 feet at SR #46 does not block the adjacent intersections. The vehicle queue length of 600 feet at Charlestown Road does not block the adjacent intersections on the east leg of the roadway. However, the vehicle queue would block the exit ramp of I-65 on the west leg of the roadway.

The reasonably foreseeable roadway improvements are intended to improve traffic flow. OEA does not anticipate cumulative effects to traffic delay beyond the direct effects of the Proposed Transaction.

3.12.2 Noise

As discussed in Section 3.8, the projected noise increases vary as a function of increase in trains per day. The Proposed Transaction may result in an additional 2,669 noise-sensitive receptors being exposed to an L_{dn} of 65 dBA or more (the difference between the existing 2,937 and the projected 5,606). In addition, 1,551 noise-sensitive receptors would be exposed to an L_{dn} of 70 dBA or more as a result of the Proposed Transaction. There are affected receptors through the entire Line, but the largest number of affected receptors is in Johnson County, Indiana. Wheel-rail noise is the dominant noise source.

It is possible that noise from the Proposed Transaction would contribute to a cumulative noise effect where it is in proximity to I-65. It is unlikely that the reasonably foreseeable roadway improvements would contribute to a cumulative noise effect, as they are intended to improve traffic flow and reduce congestion. Construction noise would be temporary and would not be anticipated to contribute to an adverse cumulative effect.

4.0 MITIGATION

Chapter 4 presents a discussion of mitigation measures that would avoid or minimize environmental impacts resulting from the Proposed Transaction.

4.1 Overview of OEA's Approach

The analysis used in preparing this Draft EA has taken a hard look at the likely environmental consequences of the Proposed Transaction and No-Action Alternative, consistent with NEPA and the relevant CEQ and Board regulations. The potential environmental effects that have been identified would be both beneficial and adverse. Chapter 3 discusses in detail the affected environment and potential environmental benefits and effects.

Applicants submitted a number of voluntary mitigation measures to address potential effects that would result from the Proposed Transaction. The Draft EA includes Applicants' proposed mitigation without any changes and proposes additional environmental mitigation developed by OEA. OEA seeks public comment on all the mitigation proposed in the Draft EA. The Final EA will contain final recommendations for mitigation that the Board should impose if the Proposed Transaction is authorized.

4.1.1 Limits of Conditioning Power

The Board has authority to impose conditions to mitigate potential environmental impacts, but that authority is not limitless. As a government agency, the Board can only impose conditions that are consistent with its statutory authority. Any conditions the Board imposes must relate directly to a specific proposed action, must be appropriate to the scope and degree of impacts, and must be supported by the record before the Board. The Board's practice consistently has been to consider mitigation for only those impacts that result directly from a proposed action and not to impose mitigation to remedy preexisting conditions.

4.1.2 Voluntary Mitigation and Negotiated Agreements

OEA encourages applicants to propose voluntary mitigation. Because applicants seeking Board authority may gain substantial knowledge about local community or other issues involved during project planning, and because they consult with other regulatory agencies and communities during project planning and at the early stages of the regulatory process, applicants can often propose relevant voluntary mitigation that is more far reaching than mitigation the Board could unilaterally impose. For the Proposed Transaction, Applicants have engaged in substantial outreach with potentially affected agencies, entities, and communities and have proposed extensive voluntary mitigation for this project, which is set forth and discussed in more detail below.

The Board also encourages applicants like CSXT and L&I to negotiate mutually acceptable agreements with affected communities and other government entities to address potential environmental impacts, if appropriate. Negotiated agreements can be with neighborhoods, communities, or other entities. If Applicants enters into any negotiated agreements, the Board would require compliance with the terms of any such agreements as environmental mitigation

conditions in any final decision approving the Proposed Transaction. These negotiated agreements would supersede any environmental conditions for that particular community or other entity that the Board would otherwise impose.

4.1.3 Preliminary Nature of Environmental Mitigation

OEA emphasizes that all of the environmental mitigation measures proposed here are preliminary, and welcomes public and agency comment on these measures. In order for OEA to assess the public comments effectively, the public should be specific about any desired mitigation and the reasons why the suggested mitigation would be appropriate.

After considering all public comments on the Draft EA, OEA will issue a Final EA responding to any comments on the Draft EA (including any suggestions related to mitigation) and presenting any additional environmental analysis. The Final EA will contain OEA's final recommendations to the Board, including final recommended environmental mitigation. The Board will then make its final decision regarding the Proposed Transaction in accordance with 49 U.S.C. §§ 11324(c) and (d).

4.2 Applicants' Voluntary Mitigation Measures

As part of their application, Applicants submitted proposed voluntary mitigation measures to OEA for the Board to consider. OEA has reviewed the voluntary mitigation measures, and should the Proposed Transaction be approved, OEA recommends that the Board require Applicants to comply with all of the voluntary mitigation measures submitted.

Below, OEA presents for public review and comment, Applicants' current voluntary mitigation measures (identified as VM #). Applicants divided their mitigation measures in two parts: (1) construction-related VMs (i.e., those related to the proposed upgrades under the Proposed Transaction, all of which would take place within the existing right-of-way of the Line) and (2) VMs related to proposed train operations on the Line under the Proposed Transaction.

Construction –related VMs

Grade Crossing Safety

VM 1. Where transaction-related grade-crossing rehabilitation is mutually agreed to by Applicants and INDOT or KYTC, Applicants will assure that rehabilitated roadway approaches and rail line crossings meet or exceed the standards of the state Department of Transportation's rules, guidelines, or statutes, and the American Railway Engineering and Maintenance of Way Association (AREMA) standards, with a goal of eliminating rough or humped crossings to the extent reasonably practicable.

VM 2. Applicants will coordinate with INDOT or KYTC, as appropriate and, counties and affected communities along the Line to install temporary notification signs or message boards, where warranted, in railroad ROW at highway/rail at-grade crossings, clearly advising motorists of the increase in train traffic on affected rail line segments. The format and lettering of these signs will comply with the Federal Highway Administration (FHWA)'s *Manual on Uniform Traffic Control Devices* (FHWA 2009) and will be in place no less than 30 days before and 6 months after Applicants' initiate operational changes associated with the Proposed Transaction.

VM 3. Within six months of acquisition of a freight easement over the Line, Applicants will consult with affected communities to improve visibility at highway rail at-grade crossings by clearing vegetation and other obstructions.

VM 4. Within six months of acquisition of a freight easement over the Line, Applicants will cooperate with the INDOT and other appropriate local agencies to coordinate a review of corridors surrounding highway/rail at-grade crossings to examine safety and adequacy of the existing warning devices, and identify remedies to improve safety for highway vehicles.

VM 5. Within six months of Applicants' initiating operational changes associated with the Proposed Transaction, Applicants will cooperate with school and park districts to identify at-grade crossings where additional pedestrian warning devices may be warranted.

VM 6. Applicants will adhere to all applicable Federal Occupational Safety and Health Administration (OSHA), Federal Railroad Administration, and state construction and operational safety regulations to minimize the potential for accidents and incidents on the Line.

VM 7. In undertaking Transaction-related construction activities, Applicants will use practices recommended by AREMA and recommended standards for track construction in the AREMA Manual for Railway Engineering.

VM 8. During Transaction-related construction concerning at-grade crossings, when reasonably practicable, Applicants will consult with the INDOT and KYTC regarding detours and associated signage, as appropriate, or maintain at least 1 open lane of traffic at all times to allow for the quick passage of emergency and other vehicles.

VM 9. Applicants will minimize temporary road closures during construction activities associated with the rail line upgrade and new siding construction. Applicants will manage construction schedules to:

- Minimize highway/rail at-grade crossing closures; and
- Notify local emergency service providers of highway/rail at-grade crossing closure schedules.

VM 10. To the extent reasonably practicable, Applicants will confine construction traffic to a temporary access road within the construction right-of-way or established public roads. Where traffic cannot be confined to temporary access roads or established public roads, Applicants will make necessary arrangements with landowners to gain access from private roadways. The temporary access roads will be used only during Transaction-related construction. Any temporary access roads constructed outside the rail line right-of-way will be removed and restored upon completion of construction unless otherwise agreed to with the landowners.

Water Resources

VM 11. Applicants will compensate in accordance with U.S. Army Corp of Engineers (USACE) regulations in both Kentucky and Indiana for wetland impacts that cannot be avoided and for impacts that are determined by USACE to be on waters of the United States for construction related to the Transaction.

VM 12. To minimize sedimentation into streams and waterways during construction, Applicants will use Best Management Practices, such as silt fences and straw bale dikes, to minimize soil

erosion, sedimentation, runoff, and surface instability during Transaction-related construction activities. Applicants will seek to disturb the smallest area possible around any streams and will conduct reseeding efforts to ensure proper revegetation of disturbed areas as soon as reasonably practicable following Transaction-related construction activities.

VM 13. In order to control erosion, Applicants will establish staging and lay down areas for Transaction-related construction material and equipment at least 50 feet from jurisdictional waters of the U.S. and in areas that are not environmentally sensitive. Applicants will not clear any vegetation between the staging area and the waterway or wetlands. To the extent reasonably practicable, areas with non-jurisdictional isolated waters will not be used for staging and lay down and will only be impacted when necessary for construction. When Transaction-related construction activities, such as culvert and bridgework, require work in streambeds, Applicants will conduct these activities, to the extent reasonably practicable, during low-flow conditions.

VM 14. During Transaction-related construction activities, Applicants will require all contractors to use Best Management Practices, including daily inspections of all equipment for any fuel, lube oil, hydraulic, or antifreeze leaks. If leaks are found, Applicants will require the contractor to immediately remove the equipment from service and repair or replace it.

VM 15. Applicants will employ Best Management Practices to control turbidity and disturbance to bottom sediments of surface waters during Transaction-related construction. Applicants will implement Best Management Practices in wetlands or other waters of the U.S. to avoid adverse downstream impacts on fish, mussels, and other aquatic biota.

VM 16. During Transaction-related construction, Applicants will prohibit construction vehicles from driving in or crossing streams at other than established crossing points unless approved by appropriate federal or state permits.

VM 17. During Transaction-related construction activities, Applicants will, to the extent reasonably practicable and consistent with Best Management Practices, ensure that any fill placed below the ordinary high water line of wetlands and streams is appropriate material selected to minimize impacts to the wetlands and streams. All stream crossing points will be returned to their pre-construction contours to the extent reasonably practicable and the crossing banks will be reseeded or replanted with native species immediately following project-related construction.

VM 18. Applicants will obtain a National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit from U.S. Environmental Protection Agency (USEPA) or appropriate state agencies for Transaction-related construction activities that warrant such compliance.

VM 19. Prior to any Transaction-related construction activities, Applicants will comply with any regulations required in the preparation of a construction Stormwater Pollution Prevention Plan.

Biological Resources

VM 20. Before beginning Transaction-related construction activity, Applicants will survey all suitable habitats potentially impacted by the construction activity for state-listed threatened or

endangered plant species. If any listed plant species are located, Applicants will implement a mitigation plan in consultation with the appropriate federal and state agencies.

VM 21. In order to avoid a take of the federally endangered Indiana bat, Applicants will not clear trees during its roosting period (April 1 – September 30).

VM 22. During Transaction-related construction, temporary barricades, fencing, and/or flagging will be used in sensitive habitats to contain construction-related impacts to the area within the existing right-of-way.

VM 23. Applicants will employ Best Management Practices to implement their current noxious weed control program during construction and operation of Transaction-related sidings. All herbicides used by Applicants will be approved by U.S. Environmental Protection Agency.

Air Quality

VM 24. To minimize fugitive dust emissions created during Transaction-related construction activities, Applicants will implement appropriate fugitive dust suppression controls, such as spraying water or other approved measures. Applicants will also regularly operate water trucks on haul roads to reduce dust.

VM 25. Applicants will work with their contractors to make sure that Transaction-related construction equipment is properly maintained and that mufflers and other required pollution-control devices are in working condition in order to limit construction-related air emissions.

Noise and Vibration

VM 26. Applicants will consult with affected communities and work with the construction contractors to minimize, to the extent reasonably practicable, Transaction-related construction noise disturbances near any residential areas.

Topography, Geology, and Soils

VM 27. Applicants will commence reclamation of disturbed areas as soon as reasonably practicable after Transaction-related construction ends along a particular stretch of rail line. The goal of reclamation will be the rapid and permanent reestablishment of native ground cover on disturbed areas. If weather or season precludes the prompt reestablishment of vegetation, Applicants will use measures such as mulching or erosion control blankets to prevent erosion until reseeding can be completed.

VM 28. Applicants will limit ground disturbance to only the areas necessary for Transaction-related construction activities.

VM 29. Applicants will review the limits of land disturbance prior to Transaction-related construction to determine whether any U.S. Department of Commerce, National Geodetic Survey monuments (that is, a government owned permanent survey marker) would be disturbed. If any survey monuments would be disturbed, Applicants will give a 90-day notification to the National Geodetic Survey.

VM 30. Applicants will require contractors to dispose of waste generated during Transaction-related construction activities in accordance with all applicable federal, state, and local regulations.

VM 31. Applicants will make reasonable efforts to identify all utilities that are reasonably expected to be materially affected by Transaction-related construction within their existing right-of-way or that cross their existing right-of-way. Applicants will notify the owner of each such utility identified prior to commencing Transaction-related construction activities and coordinate with the owner to minimize damage to utilities. Applicants will also consult with utility owners to ensure that utilities are reasonably protected during Transaction-related construction activities.

VM 32. During Transaction-related construction activity, Applicants will take reasonable steps to ensure contractors use fill material appropriate and in accordance with applicable regulations for the project area.

Operations-related VMs

Rail Operations

VM 33. Applicants will install power switches along the Line where they determine that manual switches could cause stopped trains to block grade crossings for excessive periods of time and that power switches would increase the speed of rail traffic and reduce the likelihood of such blockages.

Transportation

VM 34. Applicants will examine train operations to identify reasonable ways to reduce highway/rail at-grade crossing blockages.

VM 35. Applicants will cooperate with the appropriate state and local agencies and municipalities to:

- Evaluate the possibility that roadways listed in Table C-1 (Appendix C) of the Draft EA could be closed at the point where it crosses the Line, in order to eliminate the at-grade crossing;
- Improve or identify modifications to roadways that would reduce vehicle delays by improving roadway capacity over the crossing by construction of additional lanes;
- Assist in a survey of highway/rail at-grade crossings for a determination of the adequacy of existing grade crossing signal systems, signage, roadway striping, traffic signaling inter-ties, and curbs and medians; and
- Identify conditions and roadway, signal, and warning device configurations that may trap vehicles between warning device gates on or near the highway/rail at-grade crossing.

Grade Crossing Safety

VM 36. For up to three years from the date that Applicants' initiate operational changes associated with the Proposed Transaction, CSXT will make Operation Lifesaver programs available to communities, schools, and other appropriate organizations located along the Line.

VM 37. For each of the public grade crossings on the Line, Applicants will provide and maintain permanent signs prominently displaying both a toll-free telephone number and a unique

grade-crossing identification number in compliance with Federal Highway Regulations (23 C.F.R. Part 655). The toll-free number will enable drivers to report accidents, malfunctioning warning devices, stalled vehicles, or other dangerous conditions and will be answered 24 hours per day by Applicants' personnel.

VM 38. Applicants will continue on-going efforts with community officials to identify elementary, middle, and high schools within 0.5 miles of the Line's right-of-way and provide, upon request, informational materials concerning railroad safety to such identified schools.

VM 39. Applicants will consult with state departments of transportation and other appropriate agencies and will abide by the reasonable requirements of INDOT and KYTC prior to constructing, relocating, upgrading, or modifying highway/rail at-grade crossing warning devices on the Line.

Hazardous Materials Transportation

VM 40. Applicants will assist in the hazardous materials training of emergency responders for affected communities that express an interest in such training. Applicants will support through funding or other means the training of one representative from each of the communities located along the Line where the transportation of hazardous materials would increase. Applicants will complete the training within three years from the date that they initiate operational changes associated with the Proposed Transaction.

VM 41. Applicants will comply with the current Association of American Railroads "key train" guidelines, found in Association of American Railroads' Circular No. OT-55-I, and any subsequent revisions.

VM 42. Applicants will incorporate the Line into their existing Transportation Emergency Response Plan (TERP).

VM 43. Applicants will comply with all hazardous materials regulations of the U.S. Department of Transportation (including Federal Railroad Administration and the U.S. Pipeline and Hazardous Materials Safety Administration) and Department of Homeland Security (including the Transportation Security Administration). Applicants will dispose of all hazardous materials that cannot be reused in accordance with applicable law.

VM 44. Upon request from local emergency response organizations, Applicants will implement real-time or desktop simulation emergency response drills with the voluntary participation of local emergency response organizations.

VM 45. Applicants will continue their on-going efforts with community officials to identify the public emergency response teams located along the Line and will provide, upon request, hazardous material training.

VM 46. Applicants will, upon request, conduct Transportation Community Awareness and Emergency Response Program workshops (training for communities through which hazardous materials are transported) in communities along the Line.

VM 47. Applicants will develop internal emergency response plans to allow for agencies to be notified in an emergency, and to locate and inventory the appropriate emergency equipment.

Applicants will provide the emergency response plans to the relevant state and local authorities within six months of acquisition of a freight easement over the Line.

VM 48. In accordance with their TERP, Applicants will make the required notifications to the appropriate federal and state environmental agencies in the event of a reportable hazardous materials release. Applicants will work with appropriate agencies such as U.S. Fish and Wildlife Service, Kentucky Department for Environmental Protection (KY DEP), and Indiana Department of Environmental Management to respond to and remediate hazardous materials releases with the potential to affect wetlands or wildlife habitat(s), particularly those of federally threatened or endangered species. Applicants will adhere to all USEPA regulations described in 40 C.F.R. Part 263 and will coordinate with USEPA, state agencies, and local agencies on spill responses.

Emergency Response

VM 49. Applicants will notify appropriate Emergency Services Dispatching Centers on the Line of all crossings blocked by trains that are stopped and may be unable to move for a significant period of time. Applicants will work with affected communities to minimize emergency vehicle delay by maintaining facilities for emergency communication with local Emergency Response Centers through a dedicated toll-free telephone number.

Water Resources

VM 50. Applicants will maintain drainage ditches as permanent vegetated swales to provide stormwater retention and treatment. Removal of accumulated sediments will be conducted only as necessary to maintain stormwater retention capacity and function.

Biological Resources

VM 51. Applicants will ensure that any herbicides used in right-of-way maintenance to control vegetation are approved by USEPA and are applied by licensed individuals. Application will be limited to the extent necessary for rail operations. Herbicides will be applied so as to prevent or minimize drift off of the right-of-way onto adjacent areas.

Energy Resources

VM 52. Applicants, to the extent reasonably practicable, will adopt efficient fuel saving practices that may include a range of operating practices that will help reduce locomotive emissions, such as shutting down locomotives when not in use and when temperatures are above 40 degrees.

VM 53. Applicants will comply with USEPA emissions standards for diesel-electric railroad locomotives (40 C.F.R. Part 92) when purchasing and rebuilding locomotives.

Noise and Vibration

VM 54. Applicants will work with affected communities that have noise-sensitive receptors that would experience an increase of at least 5 dBA and reach 70 dBA, because of Transaction-related train increases, to mitigate train noise to levels as low as 70 dBA by cost-effective means as are agreed to by an affected community and Applicants. In the absence of such an agreement, Applicants will implement cost-effective mitigation.

VM 55. Applicants will cooperate with interested communities along the Line for the establishment of quiet zones (QZ) and assist in identifying supplemental or alternative safety measures, practical operational methods, or technologies that may enable the community to establish QZ.⁴¹

VM 56. Applicants will work with their contractors to maintain Transaction-related maintenance vehicles in good-working order with properly functioning mufflers to control noise.

VM 57. In addition to the development of other noise mitigation measures, Applicants will consider lubricating curves where doing so would both be consistent with safe and efficient operating practices and significantly reduce noise for residential or other noise sensitive receptors. Applicants will also continue to employ safe and efficient operating procedures that, in lieu of, or as complement to, other noise mitigation measures can have the collateral benefit of effectively reducing noise from train operations. Such procedures will include:

- Inspecting rail car wheels to maintain wheels in good working order and minimize the development of wheel flats;
- Inspecting new and existing rail for rough surfaces and, where appropriate, grinding these surfaces to provide a smooth rail surface during operations; and
- Regularly maintaining locomotives and keeping mufflers in good working order.

VM 58. Applicants will comply with Federal Railroad Administration regulations establishing decibel limits for train operations.

VM 59. To minimize noise and vibration, Applicants will install and maintain rail and rail beds according to AREMA standards.

VM 60. Upon request, Applicants will consult with communities affected by wheel squeal at existing locations on the Line, and cooperate in determining the most appropriate methods for implementing VM 57.

Monitoring and Enforcement

VM 61. Upon approval of the Application by the Board, Applicants will submit semi-annual reports to the Board's Office of Environmental Analysis (OEA) on the progress of, implementation of, and compliance with the mitigation measures for a period covering the first 3 years of operational changes.

4.3 OEA's Preliminary Mitigation Measures

OEA preliminarily recommends the following additional mitigation measures (MM) to minimize or avoid for potential Transaction-related impacts. OEA's recommended mitigation includes measures to address specific concerns raised by the communities of Greenwood, IN and Whiteland, IN in written comments submitted during the early stages of the environmental review process and the Board's deliberations of the transportation merits of the case, respectively.

⁴¹ Applicants' willingness to cooperate does not commit Applicants to expend funds on a physical project.

Transportation

MM 1. To address potential safety impacts at public at-grade crossings, Applicants shall complete a Grade Crossing Mitigation Plan (GCMP) prior to moving Transaction-related train traffic on the Line. In preparing the GCMP, Applicants shall meet with the INDOT and KYTC, within 45 days of the effective date of any Board approval of the Proposed Transaction, to begin determining the need for grade crossing protection upgrades at each public at-grade crossing on the Line. Applicants shall update the Board's OEA on the status of the GCMP in their semi-annual mitigation and enforcement reports to OEA.

MM 2. To the extent practicable, Transaction-related siding extensions and new sidings shall be located and designed to minimize blockages of public at-grade crossings by slow-moving trains entering and exiting the sidings.

MM 3. To supplement VM 49, once Transaction-related train traffic begins to move on the Line, Applicants shall promptly notify the appropriate Emergency Services Dispatching Center(s) when a stopped or slowly moving train will not clear a public at-grade crossing within 10 minutes.

MM 4. To assist with the timely response of emergency service providers transporting patients to Schneck Medical Center, Applicants shall consult with appropriate emergency service providers (e.g., including the Seymour and Hamilton fire departments in Seymour, IN) to install a closed-circuit television system (CCTV) with video cameras (or another comparable system or acceptable option) so that train movements and blocked at-grade crossings within the City of Seymour can be monitored in real time. Applicants shall pay for the necessary equipment, equipment installation, and equipment training for up to two individuals from each affected emergency service provider. Applicants shall work with the appropriate emergency service providers to determine specifications and scheduling for the installation of the system. Once installed and operational, Applicants shall be responsible for the ongoing maintenance of the system.

MM 5. To supplement VM 5, within six months of Applicants initiating operational changes associated with the Proposed Transaction, Applicants shall cooperate with residential communities, schools and park districts to identify at-grade crossings where additional pedestrian warning devices may be warranted.

MM 6. Applicants shall coordinate with the appropriate state departments of transportation, counties and affected communities along the Line to develop a program for installing temporary notification signs or message boards in the Line's right-of-way at each of the Line's 154 public at-grade crossings, clearly advising motorists of the pending increase in the number, length and speed of trains on the Line. The format and lettering of these signs shall comply with the Federal Highway Administration's 2007 Manual on Uniform Traffic Control Devices. The signs shall be installed no less than 30 days before Transaction-related train traffic begins moving on the Line, and shall remain in place for at least six months after Transaction-related train traffic begins moving on the Line. Applicants shall provide OEA written notice when installation of the signage has been completed at all 154 public at-grade crossings. At least 30 days before any Transaction-related train traffic begins to move on the Line, Applicants shall also publish a

notice in a newspaper of general circulation in each county in which the Line is located to advise residents of the pending increase in the number, length and speed of trains on the Line.

MM 7. Prior to initiating Transaction-related construction activities, Applicants shall consult with the City of Greenwood, IN regarding potential design considerations related to Worthsville Road roadway improvements.

MM 8. Applicants shall consult with the City of Greenwood, IN and Indianapolis, IN regarding their potential interest in moving passenger trains on the Line.

Hazardous Waste

MM 9. For the Brook siding, residual contamination from a previous leaking underground storage tank incident at a former Conrail, now L&I, property could be encountered during Transaction-related construction and upgrading activities. Applicants shall ensure that their employees and contractors are prepared to monitor for contaminated soils and to excavate, document, and dispose of affected material, as needed, in compliance with applicable environmental and health and safety laws and regulations.

Water Resources

MM 10. Prior to initiating Transaction-related construction activities within floodplains, Applicants shall obtain a Construction in a Floodway Permit from the Indiana Department of Natural Resources.

MM 11. Prior to initiating Transaction-related construction activities within waters of the United States including wetlands, Applicants shall obtain a Section 404 permit under the Clean Water Act from the U.S. Army Corps of Engineers, as applicable.

MM 12. Prior to initiating Transaction-related construction activities within waters of the United States including wetlands, Applicants shall obtain a Water Quality Certification from the Indiana Department of Environmental Management, as applicable.

Biological Resources

MM 13. During replacement of the Flatrock River Railroad Bridge, Applicants shall avoid stream channel disturbance during the primary fish spawning season (April 1 through June 15).

Historic Preservation

MM 14. CSXT and L&I shall retain their interest in and take no steps to alter the historic integrity of all historic properties including sites, buildings, structures, bridges and objects within the project right-of-way (the Area of Potential Effect) that are eligible for listing or listed in the National Register of Historic Places until the Section 106 process of the National Historic Preservation Act, 16 U.S.C. § 470f, has been completed. CSXT and L&I shall report back to the Board's OEA regarding any consultations with the Indiana SHPO, Kentucky SHPO and the public. CSXT and L&I may not initiate any Transaction-related construction activities (including but not limited to siding construction and bridge replacement) until the Section 106 process has been completed and the Board has removed this condition.

MM 15. In the event that any unanticipated archaeological sites, human remains, funerary items or associated artifacts are discovered during Transaction-related construction activities, Applicants shall immediately cease all work and will notify the Board's OEA, interested federally recognized tribes, and the Indiana SHPO or Kentucky SHPO, as appropriate, pursuant to 36 C.F.R. § 800.13(b). OEA will then consult with the SHPO, interested federally recognized tribes, the railroads, and other consulting parties, if any, to determine whether additional mitigation measures are necessary.

Community Liaison

MM 16. In response to Transaction-related concerns regarding noise, emergency response and other issue areas, Applicants shall establish a Community Liaison to consult with affected communities, businesses and appropriate agencies; develop cooperative solutions to local concerns; be available for public meetings; and conduct periodic public outreach. Applicants shall establish and staff the Community Liaison position prior to Transaction-related construction activities and for a period of three years following the first movement of Transaction-related trains on the Line

5.0 LIST OF PREPARERS

5.1 Surface Transportation Board

The following members of Board staff were responsible for overall project management, technical direction, and writing, reviewing, and editing the document.

Name	Background	Title/Role
Victoria Rutson	J.D. B.A., English Language and Literature	Director, Office of Environmental Analysis
David Navecky	M.S. Resource Development - Water Resources Management B.S. Environmental Resource Management. Twenty-nine years in management and preparation of NEPA documents, watershed management studies, environmental compliance reviews and other interdisciplinary projects for a wide range of facilities and projects including rail, airport and highway infrastructure; residential and mixed-use developments; power plants; and industrial installations.	Project Manager

5.2 HDR Engineering, Inc.

Name and Firm	Background	Project Role
Project Management		
Kevin Keller, PG, CGWP HDR	M.S. Hydrogeology B.S. Geology Twenty-nine years in management and supervision of large, interdisciplinary environmental and engineering projects, including NEPA studies, remediation and closure of regulated sites, and diverse services for the rail industry	Project Manager
John H. Morton, P.E. HDR	M.S. Engineering Management B.S. Civil/Environmental Engineering Thirty-seven years in the design, permitting, and approval of civil engineering structures;	Project Manager

Name and Firm	Background	Project Role
	NEPA and other environmental compliance; mitigation design; public involvement, interagency coordination, and management of interdisciplinary teams on large, complex projects	
Mark L. Wollschlager, J.D. HDR	J.D. B.S. Biological/Life Sciences Thirty-two years in environmental law, impact analysis, permitting, and quality control Responsible for strategy, coordination, guidance, review, analysis, and interpretation of federal and state environmental and energy laws and regulations affecting various types of projects and facilities	Technical and Quality Control Manager Technical Team Leader
Technical Analysis		
William D. Burgel, RPG HDR	M.S. Geology B.S. Engineering Thirty-nine years in railroad engineering and operations as a project engineer and project manager for railway and transportation engineering projects and NEPA studies Expertise in light rail, commuter rail, and freight rail interface and capacity issues	Technical Lead – Rail Operations
Timothy G. Casey, INCE HDR	B.S. Biological/Life Sciences Twenty five years performing and managing noise and vibration analyses for projects involving stationary and mobile sources, including combustion turbines, wind farms, and other noise sources associated with the power and energy industries	Technical Lead – Noise and Vibration
Richard A. Christopher, J.D. HDR	J.D. B.A. English Language and Literature Thirty-five years practicing law, including 30 years devoted to environmental law and 25 years at the Illinois Department of Transportation as Deputy Chief Counsel specializing in project development	Quality Control/Quality Assurance Manager

Name and Firm	Background	Project Role
Elliott B. Dick HDR	B.S. Noise and Vibration Control Seventeen years in environmental noise and architectural acoustics, commercial building design, and noise modeling methods for rail and road transportation noise	Resource Specialist – Noise and Vibration
Jacqueline D. Hamilton, P.G., GISP HDR	M.S. GIS B.S. Geology Twenty years as a GIS specialist and hydrogeologist developing GIS databases, and conducting spatial analysis, land cover classification practices, Phase I Environmental Site Assessments, soil sampling, groundwater and surface water sampling, and monitoring	Technical Lead – Topography, Geology, and Soils, GIS
Edward J. Liebsch, V.P. HDR	M.S. Meteorology B.S. Earth Science Thirty-three years as an air quality specialist, project manager, and group leader for air quality impact analysis and permitting, including dispersion modeling of air pollution, regulatory evaluations, and air quality analyses under NEPA and state environmental review programs	Technical Lead – Air Quality and Climate, Energy Resources
Dylan Eigenberger HDR	M.A. Anthropology B.A. Archaeology Ten years in cultural resources investigations including survey, evaluation, and data recovery at prehistoric and historic archaeological sites.	Technical Lead – Cultural Resources
Christine M. Magers, AWB HDR	B.S. Wildlife and Fishery Sciences Four years conducting surveys of rangeland and wildlife system and environmental analysis; Section 404/401 permitting; feasibility studies; and wetland delineation	Technical Lead – Biological Resources, Community Resources and Land Use
Robin S. Martel, LEED AP HDR	B.S. Geology Seventeen years in environmental and transportation engineering, transportation planning, NEPA documentation for public improvement and redevelopment projects, and	Technical Lead – Traffic and Grade Crossing Delay, Hazardous

Name and Firm	Background	Project Role
	environmental site assessments	Materials Transportation Safety
Sara Merchán Paniagua HDR	M.S. Soil and Environmental Sciences B.S. Biological/Environmental Sciences Five years in editing of technical documents; writing NEPA documentation and U.S. Army Corps of Engineers project implementation reports; Section 404/401 permitting; wetland delineations; biological assessments; and environmental monitoring	Technical Lead – Water Resources; Resource Specialist – Biological Resources
Kerri P. Snyder, AICP HDR	B.S. Environmental Sciences M.S. Ecology Eleven years in environmental analysis and documentation under NEPA; Section 404/401 permitting; U.S. Coast Guard permitting; feasibility studies; and wetland delineations	Technical Lead – Socioeconomics, Environmental Justice, and Cumulative Effects
Nicholas K. Stadem, P.E. HDR	B.S. Civil Engineering Seven years in rail engineering including track design, highway/rail grade crossing analysis, construction observation, and survey	Resource Specialist – Rail Operations
Leif J. Thorson, P.E. HDR	B.S. Civil Engineering Thirty-four years as a project engineer and senior project manager in the railroad and consulting industries Twenty-one years with Class I and regional railroads Experienced in railroad operations; inspection; maintenance; and design and construction of tracks, bridges, grade crossings, and other railroad facilities	Technical Lead – Rail Operations, Rail Safety
Scott P. Zilka HDR	B.S. Meteorology Seventeen years in dispersion modeling analyses for stationary and mobile emissions sources quality assessment of meteorological data; preparation of source, receptor, emissions and other dispersion model input data; and dispersion modeling of air pollutant emissions	Resource Specialist – Air Quality and Climate, Energy Resources

Name and Firm	Background	Project Role
Document Production		
Margaret G. Desmond HDR	B.A. English and Literature Thirty-four years in journalism, in-house communications, and business development Focus in the last 17 years on editing technical documents and preparing marketing proposals for engineering firms	Senior Technical Editor
Sara Merchán Paniagua HDR	M.S. Soil and Environmental Sciences B.S. Biological/Environmental Sciences Five years in editing of technical documents; writing NEPA documentation and U.S. Army Corps of Engineers project implementation reports; Section 404/401 permitting; wetland delineations; biological assessments; and environmental monitoring	Editor and Technical Writer – List of Preparers, References