- SEA identified additional rail line segments that would meet or exceed the Board's thresholds for air quality analysis based on IR applications.

- SEA evaluated possible impacts on air quality for the potential alternative train routes that SEA or the commentors proposed as possible mitigation in Greater Cleveland Area, Ohio; Erie, Pennsylvania; and Lafayette, Indiana. Section 4.19, "Community Evaluations,"of the Final EIS summarizes these additional evaluations.

SEA evaluated the potential changes in air pollutant emissions for all areas affected as a result of these changes and conducted additional emissions analyses in areas where emissions changes could differ substantially from those in the Draft EIS. In other cases, SEA determined that the changes identified since the issuance of the Draft EIS would have negligible effects on emissions; therefore, SEA did not conduct further analysis or revise previous analyses for such areas or counties.

Changes in Operating Plans. SEA conducted additional evaluations and analyses because CSX and NS modified their Operating Plans after it issued the Draft EIS. Specifically:

- SEA analyzed emissions for three additional counties in Ohio (Butler, Hamilton, and Ottawa) for which NS and CSX provided proposed train traffic levels that were different than those provided prior to the issuance of the Draft EIS. For the additional analysis, SEA used the same methods that the Draft EIS describes. Although SEA estimated that some emissions increases in these counties would meet or exceed the Board's thresholds for environmental analysis, it determined that these increased emission levels did not exceed the appropriate screening level for any pollutants other than NO_x. Therefore, SEA only performed a detailed emissions analysis for NO_x. (See Appendix I, "Air Quality Analysis," for a detailed discussion.)

- During preparation of the Final EIS, the Applicants clarified the routing of Canadian Pacific haulage rights with respect to rail line segment N-121 (West Detroit, Michigan to Jackson, Michigan); C-214 (Detroit, Michigan to Plymouth, Michigan); and C-215 (Plymouth, Michigan to Grand Rapids, Michigan). Because this change would affect the projected NO_x emissions increases in Wayne County, Michigan, SEA revised its emissions analysis for Wayne County for the Final EIS. (See Appendix I, "Air Quality Analysis," for a detailed discussion.)

- During preparation of the Final EIS, NS modified its Operating Plan. As a result, SEA determined that activities in Orange County, New York; Susquehanna County, Pennsylvania; and Calhoun, Jackson, Kalamazoo, and Washtenaw Counties in Michigan would no longer meet or exceed the Board's thresholds for air quality analysis. Therefore, SEA no longer included those counties for air quality analyses.

- During preparation of the Final EIS, NS informed SEA that it no longer proposes to expand the Morrisville intermodal facility in Bucks County, Pennsylvania, but it intends

to increase activity at the new AmeriPort/South Philadelphia intermodal facility at the former U.S. Naval Station in Philadelphia County. A small amount of projected emissions increases would shift from one county to another, but both counties are within the Philadelphia metropolitan area; therefore, SEA did not reanalyze emissions for either Bucks or Philadelphia Counties, Pennsylvania.

- Following preparation of the Draft EIS, NS informed SEA that it proposes an intermodal facility in Sandusky, Erie County, Ohio, instead of the previously proposed facility in Bellevue, also in Erie County. Because this change in location would not significantly alter the overall emissions generated in Erie County, Ohio, SEA did not reanalyze NO_x emissions for the Final EIS. Along with the change in location of the intermodal facility, NS proposed several minor changes to traffic routes on rail line segments in northwestern Ohio and northern Indiana. SEA determined that this rerouting would have a negligible effect on previously estimated NO_x emissions for counties in this area; therefore, SEA did not revise its analyses.

Settlement Agreements. During preparation of the Final EIS, CSX provided SEA with its Settlement Agreement with the Louisville and Indiana Railroad. This agreement altered CSX's proposed Operating Plan for several rail line segments in Indiana, Kentucky, Tennessee, and Ohio. SEA analyzed the effects of these changes and determined that several counties would no longer experience activities that would meet or exceed the Board's thresholds for air quality analysis. Those counties include Gibson and Knox Counties, Indiana; Montgomery and Robertson Counties, Tennessee; and Christian, Henderson, Hopkins, Todd, and Webster Counties, Kentucky.

SEA also determined that the Settlement Agreement would add rail line segment traffic that would meet or exceed the Board's air quality analysis thresholds in several counties that SEA had not evaluated in the Draft EIS. These counties include: Jefferson County, Kentucky; and Bartholomew, Clark, Jackson, Johnson, Marion, and Scott Counties, Indiana. However, SEA found that the increased emissions in each of these counties would not exceed SEA's screening levels for further evaluation at the county level. Therefore, SEA did not conduct detailed emissions analysis for these counties. See Appendix I, "Air Quality Analysis," for a detailed discussion.

Based on the same analysis, SEA determined that NO_x emissions increases in Vanderburgh County, Indiana would be less than the increases SEA projected in the Draft EIS. Therefore, SEA revised its detailed NO_x emissions analysis for Vanderburgh County.

Inconsistent and Responsive Applications. Two Inconsistent and Responsive (IR) applicants requested trackage rights over the same 10-mile rail line segment in Albany, New York (rail line segment C-726 between CP-187 and Selkirk). Although projected traffic on this rail line segment would not increase as a direct result of the proposed Conrail Acquisition, the Board's approval of these two IR applications would cause train traffic to increase by 4 trains per day. This would exceed the Board's threshold for air quality analysis (3 trains per day) for the ozone

nonattainment areas in Albany and Rensselaer Counties. Therefore, SEA conducted additional emissions analysis for these two counties for the Final EIS. See Section 4.11.3, "Analysis Results and Impacts," and Appendix I, "Air Quality Analysis," of the Final EIS for further discussions of the analysis.

4.11.3 Analysis Results and Impacts

System-wide and Regional

Based on its air quality analysis in the Draft EIS and comparison with existing conditions, SEA estimated that system-wide net emissions of NO_x, particulate matter less than 10 microns in diameter, volatile organic compounds, carbon monoxide, and lead would decrease as a result of the proposed Conrail Acquisition. SEA calculated these decreases based on the projected truck-to-rail diversions. Using the same analysis, SEA estimated that projected sulfur dioxide emissions would increase slightly (521 tons per year) because the sulfur content for locomotive fuels is typically higher than the sulfur content of fuel used for trucks. However, SEA considered the increase to be insignificant compared with the several millions tons of sulfur dioxide that stationary sources emit annually in the states affected by the proposed Conrail Acquisition.

On a regional basis, SEA determined in the Draft EIS that the proposed Conrail Acquisition would cause no adverse impacts on ozone levels in the Northeast Ozone Transport Region; based on SEA's calculations, the proposed Conrail Acquisition would result in a small net decrease in NO_x emissions in this region. Additionally, SEA determined in the Draft EIS that the proposed Conrail Acquisition would cause significant impacts on ozone levels in the nonattainment areas

in Illinois, Indiana, Michigan, and Ohio, despite minor changes in the geographic distribution of NO_x emissions.

County-wide

SEA's county-wide analysis for the Draft EIS showed that some counties would experience emissions increases even though system-wide emissions would decrease. Chapter 5 of the Draft EIS, "State Settings, Impacts, and Proposed Mitigation," provides a detailed discussion of the county-wide analysis. These county-wide increases exceeded emissions screening levels for only NO_x or carbon monoxide. However, the county-wide increases in NO_x and/or carbon monoxide emissions that occur in some counties would not affect compliance with NAAQS. For NO_x, which affects ozone mainly on a regional basis, SEA estimated that the system-wide and regional emissions would decrease as a result of the proposed Conrail Acquisition. For carbon monoxide, the projected increases comprise a very small percentage of existing emissions (well below 1 percent). Therefore, SEA concluded that the small carbon monoxide increase would not have significant impacts on air quality.

Results of Additional Analyses and Evaluations Since the Issuance of the Draft EIS

The following discussion presents the results from the additional analyses and evaluations SEA conducted since it issued the Draft EIS.

Results of Additional Evaluations in Response to Public Comments

As noted, SEA conducted additional analyses for the Final EIS in response to comments received on the Draft EIS about air quality impacts from vehicles stopped at highway/rail at-grade crossings, locomotives idling and in motion, and the impacts of potentially toxic and carcinogenic emissions from locomotives on humans. Based on its further analysis, SEA determined that pollutant concentrations caused by emissions from vehicles at highway/rail at-grade crossings and from idling and moving locomotives would be well below NAAQS. SEA concluded that impacts from potentially toxic or carcinogenic substances in diesel exhaust would be well below those that would affect human health in exposed populations.

Changes in Operating Plans. Based on analytical results for the three additional counties that SEA had not evaluated in the Draft EIS, SEA determined that the proposed Conrail Acquisition would result in the following:

- Decreases in net NO_x emissions in Hamilton and Ottawa Counties, Ohio.
- A net increase of less than 1 percent of current NO_x emissions in Butler County, Ohio.

SEA determined that the projected NO_x net increase in Butler County, Ohio, would not adversely affect air quality in this nonattainment area.

Based on its revised analysis for Wayne County, Michigan, SEA estimated that the increase in NO_x emissions in the County represents less than 1 percent of the current emissions. SEA considers this increase insignificant, and it determined that the estimated percent increase in NO_x emissions would not adversely affect air quality in this maintenance area.

Settlement Agreements. SEA conducted additional analysis for Vanderburgh County after CSX reached a Settlement Agreement with Louisville and Indiana Railroad. Based on the revised analysis, SEA determined that in Vanderburgh County the estimated NO_x increase, which was projected in the Draft EIS at 311 tons per year (2.58 percent of the county's total NO_x emissions), would be only 264 tons per year (2.18 percent of the county's total NO_x emissions). However, SEA determined that this minor increase would be temporary (see Section I.2.1 of Appendix I, "Air Quality Analysis"), and it does not expect the change to significantly affect local ozone concentrations. EPA has recently designated Vanderburgh County, a former non-attainment area for ozone, as an ozone maintenance area.

Inconsistent and Responsive Applications. SEA estimated that emissions in Albany and Rensselaer Counties, New York, would not increase significantly if the Board were to approve each IR applicant's request to add 2 trains per day to the rail line segment near Albany, New York (C-726).

New EPA Rules Establishing Emissions Standards for Locomotive Engines. In its analysis, SEA also considered the effects of new EPA rules that establish emissions standards for locomotive engines. Implementation of the rules will significantly reduce NO_x and other pollutant emissions from locomotive engines nationwide. The rules, which will become effective in the year 2000, are projected to reduce NO_x emissions from locomotives nationwide to 35 percent below 1990 levels by 2005, and eventually reduce locomotive emissions to nearly 60 percent below 1990 levels by the year 2040. The new emissions standards will also result in substantial reductions in particulate matter and volatile organic compound emissions. Also, the implementation of the rules will mitigate a significant amount of locomotive emissions and eventually reduce nationwide NO_x emissions by more than 700,000 tons per year. See Appendix O, "EPA Rules on Locomotive Emissions," for further discussion.

4.11.4 Mitigation

Mitigation Recommended in the Draft EIS

Because SEA identified no significant adverse air quality impacts resulting from the proposed Conrail Acquisition, it did not recommend system-wide, regional, or county-wide air quality mitigation in the Draft EIS.

Final Recommended Mitigation

SEA's further analyses do not change its determination of no significant adverse air quality impacts. Therefore, SEA does not recommend that the Board require system-wide, regional, or county-wide air quality mitigation in this final EIS. However, for all proposed construction and abandonment projects proposed by the Applicants, SEA recommends that the Board require the Applicants to use the Best Management Practices (BMPs) listed in Appendix P, "SEA's Best Management Practices for Construction and Abandonment Activities." The BMPs include compliance with all applicable Federal, state, and local rules to control and minimize fugitive dust emissions from construction or abandonment-related activities. See Chapter 7, "Recommended Environmental Conditions," and Appendix P, "SEA's Best Management Practices for Construction and Abandonment Activities," for further information.

4.12 NOISE

The additional train traffic from the proposed Conrail Acquisition could increase both wayside train noise (locomotive engine and wheel/rail noise) and train horn noise. To determine such impacts, SEA evaluated potential increased noise for all rail line segments, rail yards, and intermodal facilities that met the Board's thresholds for noise analysis.

Since the Draft EIS, SEA has not changed its thresholds for noise analysis. However, in this Final EIS, SEA's analysis has been refined to reflect accurate train noise measurements more appropriately and to provide 100 percent coverage of aerial photographs incorporated into the geographic information system (GIS). From this refined analysis, SEA developed noise contours, revised its counts of noise-sensitive receptors, and analyzed eight additional rail line segments for noise mitigation. Appendix J, "Noise Analysis," of the Final EIS contains final results of the noise analysis.

As described in Section 4.19, "Community Evaluations," of the Final EIS, SEA also conducted additional analysis in three communities with unique circumstances (Greater Cleveland Area, Ohio; Erie, Pennsylvania; and Lafayette, Indiana) to determine what effects, if any, those proposed alternative train routes would have on noise.

4.12.1 Analysis Methods

Draft EIS Methods

For the Draft EIS, SEA conducted an independent evaluation of the noise analysis that CSX and NS submitted with the Application. CSX and NS had evaluated the 71 rail line segments, four rail yards, and 23 intermodal facilities that exceeded the Board's thresholds for environmental analysis at 49 CFR 1105.7(e)(6). These Board rules specify noise analysis for the following:

- All rail line segments where traffic would, as a result of the proposed Conrail Acquisition, increase by at least 8 trains per day or at least 100 percent as measured in annual gross ton-miles.
- All rail yards with an increase in car load activity of at least 100 percent.
- All intermodal facilities with an increase of at least 50 trucks per day or 10 percent of the ADT including passenger cars and trucks.

CSX and NS had quantified the number of sensitive receptors (such as schools, hospitals, residences, and churches) that would experience both noise levels above 65 dBA L_{dn}[9] and an increase of 2 dBA L_{dn} or more as a result of train traffic increases. CSX and NS had based their noise analysis on baseline train operations, projected activity levels after the proposed Conrail Acquisition from the CSX and NS Operating Plans, noise models available in pertinent technical literature (referenced in the Environmental Report), and noise measurements taken at existing Conrail, CSX, and NS facilities.

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[9] A dBA is an A-weighted decibel, a single-number measure of sound severity that accounts for the various frequency components in a way that corresponds to human hearing. L_{dn} is the day-night average noise level, which is the receptor's cumulative noise exposure from all noise events over a full 24 hours, adjusted to account for the perception that a noise at night is more bothersome than the same noise during the day.

The Board rules also specify two types of "noise level criteria" for analysis:

- An increase in noise levels to 65 dBA L_{dn} or greater (regardless of the incremental increase).

- An incremental increase in noise levels of 3 dBA L_{dn} or greater.

As discussed in the Draft EIS, SEA determined that counting the number of noise-sensitive receptors within the 65 dBA L_{dn} noise contours before and after the proposed Conrail Acquisition satisfies both "noise level criteria." Therefore, SEA determined that it is not necessary to identify noise effects associated with an increase of 3 dBA L_{dn} for areas exposed

to less than 65 dBA L_{dn}. Section F.3 of Appendix F, "Noise," of the Draft EIS, explains this rationale in detail.

In reviewing and verifying the CSX/NS noise analysis, SEA analyzed the noise impacts by incorporating GIS-based maps and aerial photographs to verify the results for a representative sample of the CSX/NS data. SEA determined that its results for this sample (in some cases) showed substantially different numbers of noise-sensitive receptors than CSX/NS's results. Because of these differences, SEA expanded its use of the noise-prediction model incorporating GIS-based data to analyze all line segments for which aerial photographs were available. Using this model, SEA generated noise contours based on train operations before and after the proposed Conrail Acquisition, determined the number of noise-sensitive receptors within the contours, and amended numbers for which the SEA values and CSX/NS values did not correspond.

Final EIS Methods

SEA continued to use the same noise analysis methods it had used for the Draft EIS. However, SEA expanded its use of GIS-based modeling in the Final EIS because the required aerial photographs had become available since preparation of the Draft EIS.

Noise Mitigation Criteria

SEA considered mitigation where increased rail activity following the proposed Conrail Acquisition potentially exposes noise-sensitive receptors to wayside noise levels of at least 70 dBA L_{dn} and noise level increases of at least 5 dBA L_{dn}. SEA fully discusses these noise mitigation criteria in Section 4.12.4, "Mitigation," of the Final EIS.

4.12.2 Public Comments and Additional Evaluations

Public Comments

Chapter 5, "Summary of Comments and Responses," of the Final EIS summarizes public comments received on the Draft EIS and SEA's responses to them.

"70/5 dBA L_{dn}" Noise Mitigation Criteria. Many commentors, including EPA, view the noise levels that warrant mitigation (over 70 dBA L_{dn} and an increase of 5 dBA L_{dn}) as too high. Section 4.12.4, "Mitigation," of the Final EIS discusses in detail SEA's rationale for establishing the noise mitigation criteria.

Mitigation of "Unacceptable" Noise Impacts and Train Horn Noise. Many commentors stated that potential noise impacts resulting from the proposed Conrail Acquisition are unacceptable and requested mitigation. SEA reviewed these comments and considered potential impacts from wayside noise (engine and wheel/rail noise). SEA notes that, because railroads historically have had the right to increase operations on their existing rights-of-way without mitigating noise impacts, any noise impact mitigated as a consequence of the proposed Conrail Acquisition is a benefit that would not be available if the increased CSX and NS operations were part of normal business growth. For train horn noise near highway/rail at-grade crossings, SEA cannot recommend elimination of train horn sounding to mitigate noise impacts because the sounding of train horns is a safety measure to warn motorists and pedestrians of approaching trains. Chapter 7, "Recommended Environmental Conditions," of the Final EIS addresses some of these noise concerns.

Vibration. In response to concerns about vibration from additional train traffic, SEA notes that a freight train traveling at 50 mph generates a vibration velocity of approximately 95 dB (re 1 micro-inch per second) 10 feet from the tracks. This vibration level is substantially below the levels that would cause cosmetic damage to any structure (106 dB re 1 micro-inch per second), and even further below levels that would cause structural damage (126 dB re 1 micro-inch per second). Existing vibration impact criteria are based on the maximum vibration level of a single event; therefore, an increased number of freight trains would not increase the potential impact on affected structures.

Community Evaluations and Rerouting. SEA received numerous comments from several communities on potential train route alternatives to reduce the noise impacts of the proposed Conrail Acquisition. SEA conducted additional evaluation of several routing alternatives that CSX, NS, and the communities had identified. Section 4.19, "Community Evaluations," of the Final EIS summarizes the results of these additional evaluations.

Other Additional Evaluations

Refined Analysis Since Draft EIS. For this Final EIS, SEA refined the data and analysis of noise impacts for the 69 rail line segments, four rail yards, and 24 intermodal facilities that meet the Board's environmental analysis requirements for noise. These numbers changed slightly from the activities analyzed for the Draft EIS. SEA received from CSX and NS revised train traffic information that eliminated two line segments from, and added one intermodal facility to, the list of activities that meet the Board's environmental analysis requirements.

For the Final EIS refined analysis, SEA:

- Used GIS maps and aerial photographs to identify receptor sites more comprehensively at all of the rail line segments meeting the Board's thresholds for environmental analysis.

- Refined the reference Sound Exposure Level (SEL) values to resolve differences between the noise characterizations by CSX and NS and to describe the differences in train equipment and operating conditions before and after the proposed Conrail Acquisition.

- Combined noise levels of parallel rail line segments in close proximity.

- Incorporated wayside noise (engine noise, exhaust noise, and wheel/rail noise) to analyze the effects of train horn noise at highway/rail at-grade crossings.

GIS Noise Model. SEA used a GIS-based noise-prediction model to independently verify the CSX/NS noise modeling results and to identify sensitive receptors potentially affected by the proposed Conrail Acquisition. The GIS noise model used current digital aerial photographs and U.S. Geological Survey (USGS) topographic maps to prepare base maps. After preparing the GIS base maps, SEA superimposed the 65 dBA L_{dn} noise contours for train traffic both before and after the proposed Conrail Acquisition on the GIS base map and counted noise-sensitive receptors within the contours. SEA conducted site visits where receptor identification was uncertain. SEA further refined the noise analysis for the Final EIS by applying the model to all of the analyzed rail line segments. See Appendix J, "Noise Analysis," of the Final EIS for more detail.

Reference Sound Exposure Levels. In the Draft EIS, SEA had attributed the differences in SEL values to variations in data and in the length and speed of trains; NS trains are generally shorter and slower than Conrail and CSX trains, so they have lower SEL values. For the Final EIS, SEA refined the SEL values used in the CSX/NS noise model to provide a more consistent characterization of noise associated with Conrail, CSX, and NS trains. See Appendix J, "Noise Analysis" of the Final EIS.

In CSX and NS's Environmental Report, the noise analysis had not differentiated between conditions before and after the proposed Conrail Acquisition regarding train equipment type or operations. For example, on the Conrail-owned rail line segments, the noise model in the Environmental Report assumed only NS train speed and length for conditions both before and after the proposed Conrail Acquisition, when it should have assumed Conrail train speed and length for conditions before the proposed Conrail Acquisition. In addition, the model used average train horn SEL values for Conrail and CSX when it should have used the individual SEL values to reflect conditions before and after the proposed Conrail Acquisition. For the Final EIS, SEA revised the noise analysis to more accurately reflect rail activities for conditions both before and after the proposed Conrail Acquisition.

Parallel Rail Line Segments. In areas where parallel rail line segments are close to each other, SEA analyzed their combined noise levels. SEA determined that the combined noise levels of certain parallel rail line segments in Ohio would be higher than the noise levels of the individual

segments, resulting in expanded noise contours. These line segments are C-060 (Ashtabula-to-Quaker), N-075 (Ashtabula-to-Cleveland),C-073 (Quaker-to-Mayfield), and C-072 (Mayfield-to-Marcy).

Wayside Noise at Highway/Rail At-grade Crossings. In its refined approach to noise analysis since the Draft EIS, SEA added the wayside noise contribution to the train horn noise at highway/rail at-grade crossings. Although the horn-sounding contribution at highway/rail at-grade crossings is much higher than the wayside noise contribution, the latter extends the noise contour near the crossings by 20 to 100 feet. SEA notes that, given the margin of error inherent in noise modeling, the primary purpose for including this refinement is to ensure consistency in the noise analysis.

4.12.3 Analysis Results and Impacts

Analysis Results

Based on SEA's refined analysis for the Final EIS, SEA has revised the 65 dBA L_{dn} contours and the number of noise-sensitive receptors within them. SEA determined that the approximate number of noise-sensitive receptors along the analyzed sites (rail line segments, rail yards, and intermodal facilities) would be 42,000, an increase of 12,000 over the 30,000 noise receptors listed in the Environmental Report. This increase results from a number of factors, including SEA's more comprehensive GIS-based maps. Attachments J-2 and J-3 to Appendix J, "Noise Analysis," of the Final EIS contain the results for all rail line segments, rail yards, and intermodal facilities that meet or exceed the Board's thresholds for noise analysis, including the distances to the 65 dBA L_{dn} contour and the receptor counts.

Impacts

SEA's refined analysis since the Draft EIS identified eight additional rail line segments in six states (Indiana, New York, Ohio, Pennsylvania, Virginia, and West Virginia) that exceed criteria for noise mitigation (wayside noise level of at least 70 dBA L_{dn} and with an increase of at least 5 dBA L_{dn}). SEA was unable to identify these eight rail line segments for the Draft EIS because it had not yet refined and expanded its GIS-based analysis sufficiently to detect and accurately count the receptors near these line segments. As a result of NS's "Mitigation Proposal for Train Frequencies in Greater Cleveland and Vicinity," SEA identified one additional rail line segment in Ohio that exceeds the criteria for noise mitigation.

SEA's initial analysis had identified seven rail line segments that exceed noise mitigation criteria. Based on that analysis, SEA identified a total of 16 rail line segments that exceed noise mitigation criteria. However, two rail line segments did not have noise-sensitive receptors within the noise contour boundary, therefore, there are no potential impacts. As a result, SEA evaluated 14 rail line segments for mitigation. Table 4-7, "Summary of Adverse Environmental Impacts by State," lists those rail line segments.

4.12.4 Mitigation

Mitigation Strategies Considered

Noise Levels Warranting Mitigation. On the rail line segments meeting the Board's threshold for noise analysis, SEA considered the impacts of wayside noise to warrant mitigation if the noise level at sensitive receptor sites would increase by at least 5 dBA L_{dn} and reach 70 dBA L_{dn} as a result of the proposed Conrail Acquisition. Noise-sensitive receptors include residences, schools, churches, and hospitals. Some regulatory agencies require mitigation at a lower noise level or at smaller increases in noise level. Before deciding to use the "70/5 dBA L_{dn}" noise mitigation criteria, SEA considered the criteria used in past railroad mergers, as well as the following criteria of several Federal transportation agencies:

- The Federal Highway Administration (FHWA) in 23 CFR Part 772 specifies that noise levels approach or exceed 67 dBA $L_{eq(h)}$[10] and/or increase substantially over existing conditions before considering mitigation; and it specifies that required noise mitigation must be warranted, feasible, and reasonable. The noise level is in terms of maximum hourly equivalent noise level, denoted as $L_{eq(h)}$. State transportation departments define a "substantial increase" as generally between 10 and 15 dBA $L_{eq(h)}$.

- The Federal Transit Administration (FTA) has noise and vibration criteria that apply to new transit projects; however, these criteria do not apply to the proposed Conrail Acquisition. The FTA noise criteria specify a sliding scale of allowed increases in noise level based on existing ambient noise levels. FTA further defines the severity of noise impact based on the land use and whether the associated activities are daytime or nighttime activities (FTA, *Transit Noise and Vibration Impact Assessment*, April 1995).

- The Federal Aviation Administration (FAA) considers L_{dn} values above 65 dBA L_{dn} (annual average) unacceptable for residences, schools, churches, and hospitals and considers an increase of 1.5 dBA L_{dn} to be an impact (Federal Interagency Committee on Aircraft Noise, *Federal Agency Review of Selected Airport Noise Analysis Issues*, August 1992).

Feasibility and Reasonableness of Mitigation. SEA acknowledges that noise impacts between 65 and 70 dBA L_{dn} may pose concern to some parties. However, in comments received on the Draft EIS, SEA received no persuasive arguments to change the criteria for noise mitigation. SEA's decision to use the "70/5 dBA L_{dn}" criteria is based on both the feasibility and reasonableness of mitigation. Feasibility considerations include technical practicability, site topography, the existing noise environment, and right-of-way and easement requirements. Reasonableness considerations are the vast area of the proposed rail operations, cost effectiveness, and the desires of local residents. SEA determined that the cost of using a noise

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10 $L_{eq(h)}$ is the hourly energy-averaged noise level.

level of 65 dBA L_{dn} for mitigation would be prohibitive. For example, SEA estimated that mitigation with sound insulation at the 65 dBA L_{dn} level would involve approximately 42,100 buildings and cost $421 million, which it considers unreasonable.

SEA notes that any noise increases on existing railroad rights-of-way from increased train operations that are unrelated to the proposed Conrail Acquisition are not subject to any regulation or mitigation; railroads have always been free to increase their operations and train traffic in their normal course of business with no consideration or regulation of the increased noise that might result. Further, previous railroad mergers and acquisitions have generally required noise consultation conditions rather than specific noise mitigation measures. SEA believes that specific noise mitigation measures are warranted here because of the substantial increases in train traffic.

Types of Mitigation. In the Draft EIS, SEA considered and compared several strategies to mitigate noise impacts. Many of these strategies mitigate train horn noise at highway/rail at-grade crossings by implementing enhanced crossing safety measures and eliminating the need to sound train horns. These strategies include warning devices, separated grade crossings, crossing-mounted horns at highway/rail at-grade crossings (to replace locomotive horns), crossing closures, quiet zones with four-quadrant gates, median barriers, and one-way street pairings to maintain safety. Other possible strategies SEA considered to block or reduce train noise (primarily wayside noise) include using noise barriers (walls); installing sound insulation for buildings; replacing jointed rail with continuous welded rail; performing rail and wheel maintenance; reducing locomotive noise through operational controls; and creating land use provisions. For the Final EIS, SEA considered no further strategies to mitigate train horn noise.

Appendix J, "Noise Analysis," of the Final EIS further describes the mitigation analysis process, including determinations of reasonableness and feasibility of noise mitigation measures.

Mitigation Recommended in the Draft EIS

In the Draft EIS, SEA identified possible noise mitigation options, but it did not recommend specific strategies because site-specific considerations would dictate appropriate mitigation. SEA recommended that CSX and NS consult with local communities along rail line segments warranting mitigation to identify appropriate measures. See Table 3-4 of the Draft EIS, "Potential Noise Mitigation Summary."

Final Recommended Mitigation

Since the Draft EIS was issued, SEA has refined its analysis and identified noise-sensitive receptors more precisely. These refined data enabled SEA to recommend mitigation for increased noise resulting from the proposed Conrail Acquisition.

Horn Noise. Train horn noise is a deliberate noise that is an important component of accident prevention at highway/rail at-grade crossings. Currently, local and state safety rules and standard

railroad practices require trains to begin sounding horns at least one-quarter mile in advance of each such crossing and to continue doing so until the locomotive is in the crossing. In the Draft EIS, SEA identified strategies to mitigate horn noise. However, SEA no longer recommends these measures because safety is an overriding concern. Pending FRA rules may eliminate the required use of locomotive horns near some highway/rail at-grade crossings that meet strict criteria for "quiet zones." Any such rule changes would require supplementary safety measures to compensate for the discontinued locomotive horn warning. Until such rules are in place, SEA cannot recommend alternatives to train horns to mitigate potential noise impacts. Once the new FRA rules are in place, communities will have the opportunity to qualify for "quiet zones." See Section F.6.1, "Highway/Rail At-grade Crossing Noise," in Appendix F, "Noise," of the Draft EIS.

Wayside Noise. For the Final EIS, SEA evaluated the reasonableness and feasibility of mitigation for wayside noise (locomotive engine and wheel/rail noise) along the 14 rail line segments that met the 70/5 dBA L_{dn} criteria for considering mitigation. SEA considered noise barriers as the primary noise mitigation method evaluated for two reasons — they can be built on existing railroad right-of-way and they mitigate both indoor and outdoor noise impacts. However, noise barriers would not appreciably mitigate horn noise. SEA considered sound insulation of buildings as a secondary mitigation option and estimated the cost of sound insulation (without extensive central air conditioning costs).

SEA removed from further consideration two rail line segments that do not have any noise-sensitive receptors within the 70 dBA L_{dn} contour (not considering horn noise at highway/rail at-grade crossings). For the remaining 13 rail line segments, SEA identified (by rail line segment) receptor locations that met the mitigation criteria.

Mitigation Analysis Results. Using the GIS-based noise-prediction model, SEA identified 1,034 receptors adjacent to the 14 rail line segments where the potential increase in wayside noise meets the mitigation criteria of at least 70 dBA L_{dn} and an increase of 5 dBA L_{dn} or more. Chapter 7, "Recommended Environmental Conditions," of the Final EIS contains the complete recommended mitigation for noise and the following text summarizes it.

SEA determined that mitigation of train wayside noise (locomotive engine and wheel/rail noise) is required for the noise-sensitive receptors identified in the figures in Attachment J-4 to Appendix J, "Noise Analysis" of the Final EIS. SEA determined that noise barriers or building sound insulation treatments are the appropriate means to reduce this noise. In addition, SEA specified a design goal of a 10 dBA L_{dn} noise reduction and a minimum of a 5 dBA L_{dn} noise reduction for noise barriers and building sound insulation treatments.

To determine noise reduction performance, SEA recommends using American National Standards Institute (ANSI) S12.8-1987, *American National Standards Methods for Determination of Insertion Loss of Outdoor Noise Barriers*, for noise barriers and American Society for Testing and Materials (ASTM) E 966-90, *Standard Guide for Field Measurements*

of Airborne Sound Insulation of Building Facades and Facade Elements, for sound insulation treatments.

4.13 CULTURAL RESOURCES

In accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, and its implementing regulations, SEA reviewed each proposed new construction and abandonment proposal to determine whether activities related to the proposed Conrail Acquisition would result in an adverse effect on historic properties and, if so, whether and what mitigation would be warranted.

Cultural resources comprise prehistoric or historic sites, districts, objects, buildings, or structures that are at least 50 years of age. Cultural resources that are listed in, or eligible to be listed in, the National Register of Historic Places (NRHP) are defined as historic properties. SEA limited its review of potential effects on historic properties to sites of new construction or abandonment activities within the existing railroad right-of-way or property lines. SEA determined that increases in rail traffic on rail line segments and at existing facilities would not have the potential to adversely affect cultural resources because the railroad operations have long been part of the historic setting, and operational changes would not result in any ground disturbance or physical alteration of cultural resources.

4.13.1 Analysis Methods

SEA's analysis methods for the Final EIS, summarized in the following sections, remain unchanged from the Draft EIS. Chapter 3, "Analysis Methods and Potential Mitigation Strategies," and Appendix G, "Cultural Resources," of the Draft EIS contain a detailed description of analysis methods, criteria of significance, and mitigation strategies.

In accordance with Section 106 of the NHPA, as amended, and its implementing regulations, SEA identified an "Area of Potential Effect" as limited to the existing railroad right-of-way for abandonments or proposed railroad property lines for new construction projects and determined whether historic properties might be affected. SEA also conducted archival searches and site visits to determine the presence of historic properties. SEA presented a preliminary eligibility finding and determination of effects (no effect, no adverse effect, or adverse effect) to the State Historic Preservation Officer in every state potentially affected by the proposed new constructions and abandonments. Potential effects on historic properties require review under Section 106 of NHPA. After issuing the Draft EIS, SEA continued to consult with the State Historic Preservation Offices (SHPOs) on outstanding Section 106 issues.

Criteria of Significance

SEA used the "Criteria of Effect and Adverse Effect" (36 CFR 800.9) that the Advisory Council on Historic Preservation developed as the criteria to determine whether an adverse impact from the proposed Conrail Acquisition would occur on historic properties. These criteria address the

potentially adverse effects of various actions that could alter the significance of an historic property's characteristics. These actions include physical destruction, damage, or alteration; isolation; introduction of elements that are out of character; neglect; and transfer, lease, or sale.

4.13.2 Public Comments and Additional Evaluations

Public Comments

During the 45-day public review and comment period following issuance of the Draft EIS, SEA received several comments from state and local historic preservation agencies, which concurred with the analysis methodology and confirmed the accuracy of SEA's cultural resources analysis and results as presented in the Draft EIS. SEA also received several comments regarding potential impacts of rail operations on cultural resources that were not analyzed in the Draft EIS. In most cases, SEA responded by explaining that those resources were excluded from the analysis in the Draft EIS because they were beyond the Area of Potential Effect associated with a specific activity. SEA also responded to several comments by clarifying that many activities associated with the proposed Conrail Acquisition, such as an increase in train traffic, did not have the potential to adversely affect cultural resources because these activities have long been a part of the historic setting and would result in no ground disturbance or physical alteration of cultural resources. For a detailed review of comments and responses, see Chapter 5, "Summary of Comments and Responses," of the Final EIS.

Additional Evaluations

After issuing the Draft EIS, SEA updated its cultural resources analysis presented in the Draft EIS to reflect revised technical analyses. SEA conducted additional evaluations of potential impacts to cultural resources associated with the proposed Conrail Acquisition in the states of Indiana and Illinois. In Indiana, SEA evaluated the construction site of a proposed new grade separation in the Town of Garrett and the potential impacts along the South Bend-to-Dillon Junction rail line segment abandonment (NA-02). In Illinois, SEA completed its evaluation of cultural resources along the Paris-to-Danville rail line segment abandonment (CA-01). The results of additional evaluations are discussed in the following section.

As part of its overall environmental review process, SEA evaluated potential alternative train routes that SEA or the commentors proposed as possible mitigation in Greater Cleveland Area, Ohio and Erie, Pennsylvania, where potentially significant environmental impacts on cultural resources may occur. Section 4.19, "Community Evaluations," and Appendix N, "Community Evaluations," of the Final EIS discuss these additional evaluations.

4.13.3 Analysis Results and Impacts

For the Draft EIS, SEA identified and evaluated significant cultural resources at two sites in the State of Ohio, that either abandonment or construction activities associated with the proposed Conrail Acquisition could affect. Those sites are the Lake Shore & Michigan Southern (New

York Central Railroad) Shops District at Collinwood Yard in Cleveland and the Toledo Pivot Bridge over the Maumee River in Toledo. SEA determined that the Lake Shore & Michigan Southern (New York Central Railroad) Shops District at the Collinwood Yard appears to be eligible for inclusion in the NRHP for its association with the development of railroad transportation and for its industrial architecture designed for the handling and servicing of railroad stock. In a December 24, 1997 letter, the Ohio SHPO concurred with SEA's NRHP eligibility findings. SEA determined that the Toledo Pivot Bridge over the Maumee River is eligible for inclusion in the NRHP as an example of a rare type of movable bridge.

The Ohio SHPO concurred with this finding on December 24, 1997. On March 4, 1998, NS advised the Board that, pursuant to an agreement dated February 18, 1998, with the Toledo-Lucas County Port Authority and Toledo Metropolitan Area Council of Governments, NS wishes to seek authorization for the discontinuance of operations over the Toledo Pivot Bridge, not for abandonment of the bridge. NS has agreed to leave the bridge open and provide proper warning lighting so that navigation on the waterway will not be affected. Consequently, this structure is no longer part of the proposed Conrail Acquisition, and Section 106 compliance, as recommended mitigation in the Draft EIS, is no longer applicable for the Final EIS.

Based on the Ohio SHPO's concurrence, SEA recommended that CSX shall, in consultation with the Ohio SHPO, complete archival documentation of the Lake Shore and Michigan Southern Railroad Shop District at the Collinwood Yard in Cleveland, Ohio.

In addition, SEA identified and evaluated significant cultural resources at three sites and determined that further evaluation was necessary under Section 106 of NHPA. These sites are the 75th Street Interlocking Tower at the proposed new rail connection at 75th Street in Chicago, Illinois (CC-01); the Branda's Landing/Mees-Notchaarchaeological site at the proposed new rail line connection in Exermont, Illinois (CC-02); and the proposed rehabilitation of the Shellpot Bridge near Wilmington, Delaware (NR-01). SEA recommended that for the three sites, CSX or NS shall not alter the historic integrity until they complete the Section 106 process of NHPA (16 U.S.C. 470f, as amended).

Table 4-7 of the Final EIS, "Summary of Adverse Environmental Impacts by State," lists the sites with potentially significant impacts on cultural resources.

Additional Evaluations

Garrett, Indiana. SEA recommends a highway/rail grade-separated crossing on the Deshler-to-Willow Creek rail line segment (C-066) at Randolph Street in Garrett, De Kalb County, Indiana, to replace the existing highway/rail at-grade crossing. The highway/rail grade separation would provide mitigation for traffic delay impacts on Randolph Street that would result from the proposed Conrail Acquisition. SEA identified buildings more than 50 years old in the general area of the recommended highway/rail grade separation. SEA determined that it is unlikely that construction of the grade separation would affect these structures, because construction would occur within the Randolph Street right-of-way. SEA consulted with the Indiana SHPO to

determine the Area of Potential Effect for this site. In a letter dated April 28, 1998, the Indiana SHPO notified SEA that as long as the project remains within the physical area disturbed by previous construction, the proposed Conrail Acquisition would not affect any historic properties.

South Bend-to-Dillon Junction Abandonment (NA-02). In a February 8, 1998 letter, the Indiana SHPO noted that a site along this rail line segment is eligible for listing on the NRHP. The North Liberty Combination Depot (Wabash Depot) was within the Area of Potential Effect of the South Bend-to-Dillon Junction rail line abandonment (NA-02) but was not identified in the Draft EIS. After conducting a site visit, SEA determined that the Wabash Depot is no longer in existence. SEA received a letter dated March 3, 1998, from NS confirming that the depot was demolished more than 9 years ago. In a letter dated April 28, 1998, the Indiana SHPO notified SEA that as long as the project remains within the physical area disturbed by previous construction, the proposed Conrail Acquisition would not affect any historic properties.

Paris-to-Danville Abandonment (CA-01). SEA reported in the Draft EIS that no cultural resources listed on or eligible for listing on the NRHP were present along the proposed Paris-to-Danville, Illinois rail line abandonment. On January 13, 1998, SEA received a letter from the Illinois SHPO stating that their office had reviewed and concurred with the conclusions SEA reported in the Draft EIS.

Appendix K, "Cultural Resources Analysis," provides a detailed description of the sites SEA evaluated since issuing the Draft EIS.

4.13.4 Mitigation

Mitigation Strategies

SEA develops appropriate mitigation to address the proposed Conrail Acquisition-related adverse impacts on specific historic properties following consultation with the appropriate SHPO. Typically, the Board requires Applicants to document cultural and historic resources that the proposed action would adversely affect. In general, documentation includes photographs of the resource taken before it is altered or destroyed and a description and history of the resource. In certain cases, the Board has required documentation in accordance with Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) standards. Documentation is the maximum level of mitigation for impacts on cultural resources the Board can impose as a condition of the proposed Conrail Acquisition. For further information regarding the Board's limits on imposing conditions for impacts on cultural resources, refer to Implementation of Environmental Laws, 7 I.C.C.2d 807 or 829 (1991).

To mitigate potential impacts to archaeological resources, the Board typically requires the applicant to cease activities if significant archaeological resources are identified during new construction of a rail line segment or salvage of a rail line segment approved for abandonment. Activities could resume after the applicant consults with the appropriate SHPO and has completed any necessary resource identification, evaluation, and recovery of any artifacts. If

known archaeological resources exist at a site for a proposed construction or abandonment, the Board typically requires the applicant to complete the Section 106 process of NHPA (16 U.S.C. 470f, as amended) prior to undertaking any construction or modification.

Mitigation Recommended in the Draft EIS

In the Draft EIS, SEA identified the Lake Shore & Michigan Southern (New York Central Railroad) Shops District at the Collinwood Yard (CR-03) in Cleveland, Ohio, as being potentially eligible for inclusion in NRHP. For the Draft EIS, SEA recommended that CSX complete cultural resource documentation for the Collinwood Yard in accordance with standards of HABS/HAER Level II within 180 days of any Board decision approving the proposed Conrail Acquisition.

As discussed in Section 4.13.3, "Analysis Results and Impacts," of the Draft EIS, SEA identified and evaluated significant cultural resources at the 75th Street Interlocking Tower at the proposed new rail connection at 75th Street in Chicago, Illinois (CC-01); the Branda's Landing/Mees-Notcha archaeological site at the proposed new rail line connection in Exermont, Illinois (CC-02); and the Shellpot Bridge, near Wilmington, Delaware, a site of proposed rehabilitation (NR-01).

In the Draft EIS, SEA also recommended CSX take no further action until the Section 106 process has been completed at the 75th Street Interlocking Tower in Chicago, Illinois (CC-01), and the proposed new rail line connection in Exermont, Illinois (CC-02). SEA also recommended NS take no further action until the Section 106 process is complete at the Shellpot Bridge near Wilmington, Delaware (NR-01).

Final Recommended Mitigation

Chapter 7, "Recommended Environmental Conditions," of the Final EIS lists SEA's final recommended mitigation measures for cultural resources effects resulting from the proposed Conrail Acquisition. Based on the significant cultural resources it identified and evaluated, for the Final EIS, SEA recommended mitigation at the following sites for cultural resources effects:

- **Exermont, Illinois:** CSX shall undertake no construction of a new rail line connection in Exermont, Illinois, until completion of the Section 106 process of NHPA (16 U.S.C. 470f, as amended) in connection with the assessment of the Branda's Landing/Mees-Notcha archaeological site.

- **Collinwood Yard, Cleveland, Ohio:** CSX shall, with concurrence from the Ohio SHPO, complete cultural resource documentation for the Lake Shore & Michigan Southern Railroad (New York Central Railroad) Shops District in the Collinwood rail yard in Cleveland, Ohio, as soon as practicable.

- **75th Street Interlocking Tower, Chicago, Illinois:** CSX shall not alter the historic integrity of the 75th Street Interlocking Tower in Chicago, Illinois, until completion of the Section 106 process of the NHPA (16 U.S.C. 470f, as amended).

- **Shellpot Bridge, Wilmington, Delaware:** NS shall not alter the historic integrity of the Shellpot Bridge in Wilmington, Delaware, until completion of the Section 106 process of the NHPA (16 U.S.C. 470f, as amended). NS shall conduct a feasibility study including preliminary design for the rehabilitation of the Shellpot Bridge. NS shall provide the Delaware SHPO a copy of this study for its review within 180 days following the effective date of the Board's final decision.

4.14 HAZARDOUS WASTE SITES

This section describes how SEA identified and evaluated potential impacts on hazardous waste sites. In addition to the hazardous waste sites, SEA also identified any site with the potential to release contaminants into the environment. These sites included solid waste sites, dump sites without permits, companies licensed to handle hazardous materials, and underground or aboveground storage tanks. This section includes a discussion of the applicable Federal and state regulations SEA used in the impact analysis and screening process, the types of data SEA collected, and the methods that SEA used to determine whether the potential impacts of the proposed Conrail Acquisition would be significant.

4.14.1 Analysis Methods

The following sections summarize SEA's analysis methods for hazardous waste sites and related environmental concerns. Chapter 3 of the Draft EIS, Section 3.14, "Hazardous Materials and Waste Sites," presents a detailed description of analysis methods. SEA based its analysis of hazardous waste sites on the Board's environmental rules and other relevant statutes which include the following:

- The Board's environmental rules at 49 CFR 1105.7(e)(7) state that a railroad must identify in its Environmental Report locations of known hazardous waste sites or locations with known hazardous materials spills on the right-of-way. These rules also require identification of the types of hazardous materials involved.

- The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) directs EPA to establish procedures for investigating uncontrolled or abandoned hazardous waste sites for priority remediation under the Superfund Program and establishes a National Priorities List (NPL).

- The Resource and Conservation Recovery Act (RCRA) establishes requirements for permitting hazardous waste facilities and requires EPA to compile a list of those facilities that generate, transport, store, treat, or dispose of hazardous waste.

SEA analyzed whether the new rail line construction and rail line abandonment activities associated with the proposed Conrail Acquisition would affect any hazardous waste sites. SEA performed the analysis because construction of a new rail line connection or rail line abandonment activities can disturb areas where a release of hazardous materials has occurred. For the analysis, SEA identified known hazardous waste sites within 500 feet of construction or abandonment activities related to the proposed Conrail Acquisition. SEA did not identify hazardous waste sites more than 500 feet from the railroad right-of-way as construction or abandonment activities are unlikely to disturb those sites. SEA eliminated operational changes on rail line segments or at intermodal facilities and rail yards from its analysis because operational changes typically do not have any effects on hazardous waste sites.

SEA used site visits and a variety of data sources to identify the locations of reported releases, spill incidents, or hazardous waste sites on or adjacent to the proposed rail line constructions and abandonments. SEA's data sources included USGS topographic maps; Environmental Data Resources, Inc.'s reports of Federal and state database searches; the Hazardous Materials Information Reporting System, a database that lists right-of-way hazardous spill incidents reported to DOT; CSX and NS's Environmental Report; and records kept by fire marshals and state regulatory agencies. Appendix H of the Draft EIS, "Hazardous Materials and Waste Sites," provides a full list of data sources and a summary of the Environmental Data Resources, Inc. database search reports that SEA reviewed to identify potential hazardous waste sites.

SEA made site visits to verify information obtained from the data sources and agency coordination and to search for evidence of possible unrecorded hazardous materials releases or remedial activities. Appendix H of the Draft EIS, "Hazardous Materials and Waste Sites," provides a site visit checklist used on all the site visits.

Criteria of Significance

SEA considered impacts to be potentially significant if disturbances or releases of hazardous materials could occur in an uncontrolled manner as a result of construction or abandonment activities related to the proposed Conrail Acquisition.

SEA's analysis methods and criteria of significance remain unchanged from the Draft EIS.

4.14.2 Public Comments and Additional Evaluations

The Seneca Nation of the Cattaraugus Indian Reservation in New York expressed concerns regarding diesel and polychlorinated biphenyl (PCB) contamination at the Salamanca Rail Yard in New York. SEA acknowledges that the contamination exists; however, the contamination is a pre-existing condition and not a result of the proposed Conrail Acquisition; therefore, it is outside the Board's jurisdiction. As required by existing laws and regulations, the responsible parties would assess and remediate any existing contamination, if necessary.

The Pennsylvania Department of Environmental Protection commented on contamination at existing Conrail facilities. Based on its evaluation of these and other comments on hazardous waste sites, SEA determined that the Applicants address existing contamination problems in accordance with regulations regarding investigations and remediation. SEA acknowledges that the contamination exists; however, the contamination is a pre-existing condition and not a result of the proposed Conrail Acquisition; therefore it is outside the Board's jurisdiction. As required by existing laws and regulations, the responsible parties would assess and remediate any existing contamination, if necessary.

Chapter 5, "Summary of Comments and Responses," summarizes all public comments received on the Draft EIS and presents SEA's responses.

Additional Evaluations

As part of its overall environmental review process, SEA evaluated potential alternative train routes as possible mitigation in four areas where potentially significant environmental impacts may occur: Cleveland, Ohio; Erie, Pennsylvania; Lafayette, Indiana; and the Four City Consortium in Indiana. Where appropriate, SEA evaluated possible impacts on hazardous waste sites for these alternatives. Section 4.19, "Community Evaluations," summarizes the results of these additional evaluations.

4.14.3 Analysis Results and Impacts

In the Draft EIS, SEA analyzed 15 proposed connections, one new fueling facility, and one new intermodal facility in the states of Illinois, Indiana, Maryland, Michigan, New Jersey, New York, and Ohio. Similarly, SEA analyzed four proposed abandonment sites in Illinois, Indiana, and Ohio. However, after SEA issued the Draft EIS, NS informed SEA that it no longer planned to abandon the Toledo Pivot Bridge or build the Willard Fueling Facility, both in Ohio.

Based on the analysis, SEA identified known hazardous waste sites within 500 feet of four proposed construction sites in the states of Indiana, Michigan, and Ohio. SEA also identified known hazardous waste sites within 500 feet of two proposed abandonments. The following is a list of those six proposed construction and abandonment sites and the types of hazardous waste sites identified:

- **Butler Connection Construction, Indiana:** Six above ground storage tanks.
- **Tolleston Connection Construction, Indiana:** Household trash.
- **Ecorse Junction Connection Construction, Michigan:** Three hazardous waste sites.
- **Collinwood Yard Construction, Ohio:** 32 hazardous waste sites.

- **Paris-to-Danville Abandonment, Illinois:** One chemical facility with numerous hazardous materials storage tanks and evidence of releases within the right-of-way.

- **Toledo-to-Maumee Abandonment, Ohio:** 48 hazardous waste sites.

Chapter 5 in the Draft EIS, "State Settings, Impacts, and Proposed Mitigation," provides a detailed discussion of the hazardous waste sites analysis for the applicable states.

Several Federal and state statutes and regulations govern the investigation and cleanup of hazardous waste sites during construction or abandonment activities. Some sites previously identified would require involvement of the appropriate state agencies, while others may require the involvement of EPA alone or, at times, both state agencies and EPA, depending on the constituents or amount of contamination discovered. If CSX or NS encounter these or other sites during the proposed new rail line construction or rail line abandonment activities, CSX or NS or other responsible parties would have to comply with Federal, state, and local statutes for assessment or remediation.

Because existing regulatory requirements together with CSX's and NS's standard construction practices adequately address potential disturbances of hazardous waste sites, SEA determined that proposed construction or abandonment activities related to the proposed Conrail Acquisition would not result in impacts on hazardous waste sites that warrant mitigation measures.

4.14.4 Mitigation

Mitigation Strategies Considered

Many Federal, state, and local statutes and regulations govern how the Applicants and other responsible parties must respond to hazardous materials releases or disturbances of hazardous waste sites. Moreover, CSX and NS have detailed procedures and policies designed to reduce or avoid impacts at all locations where hazardous materials may be used or encountered.

As discussed in the Draft EIS, CSX and NS stated that under the guidance of their own procedures and rules, they will complete the following activities:

- Construction-related measures to protect the public, workers, and the local environment during site construction activities, including, as warranted, sediment and erosion control.

- Site characterizations or remedial investigations that identify the nature and extent of contamination.

- Remediation of contaminated sites to bring these sites into compliance with all governing Federal, state, and local regulations. Many techniques and technologies are available for remediation of contaminated sites.

Mitigation Recommended in the Draft EIS

Because remediation of contaminated areas is subject to extensive Federal, state, and local regulation and SEA determined that the Applicants must comply with such requirements, SEA did not recommend additional mitigation measures in the Draft EIS.

Final Recommended Mitigation

Because remediation of contaminated areas is subject to extensive Federal, state, and local regulation and the Applicants must comply with such requirements, SEA determined that no additional mitigation measures for hazardous waste sites are warranted for the Final EIS.

4.15 NATURAL RESOURCES

SEA identified and evaluated potential impacts on natural resources (water resources, wetlands, and biological resources) resulting from the proposed Conrail Acquisition. The section includes a discussion of the applicable Federal and state rules SEA followed in its analysis, types of data collected, and determination of the criteria of significance.

4.15.1 Analysis Methods

The following discussion summarizes SEA's analysis methods. SEA's natural resources analysis methods for this Final EIS did not differ from those used in the Draft EIS. Section 3.15, "Natural Resources," of the Draft EIS, presents a detailed description of the analysis methods.

SEA assessed potential environmental impacts on water resources, wetlands, and biological resources that could result from the proposed Conrail Acquisition. The biological resources assessment included identifying and analyzing potential impacts on Federally protected threatened and endangered species; protected wildlife habitats and migration corridors; wildlife refuges and sanctuaries; national, state, and local parks or forests; and protected unique or critical habitats. In conducting its analysis, SEA followed USFWS and CEQ guidelines, NEPA requirements, and the Board's environmental rules (49 CFR 1105).

The natural resources analysis focused on proposed physical alteration of habitats and water resources. SEA determined that the potential for impacts on water resources, wetlands, and biological resources would most likely be associated with site-specific projects related to the proposed rail line abandonments and the proposed construction of new rail line connections. Therefore, SEA conducted a site visit at each of the potentially affected locations to review potential impacts on habitats, existing water resources, and wetlands. SEA determined that operational changes, such as increases or decreases in the number of trains on a line segment, and changes in the activities at the rail yards and intermodal facilities typically do not directly affect natural resources. Therefore, SEA did not attempt to identify natural resources on existing rail line segments and at rail yards and intermodal facilities that would experience only operational changes related to the proposed Conrail Acquisition.

SEA based its analysis on information from the Applicants, USGS topographic maps, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, USFWS National Wetlands Inventory (NWI) maps, and site visits. SEA consulted with USFWS, USACE, and other appropriate Federal and state agencies. Appendix M of the Draft EIS, "Consultation with Agencies and Agency Responses," and Appendix D of the Final EIS, "Agency Consultation," provide listings of the agency consultations.

SEA conducted site visits of proposed constructions and abandonments to gather information on existing conditions and to evaluate the potential for impacts on natural resources. SEA began its evaluation of impacts during field review. SEA compared the planned activity sites with the existing location of water resources and wetlands to estimate the potential effects on natural resources from the proposed Conrail Acquisition. SEA also assessed the potential need for Federal permits, including USACE permits for impacts on jurisdictional wetlands, as defined in Section 404 of the Clean Water Act. As part of the impact assessment, SEA also assessed the potential need for additional coordination and permitting by other appropriate regulatory and review agencies.

SEA's impact analysis included a detailed independent review of CSX and NS standard specifications for construction activities and the Applicants' internal requirements for BMPs in determining the need for mitigation of potential impacts.

Criteria of Significance

SEA considered impacts on natural resources potentially significant if any of the following occurred:

- Removal, alteration, or filling of a wetland without receiving a Section 404 permit from the USACE.
- Impacts on wetlands that are known to function as habitat for threatened or endangered species.
- Impacts on other identified locations of threatened or endangered species.
- Impacts on reservoirs or other drinking water sources.
- Impacts that significantly alter the flooding patterns within and adjacent to the impact area on floodplains.
- Loss or degradation of wildlife sanctuaries; refuges; or national, state, or local parks and/or forests.

SEA's criteria of significance remain unchanged from the Draft EIS.

4.15.2 Public Comments and Additional Evaluations

Public Comments

EPA provided comprehensive comments on the Draft EIS including comments related to natural resources. EPA's comments included concerns regarding the increased risk of surface water contamination resulting from the increased likelihood of spills at rail yards and intermodal facilities. EPA noted the lack of discussion on water quality impacts with regard to potential hazardous materials spills affecting waterways, storm water management facilities, and the surrounding environment. EPA also commented on the need for additional analysis to identify potential impacts on natural resources at proposed construction and abandonment sites in Illinois, Indiana, and Ohio. EPA suggested the Board require the Applicants to comply with EPA's BMPs.

Additional Evaluations

In response to the comments from EPA, SEA conducted additional evaluations on the potential impacts on natural resources from the proposed Conrail Acquisition. The additional evaluations included the following:

- Stormwater discharges associated with rail-related activities at rail yards and intermodal facilities.
- Assessment of hazardous materials transport and impacts on watershed and Federally listed wildlife.
- Migration of chemicals after a spill of hazardous material.
- Risk potential for hazardous material spills.
- Existing CSX and NS response plans for potential spills.
- Assessment and consolidation of EPA, CSX, and NS BMPs.

See Appendix L, "Natural Resources Analysis," and Appendix P, "SEA's Best Management Practices for Construction and Abandonment Activities."

Chapter 5, "Summary of Comments and Responses," summarizes all public comments received on the Draft EIS and presents SEA's responses.

In addition to the evaluations made in response to the public and agency comments, as part of its overall environmental review process, SEA evaluated potential alternative train routes that SEA or the commentors proposed as possible mitigation in Greater Cleveland Area, Ohio; Erie, Pennsylvania; Lafayette, Indiana; and the Four City Consortium, Indiana. Where appropriate,

SEA evaluated possible impacts on natural resources for these alternatives. Section 4.19, "Community Evaluations," summarizes the results of these additional evaluations.

4.15.3 Analysis Results and Impacts

In the Draft EIS, SEA analyzed 15 proposed connections, one new fueling facility, and one new intermodal facility in the states of Illinois, Indiana, Maryland, Michigan, New Jersey, New York, and Ohio. Similarly, SEA analyzed four proposed abandonment sites in Illinois, Indiana, and Ohio. However, after SEA issued the Draft EIS, the Applicants informed SEA that they were no longer seeking authorization to abandon the Toledo Pivot Bridge or build the Willard fueling facility, both in Ohio. Chapter 5 in the Draft EIS, "State Settings, Impacts, and Proposed Mitigation," provides a detailed discussion of the natural resources analysis in the applicable states.

Based on the analysis, SEA identified potential habitat of the Federally listed endangered Indiana bat in proximity to the proposed connection in Vermilion, Ohio. In addition, based on the evaluation it conducted in Cleveland, Ohio, after issuance of the Draft EIS, SEA determined that a second connection at Vermilion (double crossover) would also be in proximity to the potential habitat of the Indiana bat (See 4.19, "Community Evaluations," for further details). Table 4-7 of the Final EIS, "Summary of Adverse Environmental Impacts by State," also lists the site. SEA determined that prior to construction, NS should coordinate with the Ohio Department of Natural Resources and the USFWS to determine if a survey for the Indiana bat is required.

For the Final EIS, as a result of its additional evaluations of potential natural resources impacts from hazardous materials spills, SEA determined that CSX's and NS's Spill Response Plans and SEA's recommended requirement for a Failure Modes and Effects Analysis at rail yards and intermodal facilities would improve safe shipping and handling of hazardous materials. SEA also concluded the recommended mitigation would appropriately address potential increased risk of a spill resulting from proposed Conrail Acquisition activities. SEA determined that the extensive existing regulatory framework and the additional mitigation measures, as described in Chapter 7, "Recommended Environmental Conditions," would minimize potential water quality impacts that could result from the proposed Conrail Acquisition-related hazardous materials transport and handling.

4.15.4 Mitigation

Mitigation Strategies Considered

Draft EIS. In the Draft EIS, SEA noted that various regulatory programs and requirements address potential impacts on wetlands, water resources, threatened and endangered species, and critical habitats. USACE administers the Clean Water Act Section 404 and the Rivers and Harbor Act Section 10 permitting programs, which regulate placement of fill or dredge material in wetlands and alteration of water bodies. EPA administers (through state water quality agencies) the National Pollutant Discharge Elimination System (NPDES) program, which

regulates discharge of pollutants to surface waters and addresses both point-source discharge and non-point-source discharges (stormwater runoff).

Endangered Species Act. The Endangered Species Act protects endangered and threatened species and their critical habitat. Because railroad construction activities must comply with these regulatory programs and the programs provide specific measures, SEA determined, based on the information available to date, that it would not be necessary for the Board to impose mitigation conditions that would essentially duplicate the existing regulations. These regulations require the Applicants to conduct the following activities:

- Notify regulatory agencies before construction begins if the Applicants plan to fill, discharge dredged material, or alter wetlands or other water bodies as a result of construction activities. The Applicants must obtain the appropriate Federal, state, and local permits if construction activities require the alteration of wetlands, ponds, lakes, streams, or rivers, or if these activities would cause soil or other materials to wash into these water resources. The Applicants also must use appropriate techniques to minimize effects to any water resources.

- Adjust planned construction or abandonment activities to avoid or minimize impacts on wetland areas, streams, or critical habitats.

- Preserve, restore, or create compensation wetlands to replace the acres where construction or abandonment activities caused extensive impacts on wetland or water resources.

- Avoid taking or harassing threatened and endangered species.

Best Management Practices. In addition, SEA reviewed EPA BMPs and CSX's and NS's standard construction specifications to determine what BMPs to incorporate in SEA's list for CSX's and NS's implementation to protect water quality and related natural resources. Specifically, BMPs state that CSX and NS would complete the following activities:

- Conduct all construction and abandonment activities within the existing rail bed to the greatest extent feasible to minimize the area of disturbance.

- Stabilize vegetation disturbance by reseeding the area to assist with erosion and sediment control of the disturbed site.

- Implement erosion and sediment control activities to avoid or minimize impacts on water resources. These activities include the use of geotextiles, straw bales, silt fencing, and sediment detention ponds.

- Keep all newly constructed drainage facilities, such as pipes or culverts, free of obstruction to allow expected water flow through the associated area.

- Use high-quality, contaminant-free construction materials during the construction of new rail lines.

Mitigation Recommended in the Draft EIS

Because of the potential presence of the Federally listed endangered Indiana bat, SEA recommended that NS consult with the Ohio Department of Natural Resources and USFWS prior to any construction at the site for a proposed connection in Vermilion, Ohio.

Because of CSX's and NS's BMPs used in their construction specifications and the Federal, state, and local regulatory programs governing the impacts on wetlands, water resources, and protected species, SEA determined in the Draft EIS that no mitigation was necessary for the other proposed construction and abandonment sites. However, as a condition of the Board's approval, SEA recommended that the Board require CSX and NS to conform to their standard specifications during construction.

Final Recommended Mitigation

For the Final EIS, SEA recommends the Board require NS to coordinate with the Ohio Department of Natural Resources and USFWS prior to any construction at the proposed rail line connections in Vermilion, Ohio, to determine the potential presence of the Federally endangered Indiana bat and any other Federally listed endangered or threatened species. If such species are found to be present and potentially adversely affected, NS shall proceed with applicable measures to comply with Section 7 of the Endangered Species Act.

Additionally, SEA developed a list of BMPs it traditionally uses for the Applicants to implement should the Board approve the proposed Conrail Acquisition. SEA also incorporated EPA, NS, and CSX BMPs in the list as appropriate. The BMPs apply to all proposed construction and abandonment activities, as appropriate, to reduce or avoid the potential for adverse environmental impacts as a result of the proposed Conrail Acquisition. See Chapter 7, "Recommended Environmental Conditions," and Appendix P, "SEA's Best Management Practices for Construction and Abandonment Activities," for further details.

4.16 LAND USE AND SOCIOECONOMICS

SEA analyzed the potential land use impacts of the new rail line construction and rail line abandonment projects that are part of the proposed Conrail Acquisition. Constructions and abandonments are the two types of activities that could have potential impacts on existing land use plans, prime farmlands, Native American lands, and Coastal Zone Management plans or on socioeconomic issues directly related to changes in the physical environment.

4.16.1 Analysis Methods

SEA's analysis methods for the Final EIS, which are summarized in the following sections, remain unchanged from the Draft EIS. A detailed description of analysis methods, criteria of significance, and mitigation strategies is found in the Draft EIS in Chapter 3, "Analysis Methods and Potential Mitigation Strategies."

Pursuant to the Board's rules at 49 CFR 1105.7(e)(3) and the EIS scope, each proposed construction and abandonment location was assessed for the following issues: consistency with current local land use plans; effect on prime farmland; consistency with existing Coastal Zone Management Plans; and socioeconomic effects. In addition, SEA evaluated any project or activity related to the proposed Conrail Acquisition within the lands of Native American reservations. SEA examined impacts on Native American lands using a methodology consistent with tribal sovereignty over land use, although no constructions or abandonments are proposed within Native American lands. SEA also evaluated whether any rail segment within Native

American reservations would meet or exceed the Board's thresholds for environmental analysis, including segments identified as key routes for the transport of hazardous materials.

SEA consulted with local, county, regional, and state planning agencies with jurisdiction over the location of each proposed new rail line construction and rail line abandonment project. SEA also consulted with the Department of the Interior, Bureau of Indian Affairs, regarding Native American lands. SEA conducted site visits to verify the accuracy of the information on land use presented in CSX and NS's Environmental Report. SEA obtained data on existing land uses based on information from the Environmental Report; aerial photographs; USGS maps; GIS base maps; maps of planned land uses; zoning maps; site visit records; and consultation with local, county, regional, and state planning agencies. SEA also gathered information from consultations with appropriate agencies regarding prime farmland, Coastal Zone Management, and Native American reservations.

For the proposed rail line abandonments, SEA performed the following additional analyses:

- Evaluation of suitability of each abandoned right-of-way for alternative public and trail uses. SEA based this evaluation on consultation with the local, county, and state agencies regarding the potential uses of these rights-of-way.

- Identification of alternative modes of transportation for goods and services that would be affected by the proposed abandonments.

Criteria of Significance

SEA considered a potential impact on land use or socioeconomic conditions to be significant if any of the following conditions would likely result from a proposed new rail line construction or rail line abandonment:

- Land Use Plan: The proposed new construction or abandonment would be inconsistent with local land use plans in such a way that proceeding with the activity would substantially alter the character and planned use of the adjoining area.

- Prime Farmland: The impact on prime farmland would be such that a substantial portion of farmland in the county, as defined by local land use planning authorities, would be removed from actual or potential production.

- Coastal Zone: The proposed new construction or abandonment occurring in a coastal zone would be inconsistent with the requirements of the state Coastal Zone Management agency.

- Socioeconomics: A proposed construction or abandonment would result in the direct elimination of jobs as a result of or related to changes to the physical environment.

4.16.2 Public Comments and Additional Evaluations

Public Comments

SEA received several comments regarding potential impacts of rail operations on land use issues. Numerous public agencies, individuals, and institutions expressed concern that the tax base and property values along railroad lines would decline because of increased rail traffic and noise. SEA examined the potential for reduced property values as a result of activities and projects of the proposed Conrail Acquisition. SEA has no evidence that the proposed Conrail Acquisition would result in reduced property values. Rail lines are already in place and rail traffic has varied over the years. Local land use planning processes exist and function, in part, to protect property values. In nearly all cases, rail line construction and abandonment activities associated with the proposed Conrail Acquisition are consistent with the local land use plans in effect as determined by local jurisdictions.

The Seneca Nation of Indians commented on a number of issues including hazardous materials transport on the Buffalo FW-to-Ashtabula rail line segment (N-070) that runs through the Cattaraugus Reservation. SEA examined potential impacts on Native American lands using a methodology consistent with tribal sovereignty over land use and evaluated potential resource effects related to increased rail traffic through Native American lands, particularly the increased transport of hazardous materials, and recommended site-specific resource mitigation, as appropriate. SEA responded that issue-specific and site-specific final recommended mitigation measures would adequately address the potential effects identified by the Seneca Nation. For

a detailed review of comments and responses, see Chapter 5, "Summary of Comments and Responses."

Additional Evaluations

As part of its overall environmental review process, SEA evaluated potential alternative train routes that SEA or the commentors proposed as possible mitigation in four areas where potentially significant environmental impacts may occur: Greater Cleveland Area, Ohio; Erie, Pennsylvania; Lafayette, Indiana; and the Four City Consortium in Indiana. Where appropriate, SEA evaluated possible impacts on land use and socioeconomics for these alternatives based on available information, consistent with the scope of the EIS. Section 4.19, "Community Evaluations," summarizes the results of these additional evaluations.

4.16.3 Analysis Results and Impacts

For the Draft EIS, SEA analyzed potential effects on land use and socioeconomic conditions at 22 proposed new rail line construction and rail line abandonment sites in seven states: Illinois, Indiana, Maryland, Michigan, New Jersey, New York, and Ohio. SEA also evaluated the impacts of changes in rail activity along two rail line segments that traverse Native American lands in the states of Alabama and New York. SEA identified no significant adverse impacts on land use plans, prime farmlands, Native American lands, Coastal Zone Management areas, or socioeconomics as a result of the rail line construction and abandonment projects related to the proposed Conrail Acquisition. A discussion of the analysis of potential impacts to minority or low-income populations appears in Section 4.17 "Environmental Justice," of the Final EIS.

During analysis for the Draft EIS, SEA consulted with the local community potentially affected by the proposed construction of a new rail line connection in Tolono, Champaign County, Illinois. NS has stated that the railroad does not anticipate that the adjacent road structures and residences would be disturbed by the proposed construction. As local community comments indicated, if the project were to expand beyond the railroad right-of-way, it would be inconsistent with the local land use plan. Based on the findings previously described, SEA determined no significant impacts to land use would result from the proposed action at Tolono as long as construction remains within existing railroad right-of-way.

In the Draft EIS, SEA evaluated two rail line segments identified as major key routes for hazardous materials transport that traverse Native American lands: the Buffalo FW-to-Ashtabula (N-070) rail line segment, which traverses the Federally designated Cattaraugus Indian Reservation in western New York; and the Montgomery-to-Flomaton (C-271) rail line segment, which traverses the Federally designated Poarch Creek Indian Reservation in southwestern Alabama. SEA determined that both segments would experience increases in hazardous materials transport and would become new major key routes as a result of the proposed Conrail Acquisition. The Draft EIS, Chapter 5, "State Setting, Impacts, and Proposed Mitigation," identifies and discusses in more detail the potential impacts to Native American lands resulting from increases in hazardous materials transport for these segments.

After issuance of the Draft EIS, CSX provided SEA with revised numbers of rail cars carrying hazardous materials on a rail line segment basis. SEA evaluated the revised data and found them to be reasonable. SEA conducted a revised analysis based on these data to determine the potential for the release of hazardous materials resulting from train accidents. The revised analysis eliminated the rail line segment (C-271) that traverses the Federally designated Poarch Creek Indian Reservation from the list of designated rail line segments that warrant major key route mitigation. See Section 4.3, "Safety: Hazardous Materials Transport," of the Final EIS for a detailed discussion of the revised analysis, results, and impacts. Appendix F, "Safety: Hazardous Materials Transport Analysis," of the Final EIS contains the calculations supporting this revised analysis.

4.16.4 Mitigation

Mitigation Strategies Considered

Consistent with the Board's practice in previous cases, SEA considered general strategies to mitigate potential significant adverse environmental impacts on land use and socioeconomics resulting from the proposed rail line constructions and rail line abandonments.

The mitigation strategies addressing proposed constructions would require the Applicants to:

- Realign, move, or modify the location of the proposed rail line segment construction to bring about consistency with local plans to avoid or reduce the impact on prime farmlands.

- Create setbacks, buffers, or other provisions to accommodate the proposed construction activity within the locally affected area and in accordance with local regulations.

- Pay to relocate or compensate displaced businesses or residences, or compensate for takings, pursuant to state laws and requirements governing payment of equitable compensation for such activities.

SEA considered the following mitigation strategies for significant impacts on land use and socioeconomics that would result from the proposed rail line segment abandonments:

- Encourage other carriers (under 49 U.S.C. 10904 - Offers of Financial Assistance to Avoid Abandonment and Discontinuance) to acquire rail lines that would otherwise be abandoned in order to continue freight service.

- Encourage offers to acquire abandoned rail line segment corridors and property for use by public entities for possible light rail, intercity, or commuter passenger rail services; or for a dedicated busway, recreational trail, or other public use under the "public use" provisions of 49 U.S.C. 10905 (Offering Abandoned Rail Properties for Sale for Public Purposes) and Section 8(d) of the National Trails System Act (16 U.S.C. 1241, *et seq.*).

Mitigation Recommended in the Draft EIS

For the Draft EIS, SEA identified no significant adverse impacts on land use plans consistency, prime farmlands, Native American lands, Coastal Zone Management areas, or socioeconomics as a result of the rail line construction and abandonment projects of the proposed Conrail Acquisition; therefore, SEA neither developed nor recommended mitigation.

For the Tolono Connection, SEA recommended in the Draft EIS that the Board require, as a condition for approval of the proposed Conrail Acquisition, that construction remain within the existing NS railroad right-of-way.

For the Draft EIS, the rail line segments (N-070 and C-271) that SEA evaluated for potential impacts on Native American lands were identified for major key route mitigation as a result of proposed increases in hazardous materials transport.

Final Recommended Mitigation

Based on the analysis of land use and socioeconomics for the Draft EIS, review of public comments, and additional evaluations, SEA recommends no site-specific mitigation for the Final EIS.

The revised analysis for the Final EIS eliminated the rail line segment (C-271), which traverses the Federally designated Poarch Creek Indian Reservation in southwestern Alabama, from the list of segments designated for major key route mitigation in the Final EIS for hazardous materials transport.

For all proposed rail line constructions and abandonments, SEA developed BMPs for the Applicants to implement should the Board approve the proposed Conrail Acquisition. BMPs apply to all proposed construction and abandonment activities, as appropriate, to reduce or avoid the potential for adverse environmental impacts as a result of the proposed Conrail Acquisition. The BMPs presented in Appendix P of the Final EIS address land use impacts and include requirements that the Applicants preserve and maintain effective drainage to protect the quality of adjacent prime farmlands during construction or abandonment activities. See Chapter 7, "Recommended Environmental Conditions," and Appendix P, "SEA's Best Management Practices for Construction and Abandonment Activities," for further information.

4.17 ENVIRONMENTAL JUSTICE

This section describes how SEA identified and evaluated the potential for disproportionately high and adverse impacts on minority and low-income populations resulting from the proposed Conrail Acquisition. This section describes the environmental justice methodology SEA developed for the Draft EIS and summarizes both the public comments on the environmental justice section of the Draft EIS and SEA's further analysis based on those comments. SEA also describes the mitigation measures proposed in the Draft EIS and recommended in this Final EIS.

4.17.1 Analysis Methods

Overview

Executive Order No. 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, directs individual Federal agencies to develop approaches that address environmental justice concerns in their programs, policies, and procedures. Although the Order does not require independent agencies such as the Board to conduct environmental justice analyses, SEA did conduct an environmental justice analysis. Although the Board is not a Federal Executive Branch agency, SEA conducted an environmental justice analysis because:

- The President requested agencies to comply with the Order, particularly during the NEPA process.
- The DOT order, the CEQ guidance, and the draft EPA guidance on environmental justice emphasize addressing environmental justice concerns in the NEPA context.
- The Board is responsible for ensuring that this proposed transaction is consistent with the public interest.

In the context of the proposed Conrail Acquisition, SEA determined that the Executive Order, Federal agency guidance, and public interest warrant addressing:

- Whether the proposed Conrail Acquisition could have disproportionate high and adverse impacts on minority and low-income populations.
- If so, whether disproportionate high and adverse impacts could be eliminated or mitigated with reasonable and feasible mitigation measures.
- Whether it is appropriate to modify recommended mitigation measures to meet the needs of a disproportionately affected minority or low-income population.

The purpose of the Executive Order is to identify and address, as appropriate, disproportionately high and adverse impacts to minority and low-income populations with respect to human health and the environment.[11] In summary, the Order directs Federal agencies to conform to existing laws to ensure that their actions:

- Do not discriminate on the basis of race, color, or national origin.

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11 SEA includes Native Americans in the minority population category assessment. Further discussion of Native American issues can be found in Section 4.16, "Land Use and Socioeconomics."

- Identify and address disproportionately high and adverse health or environmental effects of their actions on minority and low-income populations.

- Provide opportunities for community input in the NEPA process, including input on potential effects and mitigation measures.

Details regarding this Order, the CEQ guidance, the DOT Order on environmental justice, and the draft EPA guidance on environmental justice were provided in Section 3.17, and Appendix K, of the Draft EIS.

Impact Methodology

In the Draft EIS, SEA developed a six-step process to analyze potential significant impacts on minority and low-income populations from the proposed Conrail Acquisition. SEA completed the following first three steps of these analyses in the Draft EIS.

1. SEA identified the potential environmental effects of the proposed Conrail Acquisition.

2. SEA determined whether these potential environmental effects could occur in areas with minority and low-income populations. Environmental effects specifically related to Native American Lands are described in Section 4.16, "Land Use and Socioeconomics."

3. SEA assessed whether these potential environmental effects on minority and low-income populations could be high and adverse.

The remaining three steps, which SEA conducted as part of the public review of the Draft EIS and its public outreach process, involved the following:

4. SEA determined whether potentially high and adverse environmental effects would disproportionately affect minority and low-income populations in the absence of mitigation measures. SEA defines effects to be disproportionate if the effects are predominantly borne, greater, or more severe in magnitude in areas with environmental justice populations than in other areas.

5. If SEA identified potential high and adverse impacts resulting from the proposed Conrail Acquisition on a minority or low-income population, SEA notified the affected populations. SEA also directed the Applicants to consult with the identified populations to discuss concerns about potential impacts. In conjunction with this step, SEA considered public comments on the Draft EIS and conducted site visits to verify the results of the analysis at locations occupied by minority and low-income populations and determined by SEA to be potentially significantly affected.

6. Finally, SEA determined whether mitigation measures identified for other environmental issues, such as those for noise and highway/rail at-grade crossing safety, were sufficient to eliminate or mitigate the disproportionately high and adverse impacts to minority and low-income populations. If not, SEA recommended additional mitigation where practicable. SEA also considered the appropriateness of modifying the recommended mitigation measure to meet the needs of a disproportionately affected minority and low-income population. In either case, SEA also considered whether any additional recommended mitigation was reasonable and feasible to implement.

Appendix M of this Final EIS, "Environmental Justice Analysis," provides further details of SEA's methods, analyses results, site visit information, and assessment of disproportionate impacts.

SEA conducted environmental justice analyses for all rail line segments, rail yards, and intermodal facilities that met SEA's thresholds for environmental analysis. SEA defined a population as minority and low-income if the minority and low-income population exceeds 50 percent of the total population or the minority and low-income population is more than 10 percent of the county population. SEA used the criteria of significance for each of the environmental impact categories described in other sections of this chapter to define high and adverse impacts on environmental justice populations.

After SEA identified those areas with the potential for high and adverse impacts for the Draft EIS, SEA then requested comments from the public on the Draft EIS to assist SEA in determining whether the high and adverse impacts would generate disproportionate impacts on minority and low-income populations. SEA defined disproportionality in the Draft EIS as an effect that would be (a) predominately borne by minority and low-income communities, or (b) more severe or of greater magnitude in those communities.

For the Final EIS, SEA determined disproportionality using updated technical information in response to comments received on the Draft EIS and during the public outreach process. This step in the analysis is summarized in Section 4.17.2, "Public Comments and Additional Evaluations," and presented in greater detail in Appendix M, "Environmental Justice Analysis," of this Final EIS.

4.17.2 Public Comments and Additional Evaluations

Public Comments

SEA reviewed the public comments received on the Draft EIS and prepared responses to those comments. Chapter 5, "Summary of Comments and Responses," presents details on these public comments and SEA's responses to the comments. The following is a summary of some of the key public comments received on the environmental justice analyses presented in the Draft EIS.

- The Applicants commented that SEA should conduct the analysis of disproportional impacts on minority and low-income populations on a system-wide basis, as opposed to the segment-specific analysis conducted in the Draft EIS. By contrast, other commentors argued that SEA should analyze whether effects are disproportionate in specific communities and not solely on a rail line segment basis because failure to do so masks impacts on disadvantaged populations.

- The Applicants and several other commentors stated that community consultation is not an effective mitigation measure for environmental justice impacts.

- Applicants and other commentors expressed concerns about the analysis approach, methodology, and data presented in the Draft EIS. In particular, some commentors recommended that SEA use a quantitative method for assessing disproportionality.

- Commentors expressed concern that the Draft EIS did not identify environmental justice impacts to the Seneca Nation Native American tribe or other specific communities.

- Commentors also raised issues about the adequacy of efforts to mitigate potential effects on minority and low-income populations.

- Commentors expressed concern regarding the potential extent of hazardous materials transport impacts that might result on surrounding environmental justice communities from the proposed Conrail Acquisition.

Analysis in Response to Public Comments

SEA considered the wide range of comments on the Draft EIS in making its determination of whether disproportionately high and adverse effects would occur on minority and low-income populations as a result of the proposed Conrail Acquisition. SEA also reviewed comments addressing possible mitigation measures for identified environmental justice impacts. These suggestions included alternate train routes as possible mitigation in Greater Cleveland Area, Ohio; Erie, Pennsylvania; Lafayette, Indiana; and the Four City Consortium area in Indiana. Further information regarding SEA's recommended mitigation is listed in Chapter 7, "Recommended Environmental Conditions," of the Final EIS.

In response to comments on the Draft EIS urging a statistical analysis of disproportionality, SEA applied standard statistical tools, such as the Chi-Squared test and the Ratio of the Means to the database of potential environmental effects for all proposed rail line segments exceeding thresholds for analysis. SEA's use of these tests resulted in a tally of communities with high and adverse environmental effects that would be predominantly borne or greater or more severe in magnitude on minority and low-income populations in the absence of mitigation. Appendix M, "Environmental Justice Analysis," of the Final EIS more fully describes SEA's statistical analysis for environmental justice.

SEA defined in the Draft EIS the "Area of Potential Effect" as a geographical area surrounding an activity where environmental or human health effects may occur. SEA delineated these areas as outlined in Section 3.17 of the Draft EIS. For rail line segments, SEA then defined these areas as the rail line segment area of potential effect. In response to public comments that SEA should analyze whether effects are disproportionate in specific environmental justice communities, SEA delineated the area of potential effect portion of individual block groups using the same criteria outlined in the Draft EIS. SEA used block group areas of potential effect to assess more accurately whether high and adverse impacts would occur disproportionately on certain minority and low-income populations. Further details on the use of these block group areas of potential effect are provided in Appendix M, "Environmental Justice Analysis," of the Final EIS.

SEA further refined the environmental justice analysis of disproportionately high and adverse impacts on minority and low-income populations as follows:

- SEA specifically incorporated the results of the refined analysis for noise, hazardous materials transport, and highway/rail at-grade crossing safety and delay to update its determination of potential high and adverse impacts on minority and low-income populations for rail line segments. SEA conducted this analysis for rail line segments at the state and county levels and along all of the rail line segments that met SEA's thresholds for environmental analysis.

- Since issuing the Draft EIS, the Applicants modified the location of two new intermodal facilities in Sandusky, Ohio, and Philadelphia, Pennsylvania. SEA conducted an environmental justice analysis of these facilities.

- SEA refined its analyses through a more exact setting of rail line segment end points, using GIS-based mapping techniques. Based on this adjustment, SEA updated its analysis to reassess the extent of potential environmental effects and the composition of environmental justice populations along several of the rail line segments.

- In response to comments on the Draft EIS regarding the potential extent of hazardous materials transport impacts on surrounding communities, SEA expanded its delineation of the area of potential effect to account for rail line segments whose route designation following the proposed Conrail Acquisition changed to a new key or major key route. Along these routes, SEA redefined the area of potential effect to be 1,500 feet on either side of the rail line. SEA chose this number to maintain consistency with the maximum width of the area of potential effect as defined in the Draft EIS (based on noise criteria) and to provide a more conservative analysis of the potential hazardous materials impacts on the surrounding community as is suggested in the comments. Only four rail line segments are affected by this change.

- SEA also evaluated possible impacts on minority and low-income populations along the potential alternate train routes that commentors proposed in Indiana, Ohio, and

Pennsylvania. Section 4.19, "Community Evaluations," of the Final EIS summarizes the results of these additional evaluations.

- Based on SEA's revised determination of high and adverse impacts, SEA re-evaluated whether these impacts would be disproportionately borne by minority and low-income populations in the absence of mitigation measures. Appendix M, "Environmental Justice Analysis," of this Final EIS presents a detailed description of the additional analysis of environmental justice impacts from the proposed Conrail Acquisition since issuance of the Draft EIS and responses to comments.

4.17.3 Analysis Results and Impacts

For the Draft EIS, SEA identified potential high and adverse impacts on minority and low-income populations along 14 rail line segments and adjacent to one intermodal facility.[12] Since issuing the Draft EIS, SEA has conducted extensive notification and outreach to minority and low-income populations in these areas to encourage participation in reviewing the Draft EIS.

As a result of SEA's additional evaluations, SEA identified potential high and adverse impacts on minority and low-income populations along 12 additional rail line segments. SEA issued a notice in the Federal Register on March 2, 1998, requesting public comment during a 45-day period that ended on April 15, 1998, to afford those populations identified since the Draft EIS the opportunity to provide input on the effects of the proposed Conrail Acquisition. SEA also conducted an outreach and notification program identical to that conducted for the Draft EIS to community officials along these 12 rail line segments.

Based on SEA's additional analysis and public outreach for this Final EIS, SEA refined the list of railroad activities that could result in high and adverse impacts. SEA concluded that:

- Communities adjacent to 11 rail line segments in the states of Illinois, Indiana, Ohio, and Pennsylvania could experience disproportionately high and adverse impacts on minority and low-income populations.

- The potential significant environmental effects at all rail yards and at intermodal facilities would not meet SEA's criteria of significance.[13]

SEA then evaluated whether the potential high and adverse impacts for noise, hazardous materials transport, and highway/rail at-grade crossing safety and delay along the identified rail

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12 Two of these rail line segments were eliminated in the Supplemental Errata to the Draft EIS because of revisions in impacts on traffic delay at highway/rail at-grade crossings.

13 Since SEA's issuing of the Draft EIS, CSX and the City of Chicago have signed an agreement regarding the 59th Street Intermodal Facility, thereby mitigating significant environmental effects and any subsequent environmental justice effects.

line segments would be disproportionately borne by these minority and low-income populations in the absence of mitigation measures.

System-wide Results

For those rail line segments that met SEA's thresholds for environmental analysis, SEA determined that, as a result of the proposed Conrail Acquisition, disproportionately high and adverse hazardous materials transport impacts would occur on environmental justice populations in the absence of mitigation. This impact is primarily attributable to the inclusion of Cuyahoga County, Ohio, in the analysis. If that county were to be considered separately from the analysis, system-wide disproportionately high and adverse impacts from hazardous materials transport in environmental justice populations would not occur as a result of the proposed Conrail Acquisition.

Statewide Results

At the state level, SEA determined the following results of its disproportionality analysis:

- SEA determined potential disproportionately high and adverse effects for hazardous materials transport on environmental justice populations in Illinois and Ohio in the absence of mitigation.

- SEA determined potential disproportionately high and adverse effects for noise on environmental justice populations in Pennsylvania in the absence of mitigation.

- SEA determined no potential disproportionate effects on environmental justice populations in Indiana at the state level.

Countywide Results

At the county level, SEA identified 11 rail line segments with disproportionately high and adverse impacts to environmental justice populations with respect to hazardous materials transport, noise, and highway/rail at-grade crossings for safety and delay. The environmental justice populations located adjacent to these rail line segments are located in Illinois, Indiana, Ohio, and Pennsylvania. Table 4-3, "Impacts on Environmental Justice Populations for Which SEA Recommends Additional or Tailored Mitigation," lists the environmental justice impacts by rail line segment. Details on these results are presented in Appendix M, "Environmental Justice Analysis," of this Final EIS. Table 4-7 of the Final EIS, "Summary of Adverse Environmental Impacts by State," lists the rail line segments for which SEA recommends mitigation.

4.17.4 Mitigation

Mitigation Strategies Considered

In the February 11, 1994, Presidential memorandum accompanying Executive Order 12898, President Clinton stated that "Mitigation measures outlined or analyzed in an environmental assessment, environmental impact statement, or record of decision, whenever feasible, should address significant and adverse environmental effects of proposed Federal actions on minority and low-income communities." CEQ's environmental justice guidelines under NEPA reiterate this point. SEA's recommended mitigation measures for each of the environmental justice populations with potential high and adverse impacts as a result of the proposed Conrail Acquisition are described in other sections of this chapter and are discussed further in Chapter 7, "Recommended Environmental Conditions," of this Final EIS.

SEA determined whether mitigation measures recommended in this Final EIS for other environmental issue areas were sufficient to eliminate or mitigate the disproportionately high and adverse impacts to minority and low-income populations. If not, SEA recommended additional mitigation where practicable. SEA also considered the appropriateness of modifying the recommended mitigation measure to meet the needs of a disproportionately affected minority and low-income population. In either case, SEA also considered whether any additional recommended mitigation was reasonable and feasible to implement. During this step, SEA considered public comments and conducted site visits to verify the results of the analysis at the locations occupied by minority and low-income populations. Generally, SEA did not recommend additional environmental justice mitigation where it determined that the mitigation recommended for the resource impacts would be sufficient to mitigate the disproportionate impact to minority and low-income communities, or where a negotiated agreement between the Applicants and the community would achieve the same goal.

Mitigation Recommended in the Draft EIS

For the Draft EIS, SEA recommended mitigation measures as warranted for the various individual environmental impact issues. SEA recommended that the Applicants consult with the affected minority and low-income communities to identify and reach agreement on the implementation and funding of additional mitigation measures. SEA notified elected officials in these communities of the Draft EIS recommendations and encouraged them to meet with the Applicants to discuss mitigation.

TABLE 4-3
IMPACTS ON ENVIRONMENTAL JUSTICE POPULATIONS FOR WHICH SEA RECOMMENDS ADDITIONAL OR TAILORED MITIGATION

Environmental Issue Area	Rail Line Segment	City	County, State
Hazardous Materials Transport	Berea - Greenwich (C-061)	New London Village	Huron, Ohio
Hazardous Materials Transport	Deshler - Toledo (C-066)	Defiance City Holgate Village	Defiance, Ohio Henry, Ohio
Hazardous Materials Transport	Greenwich - Willard (C-068)	Willard	Huron, Ohio
Hazardous Materials Transport	Mayfield - Marcy (C-072)	Cleveland Cleveland Heights	Cuyahoga, Ohio
Hazardous Materials Transport	Quaker - Mayfield (C-073)	Cleveland East Cleveland	Cuyahoga, Ohio
Hazardous Materials Transport	Short - Berea (C-074)	Berea	Cuyahoga, Ohio
Hazardous Materials Transport	Cleveland - Ashtabula (C-075)	Fostoria Tiffin Willard	Seneca, Ohio Seneca, Ohio Huron, Ohio
Hazardous Materials Transport	Lafayette Jct., IN - Tilton, IL (N-045)	Attica	Fountain, Indiana
Hazardous Materials Transport	Peru - Lafayette Jct. (N-046)	Lafayette	Tippecanoe, Indiana
Hazardous Materials Transport	Willard - Fostoria (N-075)	East Cleveland Cleveland Euclid Cleveland Heights	Cuyahoga, Ohio
Noise	Willard - Fostoria (N-075)	Mentor	Lake, Ohio

Final Recommended Mitigation

In most cases, the recommended mitigation measure for specific environmental issue areas also mitigates significant adverse impacts to environmental justice populations. As described more fully in Section 4.3, "Safety: Hazardous Materials Transport," recommended mitigation measures for impacts from the transport of hazardous materials include requiring the Applicants to conduct the following measures:

- Operate key trains at a maximum speed of 50 miles per hour.
- Conduct complete train inspections.
- Comply with AAR key route guidelines.
- Develop Hazardous Materials Emergency Response Plans for major key routes.
- Provide a dedicated toll-free phone number for emergency response.
- Establish a Failure Mode and Effects Analysis to identify and prevent hazardous materials incidents.

Examples of recommended mitigation for safety at highway/rail at-grade crossings include displaying informational signage at crossings, conducting crossing maintenance, installing gates, or providing other safety enhancements. To alleviate highway/rail at-grade crossing delay concerns, SEA recommends mitigation measures to include relocating rail line segments, providing grade separations, and conducting operational improvements. Also, to alleviate environmental concerns, the railroads have entered into agreements with affected communities. Some of these agreements also address environmental justice concerns of the affected communities.

For potential impacts that are disproportionately high and adverse to minority and low-income populations in the absence of mitigation, SEA recommends that the Applicants undertake additional mitigation measures. For the transport of hazardous materials, SEA recommends that the Applicants consult with affected communities to identify any special emergency response needs of minority and low-income populations adjacent to the railroad right-of-way. SEA recommends that the Applicants adapt and modify their required local Hazardous Materials Emergency Response Plans to account for the specific needs of the affected communities. SEA also recommends that the Applicants provide "Operation Respond" software and any other necessary computer equipment to the affected communities to assist with emergency response efforts. Operation Respond is a computerized system that allows the local emergency response provider to obtain a description of the types of hazardous materials that are being transported by a particular train passing through a community. This information can be used by the community to plan appropriate evacuation measures and determine the type of equipment and personnel required to respond to a hazardous materials incident. SEA also recommends that the Applicants report back to SEA with the status of their compliance with this recommended mitigation measure.

Although SEA identified potential disproportionately high and adverse noise impacts on environmental justice populations in the absence of mitigation, SEA determined the majority of these impacts were from sounding of train horns at highway/rail at-grade crossings. SEA does not believe the elimination of train horn sounding at highway/rail at-grade crossings is an appropriate mitigation measure because of the overriding safety concerns at these crossings.

However, pending rules by FRA may eliminate the required use of locomotive horns near some highway/rail at-grade crossings that meet strict criteria for "quiet zones." Once the new FRA rules are in place, communities will have the opportunity to apply to FRA for designation as a "quiet zone." SEA recognizes that some minority and low-income populations do not have adequate resources to apply for designation as a "quiet zone" by FRA. For this reason, SEA recommends that CSX and NS assist these communities with applying for designation as "quiet zones" to alleviate horn noise impacts. Chapter 7, "Recommended Environmental Conditions" describes the details of this assistance.

Chapter 7, "Recommended Environmental Conditions," of the Final EIS describes SEA's recommended mitigation measures for environmental justice impacts.

4.18 CUMULATIVE EFFECTS

SEA evaluated cumulative effects of the proposed Conrail Acquisition for both potential system-wide and site-specific impacts. According to the CEQ regulations implementing NEPA, cumulative effects result "from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. These impacts can result from individually minor but collectively significant actions taking place over a period of time." The cumulative effects of an action may be minor when viewed in the context of direct and even secondary effects, but they can combine with other disturbances and eventually lead to a measurable environmental impact.

No established regulations or procedures exist for assessing cumulative effects. SEA reviewed published reports that discuss cumulative effects, either for methodologies or for determining consequences, and used as the principal source of guidance the CEQ handbook, *Considering Cumulative Effects Under the National Environmental Policy Act*. In the handbook, CEQ states that the purpose of the cumulative effects analysis is to enable a more informed Federal decision, rather than to create a perfect cumulative effects analysis. SEA relied on NEPA and CEQ's cumulative effects guidelines to develop its methodology.

In preparing a cumulative effects analysis, CEQ recommends that an agency's analysis accomplish the following:

- Focus only on the effects and resources within the context of the proposed action.
- Present a concise list of issues that have relevance to the anticipated effects of the proposed action or eventual decision.
- Reach conclusions based on the best available data at the time of the analysis.
- Rely on information from other agencies and organizations on reasonably foreseeable future projects or activities that are beyond the scope of the analyzing agency's purview.

- Relate to the geographic scope of the proposed action.

SEA integrated the CEQ guidelines into the cumulative effects analyses presented in the Draft EIS in Chapter 3, "Analysis Methods and Potential Mitigation Strategies, Chapter 4, "System-wide and Regional Setting, Impacts, and Proposed Mitigation," and Chapter 5, "State Setting, Impacts, and Proposed Mitigation."

The final scope of the EIS reflects the integration of the CEQ guidelines on cumulative effects analysis into the environmental review process and outlines a three-tier analysis of cumulative effects. To identify cumulative effects, SEA stated that it would complete the following:

1. Address cumulative effects of environmental impacts that have potential regional or system-wide ramifications. SEA completed this analysis for the appropriate regional or system-wide environmental impacts, given the context and scope of the proposed Acquisition for air quality, energy, and transportation.

2. Evaluate cumulative effects, as appropriate, of other public and private projects or activities that relate to the proposed Acquisition, about which the Board received information from local communities; local, regional, state, or Federal officials; or other interested parties. The information provided to the Board had to describe (1) those other projects or activities, (2) their interrelationship with the proposed Conrail Acquisition, and (3) the type and severity of the potential environmental impacts if those impacts were likely to be significant.

3. Discuss the potential environmental impacts of construction or facility modification activities within railroad-owned right-of-way property (for example, extension of sidings and rehabilitation of bridges) affected by the proposed Conrail Acquisition and additional environmental impacts that are related to the proposed Conrail Acquisition but are not subject to the Board's approval.

4.18.1 Analysis Methods

SEA's analysis methods for the Final EIS, summarized in the following sections, remain unchanged from the Draft EIS. A detailed description of analysis methods is found in Chapter 3 of the Draft EIS, "Analysis Methods and Potential Mitigation Strategies."

Cumulative effects analysis is generally conducted for a defined geographic area. The geographic scope of the proposed Conrail Acquisition includes 44,000 miles of rail lines and facilities in 24 states and the District of Columbia. For the study area, the proposed Conrail Acquisition has the potential to affect certain resources, such as air quality, at a national or multistate level. To determine cumulative effects, SEA examined several types of major ongoing actions or activities occurring at the national level, including the following:

- Past and present actions, such as technological changes and large-scale transportation projects.

- Laws and regulations, such as NEPA, the Clean Air Act of 1970, and the Energy Policy and Conservation Act of 1975.

- Major transportation-relatedplanning and funding programs, such as any Major Investment Studies, Federal Transit Administration (FTA) commuter rail initiatives, and regional transportation improvement plans.

These actions, when evaluated together with the proposed Conrail Acquisition, formed the basis of SEA's cumulative effects analysis. In the Draft EIS, SEA used several sources of information to assess cumulative effects, including the following:

- Major Investment Studies.

- FTA funding for enhancement and expansion of existing rail systems and for new rail system planning studies.

- Public comments obtained from communities during SEA's analysis of land use.

- Public comments on the draft scope of the EIS that identified other projects or actions.

Chapter 3, Section 3.18.3, "Cumulative Effects Analysis Methodology," of the Draft EIS, describes how these sources were used in the analysis of cumulative effects.

SEA aggregated and evaluated information for multiple resources and actions according to the following categories:

- Past actions.
- Present actions.
- Proposed actions from the proposed Conrail Acquisition.
- Reasonably foreseeable future actions.
- Cumulative effects summary.

System-wide Analysis

SEA analyzed the following system-wide factors for cumulative effects of the proposed Conrail Acquisition:

- Quantitative, system-wide magnitude of energy (fuel) savings.

- Quantitative, system-wide magnitude of air pollutant emissions changes.

- Quantitative, system-wide changes of freight transport by truck as a result of truck-to-rail diversions.

- Major Investment Studies, including planned, approved, and funded studies of significant, long-term, multimodal transportation improvements in the eastern U.S.

- FTA plans for existing and proposed fixed guideway rail systems (light rail, commuter rail, inter-city trains), where capital improvements are planned, approved, and funded, and where operating access agreements are completed. SEA determined that these criteria are significant in establishing that any proposed project or activity is reasonably foreseeable.

Site-specific Analysis

SEA considered the following two additional types of actions as a part of the cumulative effects analysis:

- Unrelated actions brought to the Board's attention that could affect resources also affected by activities related to the proposed Conrail Acquisition.

- Railroad actions that would not otherwise be subject to the Board's jurisdiction but could have effects on the same resources affected by the activities related to the proposed Conrail Acquisition.

Unrelated Actions. SEA evaluated cumulative effects of unrelated actions or activities such as major infrastructure projects, community development improvements, or private developments on which the Board received information in time to allow for review and analysis within the schedule for the preparation of the EIS. SEA evaluated projects geographically related to the proposed Conrail Acquisition if it determined that these projects were reasonably foreseeable and would likely have significant environmental impacts. SEA reviewed local agency officials' comment letters related to proposed new constructions and abandonments, as well as information concerning businesses or jobs potentially affected by the proposed abandonments. SEA also reviewed its agency consultation interview notes and written correspondence from various state, regional, and local agencies and planning officials to determine planned community actions or projects that may contribute to cumulative effects. SEA aggregated available information on a state-by-state basis.

SEA considered unrelated projects or activities sufficiently advanced to be considered reasonably foreseeable if capital improvements have been planned, approved, and funded. In addition, SEA considered passenger and commuter rail projects or activities to be reasonably foreseeable when the appropriate agency had completed an operating access agreement. SEA's approach identified only those environmental impacts resulting from cumulative effects that could be analyzed according to the methodology for each environmental issue area as defined in the scope of the EIS. SEA considered the standard for reasonably foreseeable as discussed in the CEQ guidelines handbook to be an important consideration, particularly in the context of the geographic scope

of the proposed Conrail Acquisition. As a result, SEA's evaluation was able to focus upon projects and activities that were more likely to occur and, therefore, have potential for cumulative effects.

Railroad Actions. SEA also evaluated several different railroad actions that do not normally require Board approval, such as proposed modifications of existing railroad properties, siding extensions, and signal upgrades. SEA included analysis of three of these projects in the Draft EIS because these projects could have significant environmental resource effects beyond existing right-of-way. SEA evaluated more than 70 other activities the Applicants proposed. The Draft EIS does not specifically address these actions because they are of limited size and consequence. Many of these actions are track-related work on existing railroad rights-of-way and track beds.

Additionally, SEA performed separate Environmental Assessments for construction of the seven rail line segments that the Applicants have proposed to build, but not operate, prior to approval of the proposed Conrail Acquisition. The cumulative effects assessment for these actions is in the Draft EIS, Chapter 4, "System-wide and Regional Setting, Impacts, and Proposed Mitigation."

Criteria of Significance

On a system-wide basis, SEA determined that cumulative effects were most likely to occur in three environmental issue areas—air quality, energy consumption, and transportation. In developing criteria of significance for cumulative effects on a system-wide basis, SEA relied on the technical criteria for the environmental issue areas to determine whether any significant environmental impacts resulting from cumulative effects were associated with the proposed Conrail Acquisition and required mitigation. The system-wide cumulative effects analysis is discussed in detail in the Draft EIS, Chapter 4, "System-wide and Regional Setting, Impacts and Proposed Mitigation."

SEA's criteria of significance for cumulative effects on a site-specific basis also relied on the criteria of significance for individual environmental issue areas, such as noise, roadway systems, or passenger rail operations. SEA used these criteria to determine whether any potential significant adverse environmental impacts resulting from cumulative effects were evident and required mitigation. The site-specific cumulative effect analysis is discussed in detail in the Draft EIS, Chapter 5, "State Settings, Impacts, and Proposed Mitigation."

4.18.2 Public Comments and Additional Evaluations

Public Comments

During the 45-day public review and comment period following issuance of the Draft EIS, SEA received comments from various state, regional, and local agencies; planning officials; and citizens regarding potential cumulative effects. Many of the commentors referred to the potential "cumulative impacts" of the proposed Conrail Acquisition rather than "cumulative effects" as

defined and established in the final scope of the EIS. For example, the Mayor of the City of Fort Wayne, Indiana, commented that the potential negative cumulative impacts on the community, particularly in the areas of safety, noise, hazardous materials transport, and impacts on low-income and minority neighborhoods deserved additional consideration by the Board, even though SEA determined that no Acquisition-related activities in the community would meet or exceed the thresholds of environmental analysis. SEA considered agency and public comments in developing the final scope for this EIS. The final scope included an analysis of the potential environmental impacts to specific resource categories and cumulative effects on a regional or system-wide basis for the resource categories of air quality, energy, and transportation. Also, SEA evaluated cumulative effects on specific resource categories associated with other projects or activities that related to the proposed Acquisition, where local communities; local, regional, state, or Federal officials; or other interested parties provided information to SEA. However, in accordance with the final scope of the EIS, SEA did not consider aggregated multiple resource effects (combined effects in different issue areas) in its cumulative effects analysis on a system-wide, regional, or local basis. Multiple resource effects are best addressed by the analysis and recommended mitigation, if appropriate, of individual resource categories.

Many of the comments referred to unrelated and nonjurisdictional actions, such as feasibility studies and proposals for expanded passenger rail services under consideration. In its analysis for the Draft EIS, SEA considered similar railroad actions over which the Board would not typically have jurisdiction, along with unrelated actions that could impact the resources also affected by the proposed Conrail Acquisition. In most cases, SEA determined that the actions that commentors had identified have not advanced sufficiently to be considered as reasonably foreseeable with regard to the planning, approval, and funding of capital improvements. SEA did not evaluate these actions for potential cumulative effects of the proposed Conrail Acquisition.

For a detailed review of comments and responses, see Chapter 5, "Summary of Comments and Responses."

Additional Evaluations

During the 45-day public review and comment period following issuance of the Draft EIS, SEA received comments from EPA related to roadway transportation corridor improvements in West Virginia, Virginia, and Pennsylvania. EPA commented on the Corridor "H" project, which extends from Elkins, West Virginia to Strasburg, Virginia. In Pennsylvania, EPA commented on a proposed roadway widening project along SR 322/U.S. 322 in Dauphin County and the proposed roadway construction involving the East Side Connector in Erie, Pennsylvania.

During the comment period, SEA also received comments that provided additional information regarding the status of planned commuter rail expansion in Orange and Rockland Counties in New York. In addition, local agency and public commentors identified additional planned actions that they believe, if implemented, could represent cumulative effects. These include extended noise contours associated with a planned airport expansion in Cleveland, Ohio; an

extended runway associated with a planned airport expansion in Gary, Indiana; possible highway improvements associated with the planned opening of a truck assembly plant in Princeton, Indiana; and an ongoing planning project to consolidate rail lines in Monroe, Michigan. As a result of the comments received on the Draft EIS, SEA reexamined the cumulative effects analysis in the Draft EIS to more closely evaluate the status of these planned actions as they relate to the scope of the EIS. The results of additional evaluations are discussed in the following section.

As part of its overall environmental review process, SEA evaluated potential alternative train routes as possible mitigation in four areas where potentially significant negative environmental impacts may occur: Greater Cleveland Area, Ohio; Erie, Pennsylvania; Lafayette, Indiana; and the Four City Consortium in Indiana. Where appropriate, SEA evaluated possible impacts on cumulative effects for these alternatives based on available information, consistent with the scope of the EIS. Section 4.19, "Community Evaluations," summarizes the results of these additional evaluations.

4.18.3 Analysis Results and Impacts

During the analysis for the Draft EIS, SEA identified other potential actions that, when combined with the proposed Conrail Acquisition, could contribute to cumulative effects. SEA received information about other potential projects or activities from local agencies and public comments on the draft scope of the EIS.

System-wide Analysis Results and Impacts

Based on the analysis for the Draft EIS, SEA determined that the potential benefits of the proposed Conrail Acquisition could be more efficient rail transportation routing, truck-to-rail diversions of freight and subsequent reductions in highway truck traffic, reduced energy consumption, fewer highway traffic delays, and improved air quality. SEA evaluated the cumulative effects that would result from implementation of the Clean Air Act Amendments, technology advancements, truck-to-rail diversions, and more efficient and direct rail transport routes that require fewer interchanges of rail traffic. As a result, SEA determined that, on a system-wide basis, the proposed Conrail Acquisition, in conjunction with other past, present, and reasonably foreseeable future actions, would positively contribute to a system-wide improvement in air quality, a net reduction in energy consumption, and a net improvement in both rail and highway transportation systems.

Site-specific Analysis Results and Impacts

During the analysis for the Draft EIS, SEA received information about local areas in the states of Michigan, New Jersey, Ohio, and Pennsylvania that could be subject to cumulative effects because of other actions. In Michigan, SEA received information about a local plan to encourage construction of a joint intermodal facility as a possible action that could have a cumulative effect.

In New Jersey, Ohio, and Pennsylvania, SEA received information about active commuter rail planning projects.

Ecorse Junction, Michigan. SEA evaluated information on the Livernois planning project in Ecorse Junction, Michigan, from site visits and public comments. A planning study by the Michigan Department of Transportation for a proposed joint intermodal facility identified a local policy encouraging consolidation of facilities to reduce traffic impacts on roadways systems from otherwise dispersed facilities. However, SEA determined that the project does not represent a reasonably foreseeable action since no capital improvements are planned, approved, and funded. Based on its independent analysis and all information available for the preparation of the Draft EIS, SEA concluded that no significant negative cumulative effects would be associated with the proposed Conrail Acquisition in the State of Michigan.

Commuter Rail. As part of its passenger rail analysis in the Draft EIS, SEA evaluated the proposed Conrail Acquisition's impact on commuter rail planning projects in New Jersey, Ohio, and Pennsylvania. SEA determined that these commuter rail projects do not represent reasonably foreseeable actions, since no capital improvements are planned, approved, and funded and operating access agreements completed. Based on its independent analysis and all information available to date, SEA concluded that no significant negative cumulative effects to passenger rail operations would be associated with the proposed Conrail Acquisition in the states of New Jersey, Ohio, and Pennsylvania. Within the limits of the scope of the EIS, SEA encouraged Applicants to meet with local agency officials who are responsible for planning commuter rail expansion to ensure communication and coordination.

In the case of planned airport expansions in Cleveland, Ohio and Gary, Indiana, SEA also determined that these actions have not advanced sufficiently to be considered in the EIS, since capital improvements are not yet planned, approved, and funded. Possible future cumulative effects related to future noise or operations that would result from the airport actions should be addressed as part of the airport's environmental analyses. The Cleveland Hopkins runway extension environmental analysis was initiated in April 1998.

Princeton, Indiana. SEA's analysis of rail operations in Princeton, Indiana, included an evaluation of shipping requirements, but SEA has determined that plans to alter roadways have not advanced sufficiently. Future passenger vehicle and truck traffic effects should be addressed as part of the environmental analysis of future highway improvements.

Monroe, Michigan. In the case of ongoing planning to consolidate rail lines in Monroe, Michigan, SEA also determined that these actions have not advanced sufficiently to be considered in the EIS, since capital improvements are not yet planned, approved, and funded, and operating access agreements are not completed. Within the limits of the scope of the EIS, SEA will encourage the Applicants to meet with local agency officials who are responsible for rail consolidation planning to ensure communication and coordination.

Corridor "H". In response to EPA comments related to proposed roadway transportation corridor projects, SEA evaluated the segments of the Corridor "H" project that extends between Elkins, West Virginia and the Virginia border, continues into Virginia, and extends from the Virginia border to Strasburg, Virginia. In West Virginia, SEA determined that no rail line segments intersect with Corridor "H" or are affected by the proposed Conrail Acquisition. Further, SEA determined that the segment of the Corridor "H" project in Virginia is not reasonably foreseeable, since it is not funded and an alignment has not been finalized. Based on this additional evaluation, SEA concluded that no significant negative cumulative effects associated with the proposed Conrail Acquisition are evident in relation to the Corridor "H" project in West Virginia and Virginia.

Dauphin County, Pennsylvania. In Dauphin County, Pennsylvania, SEA evaluated the project limits of the proposed SR 322/U.S. 322 roadway widening project, which extends from the Borough of Dauphin to the City of Speeceville. Grade-separated rail crossings currently exist at the limits of the project. The grade separations will not be altered as a result of the proposed Conrail Acquisition. Based on the evaluation of the Erie East Side Connector project, SEA determined that the roadway has been designed with a grade-separated crossing of the existing rail line and can accommodate changes under the agreement between the city and NS. Therefore, SEA concluded that no significant negative cumulative effects would be associated with the proposed Conrail Acquisition in Pennsylvania, in relation to the proposed improvement of SR 322/U.S. 322 in Dauphin County, as well as the proposed Erie East Side Connector roadway improvement.

4.18.4 Mitigation

Mitigation Recommended in the Draft EIS

SEA concluded in the Draft EIS that no significant negative cumulative effects that warrant mitigation would occur as a result of the proposed Conrail Acquisition. SEA neither recommended nor developed mitigation. Within the limits of the scope of the EIS, SEA encouraged the Applicants to meet with responsible agencies to ensure consultation and coordination as appropriate.

Final Recommended Mitigation

Based on the analysis of cumulative effects in the Draft EIS, review of public comments, and additional evaluations, SEA determined that no additional negative cumulative effects from the proposed Conrail Acquisition would result and concluded that mitigation is not warranted for inclusion in the Final EIS.

4.19 COMMUNITY EVALUATIONS

During preparation of the Draft EIS, SEA identified a number of communities with unique characteristics that, when considered in combination with anticipated changes in rail activity,

warrant additional environmental analysis. In the Draft EIS, SEA made a number of preliminary mitigation recommendations, including alternative routings the Board could consider imposing as conditions for approval of the proposed Conrail Acquisition. For this Final EIS, SEA conducted ongoing further environmental review for the following communities:

- Greater Cleveland Area, Ohio.
- Erie, Pennsylvania.
- Four City area of Indiana (East Chicago, Gary, Hammond, and Whiting), represented by the Four City Consortium.
- Lafayette, Indiana.

The detailed environmental analyses SEA conducted for this Final EIS evaluated not only potential environmental effects of the proposed Conrail Acquisition but also the potential effects of mitigation strategies, including routing alternatives. Most of these alternatives routes would not require new right-of-way, but would use existing right-of-way or would be implemented as part of an already-planned track relocation project. In evaluating these alternatives, SEA considered whether the new rail routings in each alternative would:

- Meet the Board's thresholds for environmental analysis.
- Create potential significant adverse environmental effects that would warrant mitigation.

In conducting its environmental analysis and developing mitigation recommendations for these communities, SEA considered public comments, including those from local and regional agencies and organizations, elected officials, and individuals. SEA conducted numerous site visits to potentially affected areas and used the information it collected to refine its analysis and develop mitigation. This section summarizes SEA's conclusions and recommendations for each community and Appendix N, "Community Evaluations," provides further details of evaluation results.

4.19.1 Greater Cleveland Area, Ohio

Since the Applicants notified the Board of their intent to consolidate the Conrail, CSX, and NS rail systems into two competing railroads, the Greater Cleveland Area has expressed concern to the Board about the potential for significant adverse environmental impacts. During the environmental review process, SEA recognized the unique characteristics of the Greater Cleveland Area and the challenges of analyzing the environmental effects of the proposed Conrail Acquisition. These characteristics include:

- The Greater Cleveland Area's position as a major transportation crossroad and a critical link for east-west rail traffic.

- The relatively high levels of current rail traffic.
- The Applicants' proposed increases in rail traffic.
- The area's existing high-capacity rail corridors, some of which once accommodated much more rail traffic than current railroad activities generate.
- The high density of highway/rail at-grade crossings in the West Shore residential communities. (For example, Lakewood contains 27 crossings in 2.7 miles, which is among the highest crossing densities in the Applicants' rail systems.)
- The high population density of communities along some high-traffic rail corridors through Cleveland and East Cleveland.
- The presence of minority and low-income (environmental justice) populations along some rail line segments.
- The public's strong concern about and interest in the potential environmental effects of the proposed Conrail Acquisition.

In the following sections, SEA presents background information, including a discussion of rail operations in the Greater Cleveland Area. SEA discusses in detail the existing rail network, highlights the Applicants' proposed rail operations, and describes each alternative it considered. SEA also presents its analysis of alternative train traffic routes in the Greater Cleveland Area and evaluates their potential environmental impacts. The discussion concludes with a comparison of alternatives and an overview of SEA's final recommended environmental mitigation measures.

Background

Because of the Greater Cleveland Area's location on the southern shore of Lake Erie between the manufacturing centers of the Northeast and the gateways of the Midwest (Chicago), the Greater Cleveland Area has been a crossroads for the main lines of several railroads. Indeed, the combination of good transportation routes and the presence of an inland harbor for shipping coal and iron ore was instrumental in Cleveland's industrial development. As a major industrial center of the Midwest, Cleveland has historically relied heavily on railroads to transport raw materials and manufactured goods. The rail system of the Greater Cleveland Area was designed and built to accommodate very high volumes of rail traffic. Although less intensely used than a generation or two ago, much of that rail system is still in place. Today, the area's shippers and industries (such as the steel and automobile component manufacturers) depend upon the rail system to transport freight. The Applicants have indicated that these rail lines are an important part of their overall plan to develop efficient rail systems that can compete with each other and with trucks in transporting freight.

Currently, only Conrail and NS have a major presence in the Greater Cleveland Area. CSX enters the southwest part of the metropolitan area in the vicinity of Brooklyn, Ohio, on a lightly used branch line. This corridor, which connects to the rest of the CSX system about 35 miles south of Cleveland, is expected to experience no change in rail traffic because of the proposed Conrail Acquisition.[z]

Under the Operating Plans the Applicants submitted in June, 1997, CSX and NS would acquire the area's existing Conrail assets. Overall, rail traffic would increase in the area and rail traffic patterns would change substantially. Based on the Applicants' proposed Operating Plans, Cleveland is also a point at which both the CSX and NS main east-west lines would cross. See Figure 4-1, "Greater Cleveland Area Rail Routes," and Figure 4-2, "Cleveland Area Alternative 1—Application Base Case."

SEA studied all reasonable routing alternatives that the Applicants, community leaders, and the public had recommended. To evaluate the environmental effects of these alternatives, SEA studied the alternatives that CSX and NS submitted in their Operating Plans, the alternatives that NS submitted on November 25, 1997 (revised on April 16, 1998), the alternatives that the City of Cleveland submitted with its comments on the Draft EIS, and additional information filed by the City of Cleveland. SEA also identified possible additional alternatives to address the public's concerns, especially those regarding high train traffic volumes in the City of East Cleveland and on the east side of the City of Cleveland. In developing these alternatives, SEA considered the network of freight rail lines between Vermilion and Berea in the west and Wickliffe and White in the east that converge in Cleveland.

Overall, the projected increase in rail traffic levels for the combined CSX and NS systems in the Greater Cleveland Area averages approximately 17 trains per day. However, because of shifts in train traffic routes, some areas in the Greater Cleveland Area would experience an increase of up to 40 trains per day on a given rail line segment. In addition, in some places in the Greater Cleveland Area where CSX and NS rail lines parallel each other or are close to each other, the combined traffic volume increases could be up to 81 trains per day.

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z SEA determined that this lightly used CSX branch line cannot be used as a meaningful alternative route for either CSX or NS traffic in or through the Greater Cleveland Area. As a consequence, this analysis does not discuss or consider it further.

FIGURE 4-1
GREATER CLEVELAND AREA RAIL ROUTES

Alternative 1 (Application Base Case)

Routes. The primary CSX route (described from east to west) would be from Buffalo and Ashtabula through the Collinwood Yard to Quaker. From Quaker, most CSX traffic would follow the Cleveland Short Line through Mayfield and Kinsman, then pass through Marcy to Short. From Short, traffic would proceed on the Indianapolis Line to Berea, continue toward Greenwich, then on toward either Chicago or Indianapolis.

One NS main line route would be from Buffalo and Ashtabula through Mayfield, and across the Cuyahoga River to the Cloggsville Connection. From Cloggsville, most of the traffic would continue onto the West Shore Corridor through Lakewood, Rocky River, and Bay Village, then through Vermilion and on to Chicago. The other major NS route would be from Pittsburgh through Alliance to White, north to Kinsman, northwest to the former Conrail Lakeshore Line, through CP Draw, across the Cuyahoga River Drawbridge, then southwest to Berea, Olmsted Falls, Vermilion, and Chicago.

The two major NS routes would converge at Vermilion, with a new connection linking the two routes on the west side of Vermilion. NS and CSX main lines would cross on an existing rail/rail flyover in the Kinsman area.

Infrastructure Improvements. Alternative 1 would incorporate improvements of two portions of the Short Line to increase operational efficiency. Between Quaker (Collinwood Yard) and Marcy, CSX would double-track most of the route on an upgraded track bed and make track and signal improvements. Between Marcy and Short, CSX would redeck the bridge over the Cuyahoga River, reconfigure the connection at Short, double-track some rail line segments that are currently single track, and upgrade many turnouts and signals. SEA assumes that each of the other alternatives (2 through 7) would also incorporate these improvements, so the Short Line upgrade is not a distinguishing factor when comparing alternatives.

Effects on Train Operations and Communities. CSX would have trackage rights on the NS main line between CP Draw and Berea, and NS would have trackage rights on the CSX Short Line between Harvard and Short. Both CSX and NS would be operationally flexible by having two routes through the area.

Compared to existing traffic levels, train traffic would increase in the University Circle, East Cleveland, and Kinsman areas by 61 to 81 trains per day, and in Brook Park, Berea, and the West Shore area by 21 to 32 trains per day. NS train traffic between CP Draw (which is just east of the Cuyahoga River Drawbridge) and Vermilion would decrease by 15 trains per day.

Time and Cost To Implement. Alternative 1 could be implemented on "Day One" of the Board's approval of the proposed Conrail Acquisition, and would cost an estimated $42 million for track and signal improvements.

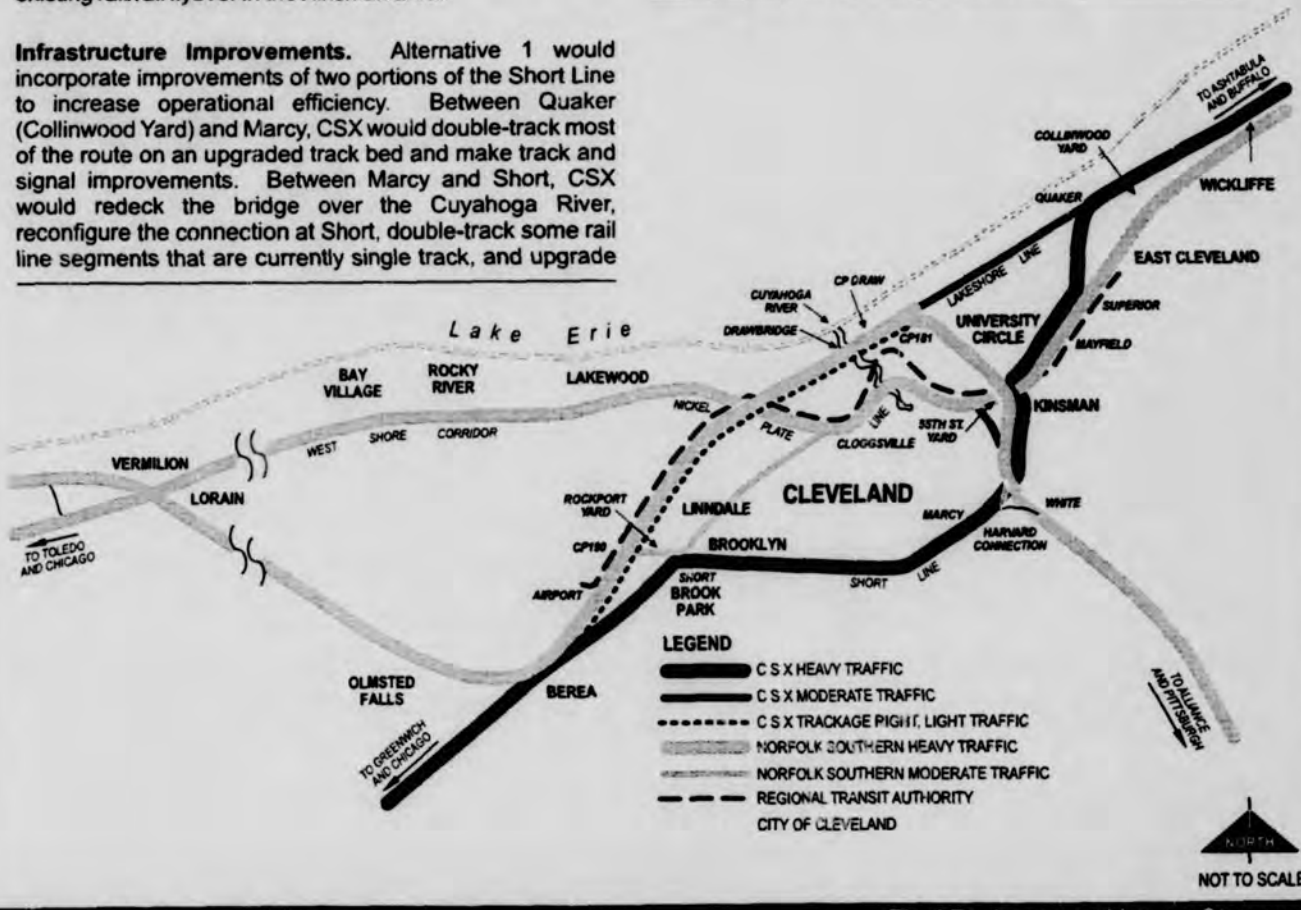

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FIGURE 4-2
GREATER CLEVELAND AREA ALTERNATIVE 1 - APPLICATION BASE CASE

During the environmental review process, the Board received numerous public comments from the Greater Cleveland Area that expressed environmental concerns related to the CSX and NS proposed Operating Plans. SEA conducted a public outreach program in the Cleveland Area (including environmental justice communities), using fact sheets, media announcements, a toll-free telephone line, and an Internet web site. SEA encouraged the Applicants to meet with the potentially affected communities and develop potential solutions. As a result, NS developed an alternative rail traffic routing plan for the Greater Cleveland Area to address the substantial environmental concerns raised by the West Shore suburbs. NS submitted this plan to SEA on November 25, 1997, and SEA presented the plan in the Draft EIS as a potential mitigation measure. On April 16, 1998, NS submitted a modified version of this plan to SEA. This modified plan would reduce the number of trains originally projected to move from Ashtabula through East Cleveland and the West Shore suburbs to Vermilion and Chicago by approximately 11 trains per day. It would also increase train traffic from White through the Cleveland Central Business District, Berea, and Vermilion to Chicago. This Final EIS and its Addendum discuss the modified plan as "Alternative 2, NS Cloggsville."

The City of Cleveland, nearby communities, elected officials, and others submitted more than 60 comments on the Draft EIS. In addition, Greater Cleveland Area residents sent numerous comments to SEA during SEA's environmental review process, including several thousand postcards sent after the Draft EIS comment period closed. These comments addressed numerous and wide-ranging environmental concerns, including noise, hazardous materials transport, delays in emergency response services, air quality, land use, environmental justice, and safety and vehicle traffic delay at highway/rail at-grade crossings. SEA carefully considered all the comments it received during the course of its environmental review. SEA presents its responses to the comments it received during the formal Draft EIS comment period in Chapter 5, "Summary of Comments and Responses," and in Appendix A, "Comments Received on the Draft Environment Impact Statement."

In particular, in its response to the Draft EIS, the City of Cleveland proposed two rerouting alternatives (Alternative 3, "Cleveland Flip Plan No. 1", and Alternative 4, "Cleveland Flip Plan No. 2") that would substantially change the train traffic patterns that the Applicants had proposed for the Greater Cleveland Area. The City of Cleveland stated that either of its rerouting alternatives would avoid impacts on residential communities, cultural centers, and minority and low-income areas, particularly on the east side of the city.

For each alternative, SEA's study primarily considered the potential for environmental impacts. SEA's purpose in conducting this study was to identify possible alternative routes for the Board's consideration. SEA's study also addressed whether each alternative would be reasonable as a mitigation measure. In all, SEA evaluated ten alternatives for the Greater Cleveland Area.[15] These alternatives would also affect nonenvironmental considerations such as economics, competition, service, and other merit issues, which SEA did not evaluate because

[15] See Appendix N, "Community Evaluations."

they are outside the scope of this EIS and appropriately addressed by the Board. If the Board approves the Applicants' Operating Plans for the Greater Cleveland Area, SEA believes that it would be appropriate for the Board to require NS to implement the physical and operational improvements associated with Alternative 2 (NS Cloggsville). SEA notes that NS has stated its willingness to implement Alternative 2 as part of its Operating Plan. However, SEA is not recommending a preferred alternative, but is presenting all of the routing alternatives for the Board's consideration.

In addition to studying these routing alternatives, SEA also developed comprehensive mitigation measures to address potential significant adverse environmental impacts of the alternative routes. SEA developed these potential mitigation strategies based on the environmental analysis it conducted for the Draft and Final EIS, review of the public comments, and consideration of information SEA collected during more than 40 site visits to the Greater Cleveland Area.

Throughout the environmental review process, SEA has encouraged the Applicants to consult with communities and to develop Negotiated Agreements to address local environmental concerns. To facilitate this negotiation process in the Greater Cleveland Area, the Board issued Decision Nos. 71, 73, and 75. The Board recognizes the unique circumstances of the Greater Cleveland Area as a major crossing point for the proposed CSX and NS rail systems for traffic moving between the Northeast and Midwest. The Board also recognizes the complex environmental issues that could result from changes in train traffic throughout the intricate system of interrelated rail lines in the Greater Cleveland Area. SEA continues to encourage the Applicants and communities to develop Negotiated Agreements to address environmental issues. (See Appendix R, "All Relevant Board Decisions," for copies of these Board decisions.)

Description of Existing Rail Routes

As noted previously, the Greater Cleveland Area contains a number of rail routes. Figure 4-1, "Greater Cleveland Area Rail Routes," shows the existing rail routes through the Greater Cleveland Area and identifies each rail line segment by number. For Alternatives 1 and 2, SEA designated rail line segments that would belong to CSX after the proposed Conrail Acquisition as beginning with "C," and those segments that would belong to NS as beginning with "N." For Alternatives 3 through 7, SEA retained the same rail line segment designations, even if ownership would differ.

Currently, Conrail and NS operate five rail lines through the Greater Cleveland Area. SEA refined its designation of certain rail line segments into smaller units to take into account train traffic volumes, traffic flow, and rail connections when comparing the routing alternatives. SEA used these refined segments to facilitate its environmental analysis and better identify local impacts. As noted in the previous section, CSX owns a lightly used branch line that SEA did not consider in its analysis.

The five existing Conrail and NS through rail line routes are:

- One of Conrail's main lines extends from Buffalo and Ashtabula along the Lakeshore Line (rail line segments C-060a, C-060b, C-691a, and C-691b), which parallels the Lake Erie shoreline, past Collinwood Yard/ Quaker to the Cuyahoga River Drawbridge (CP Draw) and the Cleveland Central Business District. The route continues southwest, passes through CP 190 (rail line segments N-293a and N-293b) and Berea (rail line segment N-293c), then goes on to Vermilion (rail line segment N-293d), and ultimately to Toledo and Chicago.

- A second Conrail route is from Quaker, along the Short Line through Mayfield and Marcy to the south and then west to Short (rail line segments C-073, C-072a, C-072b, and C-069). From Short, the route goes southwest to Berea (rail line segment C-074), on to Greenwich (rail line segment C-061), and ultimately on to Indianapolis or Chicago.

- A third Conrail main line extends from Pittsburgh and Alliance to White (rail line segment N-084) and passes through Harvard (N-081a). The route then goes west (along a single-track connection) to the Short Line (C-072b and C-069) and continues west as described above, past Short. This line also heads north from White through Kinsman (N-081b, N-081c, and N-081d) to the Lakeshore Line, CP Draw, and Berea, as described above.

- Conrail also uses a rail line for local service between Short and Cloggsville (rail line segment N-074) and between Short and CP 190/ Rockport Yard (N-501).

- The sole NS main line in the area extends from Buffalo to Ashtabula along the Nickel Plate Line (rail line segment N-075a), through Mayfield, Kinsman, and Cloggsville N-075b, N-075c, and N-075d), then continues westward through Lakewood, Rocky River, and Bay Village on its way to Vermilion (N-080a and N-080b) and points west (Toledo and Chicago).

Descriptions of Alternatives

As previously stated, SEA assessed ten alternative routes, including the route initially proposed by CSX and NS in their Application. SEA determined that three of the ten alternatives would impose substantial constraints on freight rail operations and, as a result, did not study them further.[16] SEA studied the remaining seven alternatives in depth:

- Alternative 1—Application Base Case.
- Alternative 2—NS Cloggsville.
- Alternative 3—Cleveland Flip Plan No. 1.
- Alternative 4—Cleveland Flip Plan No. 2.
- Alternative 5—Wickliffe Flyover.

16 These three routes include rail/rail at-grade crossings at Berea and Wickliffe (rather than flyovers) and a variation of Alternative 3 that does not use the Short Line. These three alternatives are described further in Appendix N, "Community Evaluations."

- Alternative 6—Wickliffe Flyover with Erie Connection Rehabilitation.
- Alternative 7—Cleveland Reverse Curve.

Table 4-4, "Train Traffic Through Selected Greater Cleveland Residential Areas," compares the existing levels of daily train traffic in certain residential areas (trains per day before the proposed Conrail Acquisition) with the predicted levels for each of the seven Alternatives. Figures 4-3 through 4-8 present text descriptions of Alternatives 2 through 7 as well as maps showing communities, railroad lines and location designations, and rail line segments, and rail line segment numbers mentioned in the descriptions of the alternative routes. The names of many of these railroad location designations are those used by the Applicants and do not necessarily correlate with the geographic locations of similarly named communities. Note that the text describes each route from east to west, although almost all routes would have two-way operations.

Appendix N, "Community Evaluations," provides detailed descriptions of these seven alternative routes (as well as the three routes excluded from further study) and the railroad infrastructure and improvements that SEA believes each would require.

Description of Other Alternatives Evaluated

In addition to the seven alternative routes, SEA also considered a proposal to establish an independent railroad operation for the Greater Cleveland Area.

Congressman Dennis J. Kucinich, who represents Ohio's 10th Congressional District, requested, as a condition of the Board's approval of the proposed Conrail Acquisition, that a neutral, publicly owned, independent railroad operating company be established in the Greater Cleveland Area to avoid and mitigate the potential impacts of the proposed Conrail Acquisition. This new entity would own and operate most of the railroad lines in the region; control all dispatching, switching, and signaling in the Greater Cleveland Area; and operate commuter trains.

SEA examined this proposal to determine whether any environmental benefits or adverse effects would be associated with the proposed entity. Although it would cause potential changes to train routes throughout the Greater Cleveland Area, the proposal submitted by Congressman Kucinich does not specify which routes an independent operator would utilize most heavily through the Greater Cleveland Area. Further, the proposal does not include documentation or specific information regarding possible environmental benefits or adverse impacts. Accordingly, SEA cannot identify the local environmental impacts, including impacts of this proposal on residential, minority, and low-income populations.

TABLE 4-4
TRAIN TRAFFIC THROUGH SELECTED GREATER CLEVELAND RESIDENTIAL AREAS[a]

Residential Area Studied	Rail Line Segments	Traffic (Trains per Day)							
		1995 Pre-Acquisition	Alt. 1 Application Base Case	Alt. 2 NS Cloggsville	Alt. 3[b] Cleveland No. 1	Alt. 4[b] Cleveland No. 2	Alt. 5[b] Wickliffe Flyover	Alt. 6 Wickliffe +Erie Con.	Alt. 7 Reverse Curve
Univ. Circle & East Cleveland	C-073 N-075b	19.8	80.4	69.8	43.4	43.4	57.0	57.0	43.4
Kinsman Area	C-072a N-075c N-081c	30.9	112.1	112.1	44.0	40.6	88.7	61.0	79.9
Cleveland Central Business District	N-293a	52.4	48.6[c]	57.5[d]	57.0	57.0	66.3	38.6	15.7
Linndale	N-074	2.0	4.2	13.8	17.7	4.0	13.2	30.5	49.9
Brook Park	C-074	13.4	45.3	45.3	46.3	46.3	53.0	53.0	41.3
Berea (West Side)	N-293d C-061	66.9	89.9	112.1	107.6	107.6	107.6	107.6	107.6
Olmsted Falls	N-293d	52.4	36.9	59.1	54.6	54.6	54.6	54.6	54.6
Lakewood, Rocky River, and Bay Village	N-080b	13.5	34.1	13.9	16.4	16.4	16.4	16.4	16.4

[a] Numbers are average numbers of trains per day and reflect traffic data updated on April 16, 1998, after SEA received revised operational data from the Applicants. Totals include passenger trains as follows:
2.0 trains per day on N-081.
4.0 trains per day on N-293.

[b] Totals assume 4.0 NS trains per day through Rockport Yard.

[c] Totals include 11.7 CSX trains per day because of CSX trackage rights on the NS Lakeshore Line only.

[d] Totals include 10.0 CSX trains per day because of CSX trackage rights on the NS Lakeshore Line.

Alternative 2 (NS Cloggsville)

NS suggested Alternative 2 to avoid increased train traffic through the residential West Shore communities.

Routes. Both of the CSX primary and secondary routes through Cleveland would be the same as in Alternative 1. NS would reroute its projected increased train traffic from the Nickel Plate Route (from Buffalo through Cleveland and Lakewood to Vermilion) to a route that runs southwest from the Cloggsville area of Cleveland through Berea. The other major NS route, from Pittsburgh to Vermilion via Alliance, CP Draw, Berea, and Olmsted Falls, would remain the same as in Alternative 1. As in Alternative 1, the CSX and NS main lines would cross in the Kinsman area.

Infrastructure Improvements. NS would improve its system between the Cloggsville Connection and CP 190 (bridge clearance projects, a new mainline connection at Cloggsville, a new interchange with the Flats Industrial Railroad, full signalization of the NS line, a new double-track route around Rockport Yard, and reconfiguration of existing track for access to yard tracks). NS would also offer to eliminate or upgrade many of the highway/rail at-grade crossings in the West Shore Corridor and upgrade one such crossing in Lorain.

Alternative 2 would require construction of a second rail/rail (at-grade) connection at Vermilion. Alternatives 3 through 7 would also require this Vermilion Connection, so this crossover is not a distinguishing factor when comparing Alternatives 2 through 7.

Effects on Train Operations and Communities. As in Alternative 1, CSX would have trackage rights on the NS main line between CP Draw and Berea, and both CSX and NS would have greater operational flexibility by having two routes through the Greater Cleveland Area.

Compared to existing traffic levels, the West Shore area would experience, on average, no increase in train traffic beyond 1995 levels. NS traffic along the Nickel Plate Line through the East Cleveland and University Circle areas would increase from the existing 13 trains per day to 26 trains per day (compared to approximately 37 trains per day under Alternative 1). Traffic levels through Berea and Olmsted Falls would increase by approximately 7 trains per day over existing traffic levels (compared to a decrease of approximately 15 trains per day in Alternative 1). Compared to Alternative 1, the NS route from Pittsburgh through Cleveland to Vermilion would carry approximately 11 more trains per day. (These train traffic levels are based on a revised mitigation proposal received from NS on April 16, 1998.)

Time and Cost To Implement. Alternative 2 would require 1 to 1½ years to implement (during which time West Shore train traffic would increase by approximately 14 trains per day) and would cost an estimated $69 million, which is $27 million more than Alternative 1. These amounts do not include the estimated $18 million cost of the highway/rail at-grade separations that are under negotiation by the Applicants with the cities of Berea and Olmsted Falls as part of their mitigation proposal.

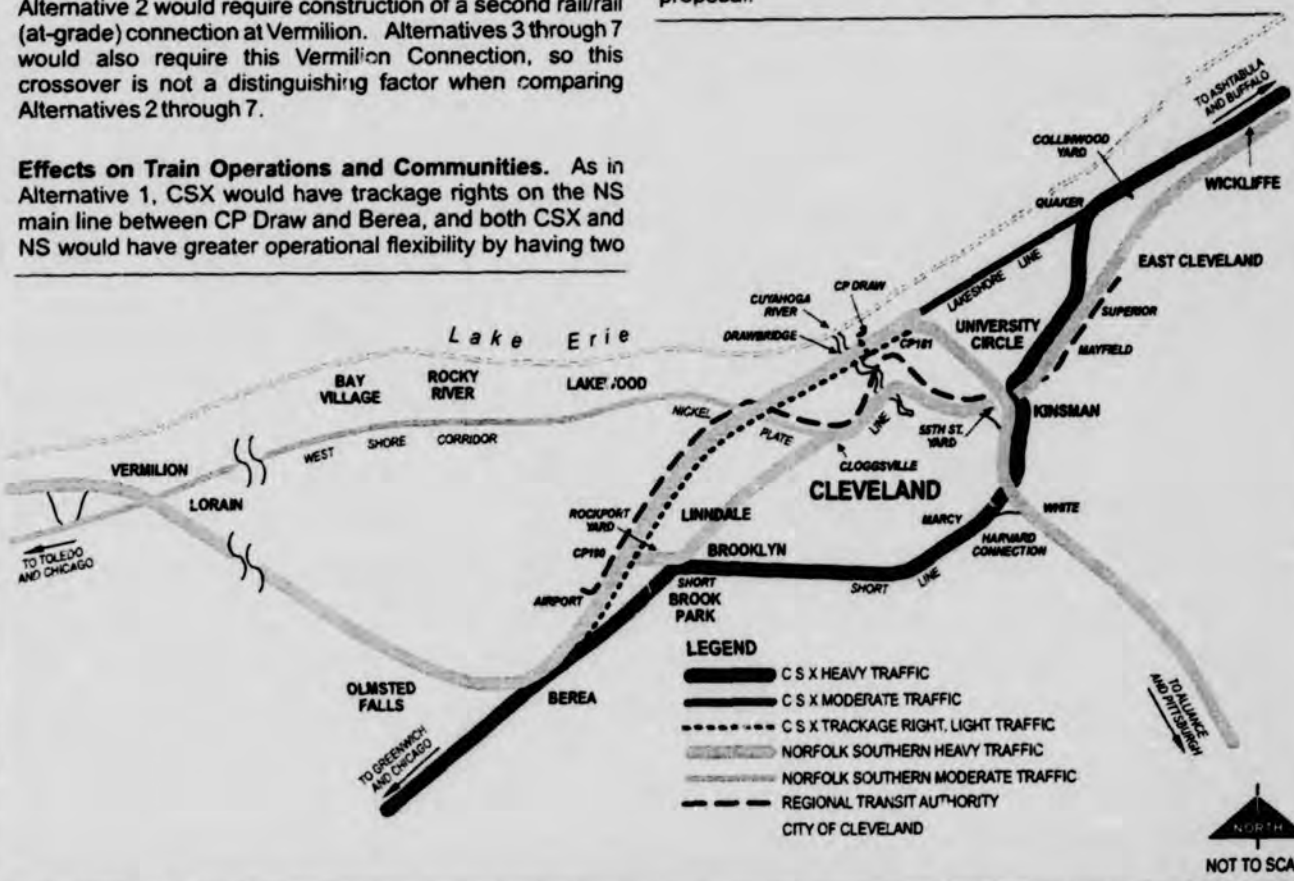

FIGURE 4-3
GREATER CLEVELAND AREA ALTERNATIVE 2 - NS CLOGGSVILLE

Alternative 3 (Cleveland Flip Plan No. 1)

The City of Cleveland proposed Alternative 3 to reduce increases in train traffic through the West Shore residential areas, the Kinsman area, and the cultural center of University Circle on the east side of the city.

Routes. This alternative "flips" the CSX and NS main lines from the Alternative 1 route by keeping CSX trains on the Lakeshore Line near the waterfront through the city and keeping NS on the Short Line between Marcy and Short. Most NS traffic would use the Cloggsville Connection and pass through Short and Berea en route to Vermilion. NS and CSX traffic would have to cross at Berea to reach their respective corridors.

Infrastructure Improvements. To avoid conflict at Berea, Alternative 3 would require construction of a rail/rail flyover (grade separation) in Berea. Such a flyover would be 7,500 to 10,000 feet long, and the scope of its engineering and construction would be similar to that of a major freeway interchange. This alternative would also require double-tracking the Harvard Connection (between Marcy and White) for NS. Like Alternative 2, Alternative 3 would require improvements between the Cloggsville Connection and CP 190 and the construction of two connections at Vermilion.

Effects on Train Operations and Communities. Without trackage rights over NS track, CSX would have less operational flexibility because all CSX traffic would be on one route (on the Lakeshore Line), potentially subjecting it to delays when the Cuyahoga River Drawbridge is open to accommodate boat traffic. NS would have no direct access to bulk shippers at Whiskey Island (just west of the Cuyahoga River Drawbridge) and poor access to Rockport Yard.

Compared to Alternative 1, Alternative 3 generally reduces train traffic through residential areas on the east side of Cleveland. During construction of the flyover, keeping train traffic moving through Berea without considerable delay would be a major challenge. Further, this construction would require the closure of Front Street for a year and the flyover structure would be a barrier that visually divides the City of Berea.

Time and Cost To Implement. Alternative 3 would require approximately 3 years to implement and would cost an estimated $203 million, which is $161 million more than Alternative 1.

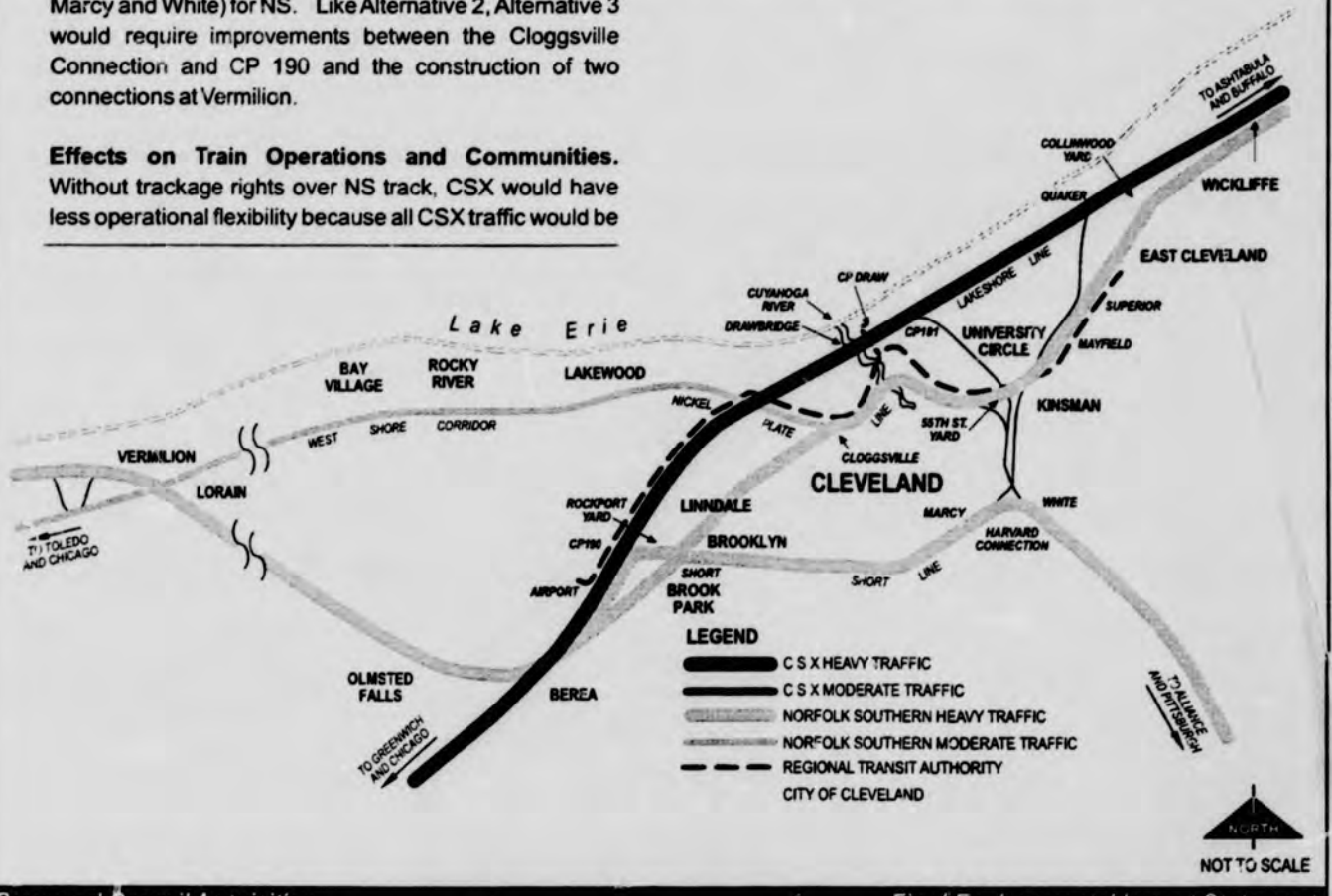

FIGURE 4-4
GREATER CLEVELAND AREA ALTERNATIVE 3 - CLEVELAND FLIP PLAN NO. 1

Alternative 4 (Cleveland Flip Plan No. 2)

The City of Cleveland proposed Alternative 4 as a variant of Alternative 3 to reduce train traffic increases through the West Shore residential areas, the Kinsman area, and the cultural center of University Circle on the east side of the city.

Routes. Like Alternative 3, Alternative 4 "flips" the CSX and NS main lines from the Alternative 1 route by keeping CSX trains on the Lakeshore Line near the waterfront through the city and routing all NS traffic onto the Short Line. Alternative 4 varies from Alternative 3 by using the Short Line as the primary route for NS's main routes from both Buffalo and Pittsburgh (instead of using the Cloggsville Connection). As in Alternative 3, the CSX and NS traffic would cross in Berea.

Infrastructure Improvements. Like Alternative 3, Alternative 4 would require constructing a flyover in Berea as well as double-tracking the Harvard Connection. Further, Alternative 4 would require a double-tracked Mayfield Connection (between the Nickel Plate Line and the Short Line near University Circle) for NS and construction of two connections by NS in Vermilion.

Effects on Train Operations and Communities. As in Alternative 3, CSX would have less operational flexibility because all of its traffic would be on one route (the Lakeshore Line), potentially subjecting it to delays when the Cuyahoga River Drawbridge is open to accommodate boat traffic. NS would lose direct access to bulk shippers at Whiskey Island (just west of the Cuyahoga River Drawbridge) and its access to Rockport Yard would be poor.

Compared to Alternative 1, Alternative 4 would generally reduce train traffic through residential areas on the east side of Cleveland, as would Alternative 3. Alternative 4 would also route NS mainline traffic onto the Short Line at Mayfield. As in Alternative 3, keeping train traffic moving through Berea during construction of the flyover would be a major challenge. Construction would require the closure of Front Street for a year, and the flyover would be a barrier that visually divides the City of Berea.

Time and Cost To Implement. Alternative 4 would require approximately 3 years to implement and would cost an estimated $185 million, which is $143 million more than Alternative 1.

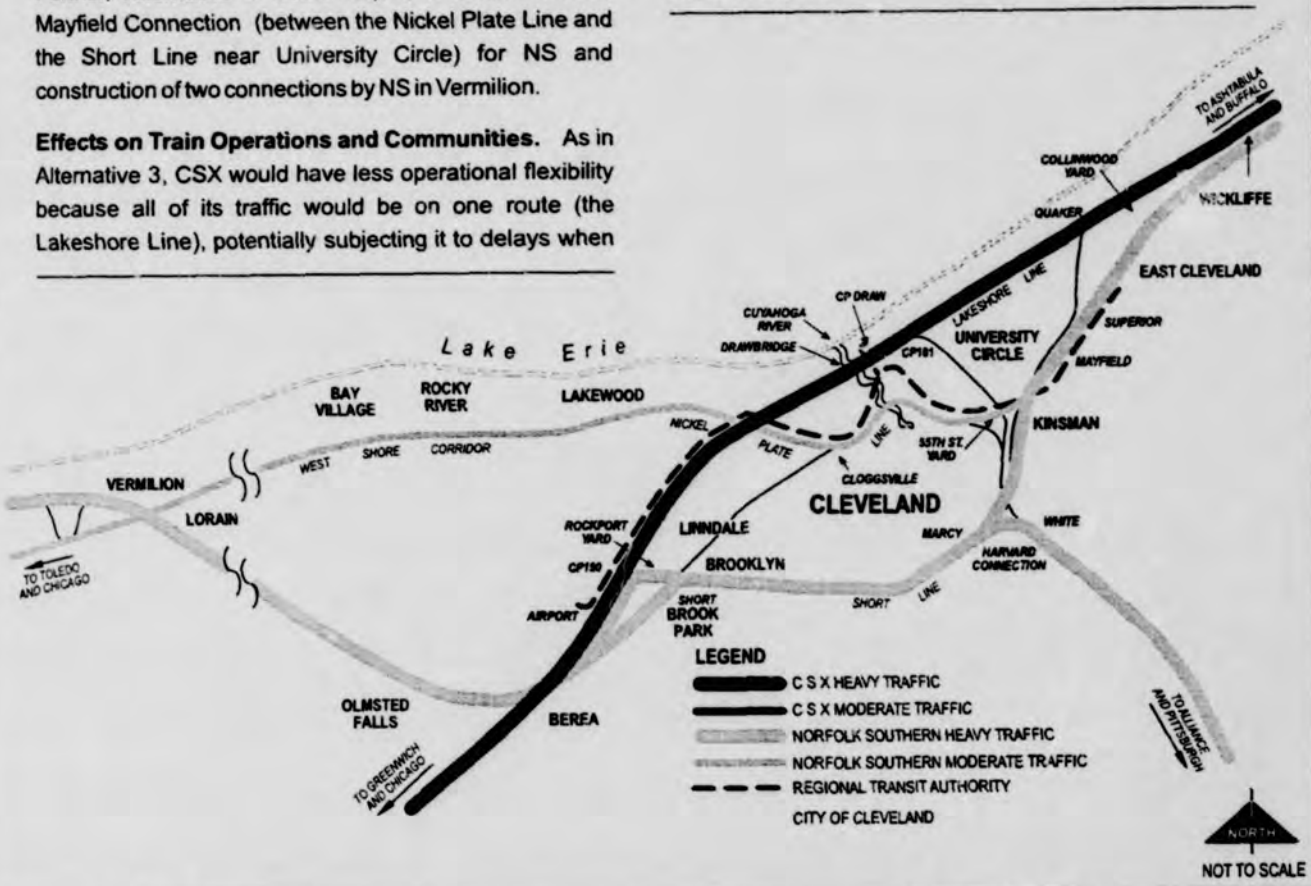

FIGURE 4-5
GREATER CLEVELAND AREA ALTERNATIVE 4 - CLEVELAND FLIP PLAN NO. 2

Alternative 5 (Wickliffe Flyover)

SEA developed Alternative 5 to reduce impacts on the east side of Cleveland and eliminate the need to build a rail/rail flyover in Berea by moving the CSX and NS main line crossing point to a location east of Cleveland (Wickliffe, in western Lake County).

Routes. Alternative 5 would route NS traffic from Buffalo along the Lakeshore Line over the Cuyahoga River Drawbridge to Berea. Most CSX traffic from Buffalo would use the Nickel Plate Line and the Short Line to reach Berea; some overflow traffic from both CSX and NS would use the Cloggsville Connection. NS traffic between Pittsburgh and Chicago would also use the Lakeshore Line. NS would access Rockport Yard via the Cloggsville Connection.

Infrastructure Improvements. This alternative would require building a rail/rail flyover in Wickliffe. Like Alternative 4, Alternative 5 would require the Mayfield Connection to enable CSX traffic from the Nickel Plate Line to access the Short Line. Alternative 5 would also require construction of the Detroit Avenue Connection (between the Lakeshore Line and the Nickel Plate Line near Detroit Avenue), a double connection at Vermilion, and, as with Alternative 2, improvements between the Cloggsville Connection and CP 190.

Effects on Train Operations and Communities. In Alternative 5, both CSX and NS would have two routes through most of the area, ensuring operational flexibility. CSX and NS would share rail corridors from Kinsman through Cloggsville to Short. Compared to Alternatives 3 and 4, Alternative 5 would place the flyover in an area that is industrial rather than residential, and the flyover would be easier to construct. Because the NS main line on the south side of Collinwood Yard would isolate CSX's fueling facility from the yard, Alternative 5 would require relocating the facility to avoid conflicts with NS when refueling CSX trains. NS would lose access to its 55th Street Yard.

Compared to Alternative 1, Alternative 5 would reduce rail traffic levels in the East Cleveland/University Circle and West Shore areas and generally reduce noise impacts and environmental impacts on minority and low-income residential areas.

Time and Cost To Implement. Alternative 5 would require approximately 2 to 2½ years to implement and would cost an estimated $151 million, which is $109 million more than Alternative 1.

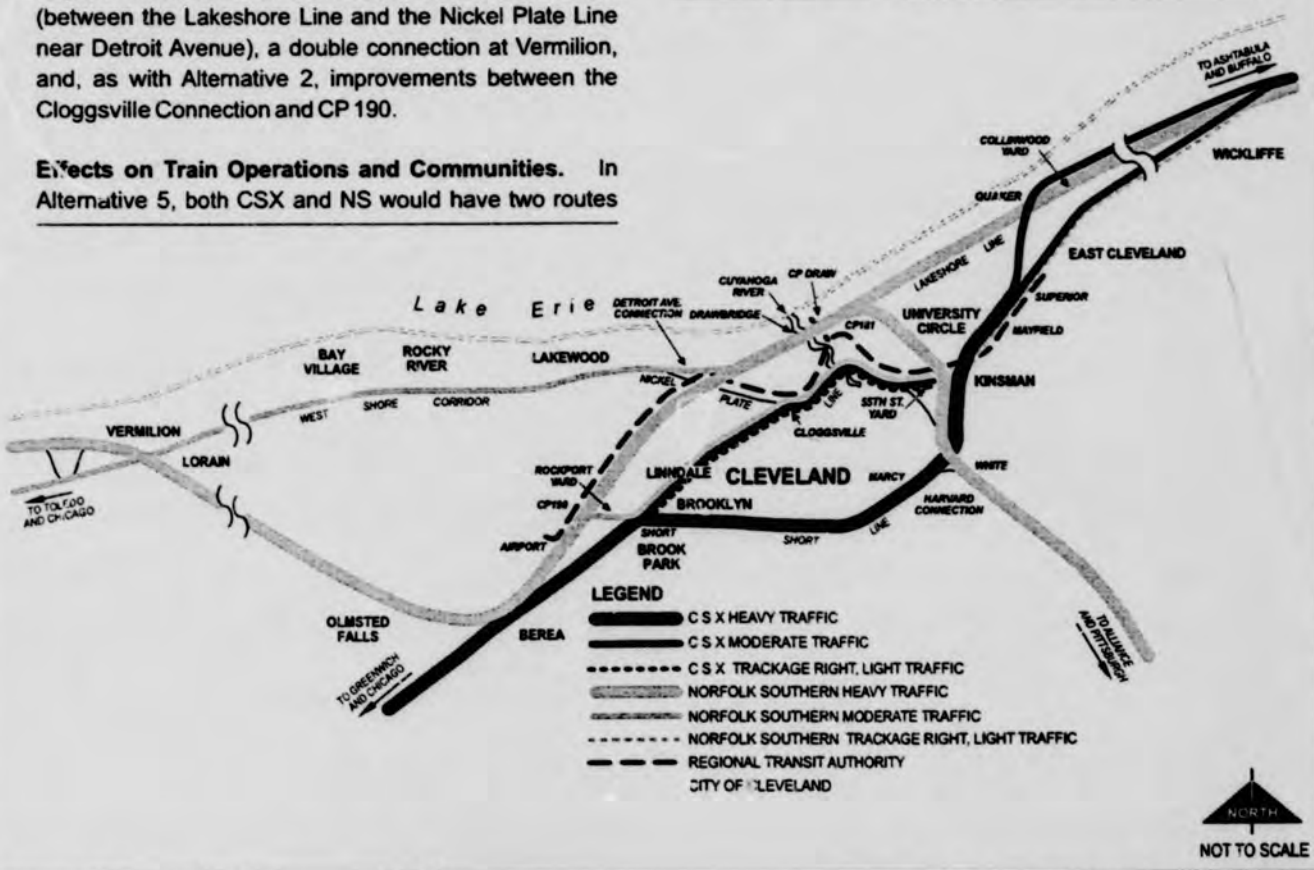

FIGURE 4-6
GREATER CLEVELAND AREA ALTERNATIVE 5 - WICKLIFFE FLYOVER

Alternative 6 (Wickliffe Flyover with Erie Connection)

As with Alternative 5, SEA developed Alternative 6 to reduce impacts on the east side of Cleveland and to move the CSX and NS crossing point to a flyover east of Cleveland (Wickliffe), which would eliminate the need to build a flyover in Berea.

Routes. Alternative 6 is similar to Alternative 5, except that most NS train traffic to and from Pittsburgh would use a rehabilitated Erie Connection and the Cloggsville Connection en route to Berea and points west.

Infrastructure Improvements. Like Alternative 5, Alternative 6 would require building a rail/rail flyover in Wickliffe and constructing the Detroit Avenue Connection. Like Alternatives 2, 3, and 4, Alternative 6 would require improvements from the Cloggsville Connection to CP 190. Like Alternatives 4 and 5, Alternative 6 would require construction of the Mayfield connection. Further, Alternative 6 would require construction of the Erie Connection (between the former Pennsylvania Railroad Line and the NS main line via the Erie Line) and the double connection at Vermilion.

Effects on Train Operations and Communities. This alternative would reduce train traffic between Kinsman and the Cuyahoga River Drawbridge and along the Lakeshore Line to the west, and, compared to Alternative 1, it would reduce train traffic through the central business district of Cleveland. Compared to Alternative 1, and like Alternative 5, Alternative 6 would also generally reduce noise impacts as well as other environmental impacts on minority and low-income residential areas. Like Alternative 5, Alternative 6 would result in rail operation conflicts at Collinwood Yard and would require CSX and NS to operate (separately) in a shared rail corridor from Kinsman through Cloggsville to Short.

Compared to Alternatives 3 and 4, and like Alternative 5, Alternative 6 would place the flyover in an area that is industrial rather than residential, making construction easier. Alternative 6 would also potentially constrain NS train movements at its 55th Street Yard.

Time and Cost To Implement. Alternative 6 would require approximately 2 to 2½ years to implement and cost an estimated $176 million, which is $135 million more than Alternative 1.

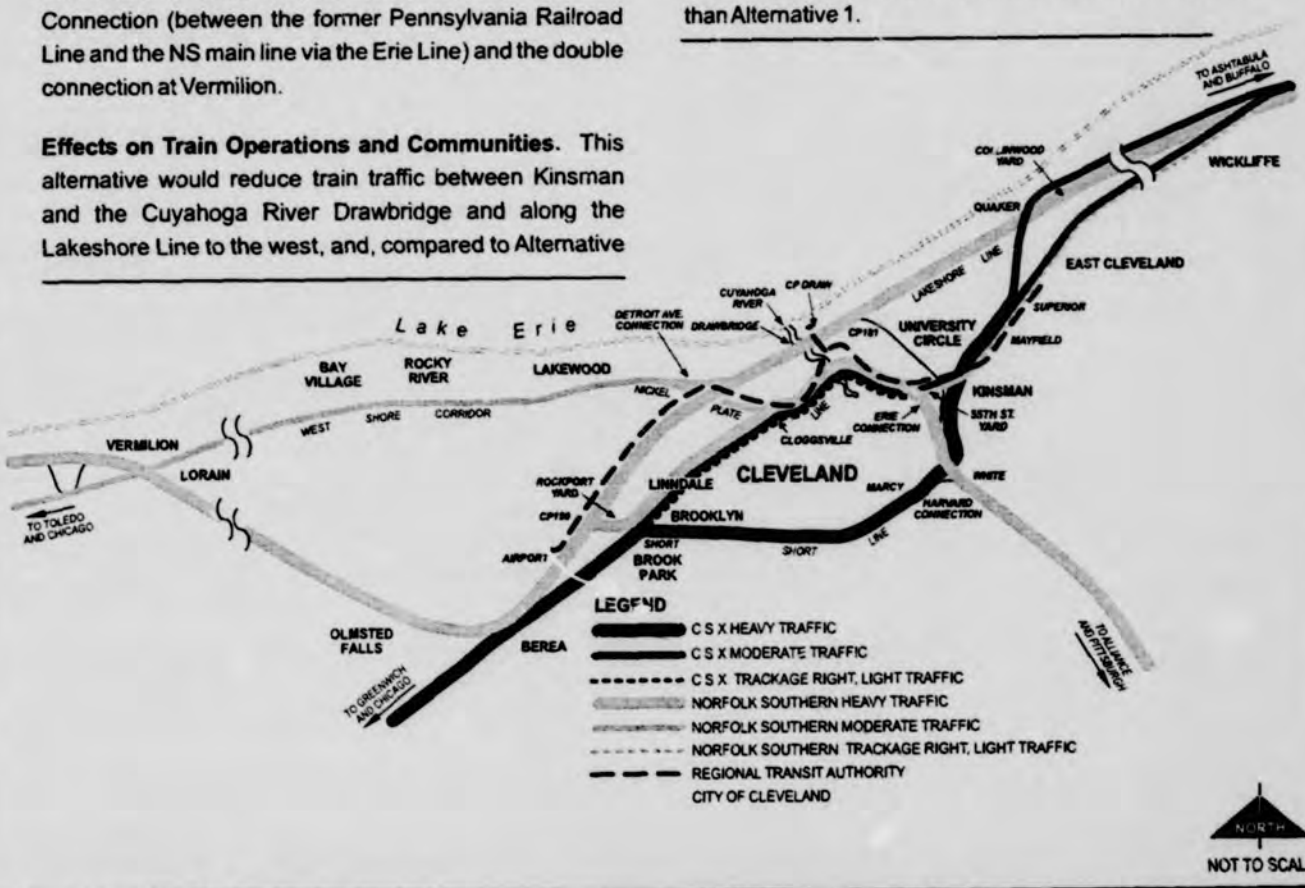

FIGURE 4-7
GREATER CLEVELAND AREA ALTERNATIVE 6 - WICKLIFFE FLYOVER WITH ERIE CONNECTION

Alternative 7 (Cleveland Reverse Curve)

The City of Cleveland identified Alternative 7 for SEA to consider (but did not fully develop it or formally present it to SEA) to reduce impacts of increased train traffic on minority and low-income residential communities and to minimize the number of trains passing through Cleveland's central business district.

Routes. A new reverse curve in the vicinity of East 40th Street and St. Clair Avenue on the Lakeshore Line would route most of the CSX traffic onto the White-to-Cleveland rail line segment, then through a new connection in the Kinsman area onto the Short Line. This alternative would route all NS traffic onto one main line through Cloggsville and would also require NS to route its main line traffic through or around the Rockport Yard. NS traffic between Pittsburgh and Cleveland via White would use a rehabilitated Erie Connection.

Infrastructure Improvements. Alternative 7 would require construction of the Cleveland Reverse Curve Connection (between the Lakeshore Line and the Pittsburgh Line) with a design radius great enough to allow an acceptable train speed and with highway/rail grade separations over major streets. The design would require substantial acquisition of property for rail right-of-way, including 10 to 12 industrial buildings but no residences. This alternative would also require construction of the double-tracked Kinsman Connection and two connections at Vermilion. Like Alternatives 2, 3, 4, and 6, Alternative 7 would require improvements from the Cloggsville Connection to CP 190. Like Alternative 6, Alternative 7 would require rehabilitation of the Erie Connection.

Effects on Train Operations and Communities. This alternative would substantially increase activity at the Rockport Yard because the NS main line traffic would pass through or around the yard. Like Alternative 6, Alternative 7 would restrict NS access to its 55th Street Yard. NS would have less operational flexibility because all of its traffic would be on one route between Kinsman and Cloggsville. Generally, Alternative 6 would reduce traffic through residential areas on the east side of Cleveland. Compared to all other alternatives, traffic through the central business district would be the lowest and traffic from the Cloggsville Connection to Short would be the highest.

Time and Cost To Implement. Alternative 7 would require at least 3 years to implement and would cost an estimated $174 million, which is $133 million more than Alternative 1.

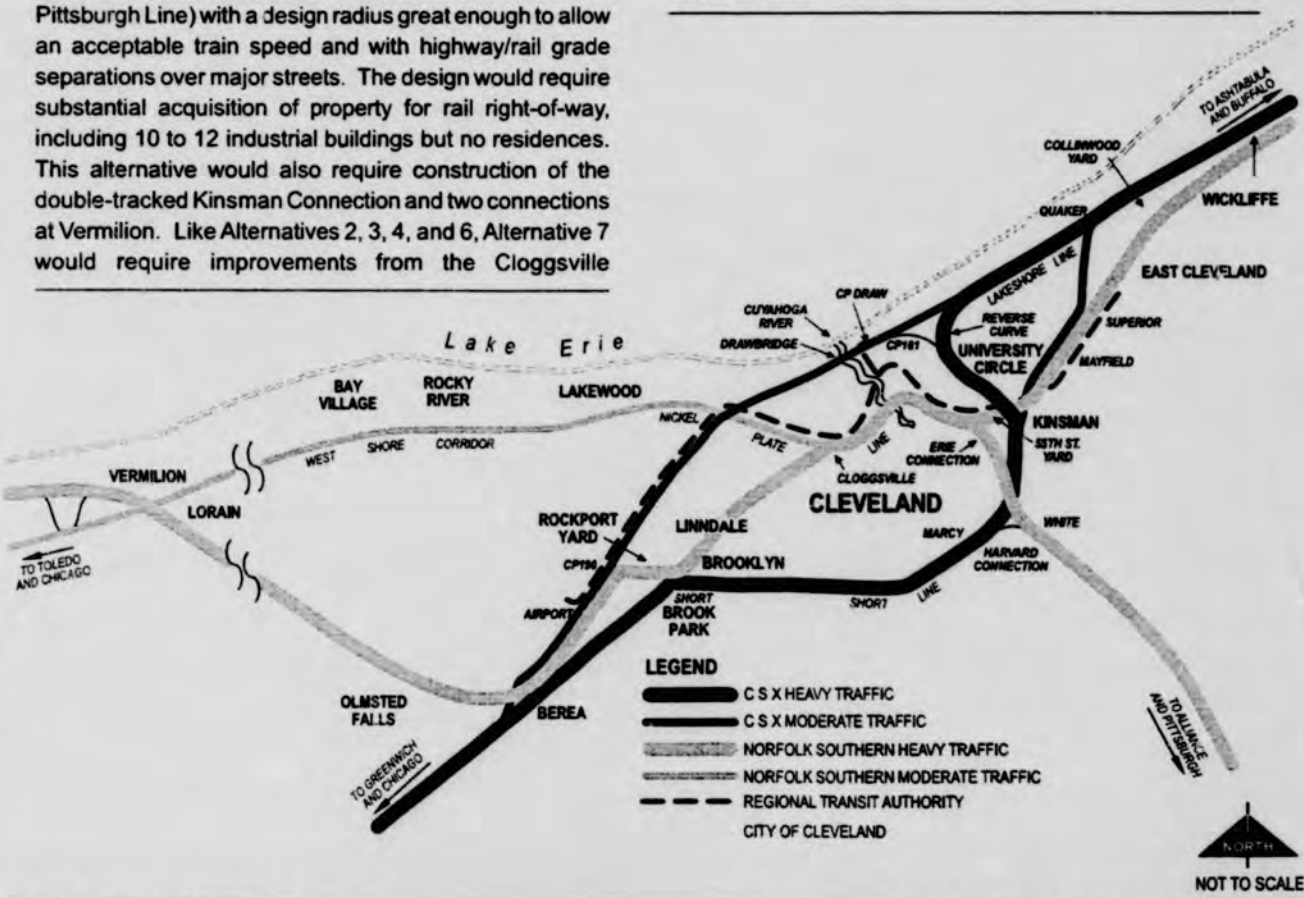

FIGURE 4-8
GREATER CLEVELAND AREA ALTERNATIVE 7 - CLEVELAND REVERSE CURVE

In its analysis, SEA determined that a new independent operating agency would need to implement its own set of operating rules and procedures. These additional rules and procedures could increase the potential risk of accidents by complicating railroad operations throughout the Greater Cleveland Area. Therefore, SEA concludes that this proposal would have the potential for adverse safety impacts from the increased operational complexity. See Appendix N, "Community Evaluations," for more details.

Results of Analysis: Overall

In analyzing the seven routing alternatives, SEA considered many criteria. SEA considered, in addition to the types of potential environmental impacts discussed in this EIS, preliminary feasibility issues such as cost, constructibility, and implementation time and operational issues such as the consequences of temporary implementation measures on near-term railroad operations and on the CSX and NS Operating Plans.

Table 4-5 presents comparisons of alternative routes in the Greater Cleveland Area for implementation (feasibility), rail operations, and environmental issues,. This table summarizes the results of SEA's analysis of the seven routing alternatives in the Greater Cleveland Area. Note that he environmental issues listed in Table 4-5 are only those for which SEA determined that differences would occur among the alternatives.

Results of Analysis: Feasibility (Implementation) and Operational Assessment

SEA evaluated the feasibility of implementing each of the seven alternative routes in terms of total cost (excluding any stand-alone projects such as highway/rail grade separation projects), incremental cost over the cost of Alternative 1 (Application Base Case), constructibility, and implementation time. SEA also evaluated operational issues for each alternative route in terms of the consequences, both in the near term (beginning immediately upon implementation of the proposed Conrail Acquisition) and over the long term (considering future operating plans). The results of SEA's feasibility and operational analysis for each alternative route follow.

Alternative 1 (Application Base Case). Alternative 1 is the least costly ($41.6 million) alternative. This alternative would require no major capital improvements and would be the easiest to implement. (The Applicants proposed the Short Line capital improvements to increase overall operational efficiency.) Alternative 1 would have no implementation time (that is, it would be ready for use immediately upon implementation of the proposed Conrail Acquisition). Alternative 1 would have no near-term or long-term consequences on rail operations. SEA notes that, with Alternatives 2 through 7, the Applicants would have to use Alternative 1 temporarily for near-term rail operations during the construction of some facilities.

Alternative 2 (NS Cloggsville). Alternative 2 is the second least costly ($68.8 million) and would cost $27.2 million more than Alternative 1. This alternative would be second easiest to implement, requiring construction at Rockport Yard and Short, at Cloggsville, and at Vermilion for a second connection. The full implementation time would be at least 1 to 1½ years (the

Table 4-5
COMPARISON OF ALTERNATIVE ROUTES IN THE GREATER CLEVELAND AREA

Project Issue [1]	Alt. 1: Application Base Case	Alt. 2: NS Cloggsville	Alt. 3: Cleveland Flip No. 1	Alt. 4: Cleveland Flip No. 2	Alt. 5: Wickliffe Flyover	Alt. 6: Wick. Flyover with Erie Conn. Rehab.	Alt. 7: Cleveland Reverse Curve
Constructibility (Major elements)	Easiest-- No new construction Upgrades to existing lines only	Second easiest-- Rockport Yard Improvements Cloggsville Connection and Improvements Double Vermilion Connection	Most difficult-- Berea Flyover Harvard Connection Rockport Yard Improvements Cloggsville Connection and Improvements Double Vermilion Connection	Most difficult-- Berea Flyover Harvard Connection Rockport Yard Improvements Mayfield Connection Double Vermilion Connection	Third most difficult-- Wickliffe Flyover Cloggsville Connection and Improvements Detroit Avenue Connection Mayfield Connection Double Vermilion Connection	Second most difficult-- Wickliffe Flyover Rockport Yard Improvements Cloggsville Connection and Improvements Erie Connection Detroit Avenue Connection Mayfield Connection Double Vermilion Connection	Second most difficult-- Rockport Yard Improvements Cloggsville Connection and Improvements Erie Connection Reverse Curve Construction Kinsman Connection Double Vermilion Connection
Near-Term Consequences (As of "Day One")	None	Temporary use of Application Base Case	Temporary use of Application Base Case; potential major congestion during construction	Temporary use of Application Base Case; potential major congestion during construction	Temporary use of Application Base Case	Temporary use of Application Base Case	Temporary use of Application Base Case
Long-Term Consequences (Future operations)	None	NS main line bypass at Rockport Yard could still interfere with yard operations	CSX has delays at drawbridge with no alternative route; CSX/NS could have operational constraints at CP 190; NS loses direct access to Whiskey Island shippers	CSX has delays at drawbridge with no alternative route; CSX/NS could have operational constraints at CP 190; NS loses direct access to Whiskey Island shippers	NS needs trackage rights for alternate route; CSX/NS could have operational conflicts at Collinwood Yard; Cloggsville Connection bypass offers both CSX & NS overflow capabilities for main lines; NS loses direct mainline access to 55th Street Yard	Traffic is reduced at CP Draw (compared to Alternative 5); CSX/NS could have operational conflicts at Collinwood Yard; NS access to 55th Street Yard is restricted	Results in lowest traffic at CP Draw; all NS traffic passes through Cloggsville Connection; NS access to 55th Street Yard is restricted; NS loses direct access to Whiskey Island shippers
Hazardous Materials Transport Exposure [2]	High	Moderate	Low	Low	Moderate	Moderate	Moderate
Highway/Rail At-grade Crossing Accidents [3,4]	5.44/year	4.95/year	4.99/year	4.97/year	5.07/year	4.98/year	4.98/year
Freight Rail Accidents [5]	2.39/year	2.37/year	2.36/year	2.34/year	2.32/year	2.33/year	2.38/year

(Continued on next page)

Project Issue [1]	Alt. 1: Application Base Case	Alt. 2: NS Cloggsville	Alt. 3: Cleveland Flip No. 1	Alt. 4: Cleveland Flip No. 2	Alt. 5: Wickliffe Flyover	Alt. 6: Wick. Flyover with Erie Conn. Rehab.	Alt. 7: Cleveland Reverse Curve
Vehicle Delay at Major Highway/Rail At-grade Crossings [4] Ave. Vehicle Delay [6] Vehicles Delayed [7]	8.56 seconds/day 17,720/day	7.99 seconds/day 16,301/day	8.33 seconds/day 17,078/day	7.90 seconds/day 16,326/day	8.20 seconds/day 16,720/day	8.25 seconds/day 16,633/day	8.14 seconds/day 16,523/day
Noise Receptors, 65 dBA L_{dn}+ [4]	8,199	3,453	3,030	2,652	3,724	3,680	3,033
Potential Cultural Resource Issues: * Potential Berea Railroad Hist. District * West Boulevard Bridge * Broadway Avenue Stone Bridge * Potential Reverse Curve Hist. Properties	 No No No No	 No No No No	 Yes No Yes No	 Yes No Yes No	 No Yes No No	 No Yes No No	 No No No Yes
Potential Major Natural Resource Issue: * Mill Creek Waterfall	 No	 No	 Yes	 Yes	 No	 No	 No
Land Use [8]	12.4 acres	27.5 acres	28.5 acres	25.8 acres	27.5 acres	27.5 acres	57.5 acres
Environmental Justice Impacts: [4] Disproportionate? Population [9]	 Yes 98,800	 Yes 95,000	 Yes 50,800	 No 0	 Yes 54,000	 Yes 56,000	 Yes 68,300
Total Cost [10]	$41.6 million	$68.8 million	$202.6 million	$184.5 million	$151.2 million	$176.4 million	$174.4 million
Incremental Cost [11]	$0	$27.2 million	$161.0 million	$142.9 million	$109.6 million	$134.8 million	$132.8 million
Time To Implement	None	1 to 1½ years	3+ years	3+ years	2 to 2½+ years	2 to 2½+ years	3+ years

(1) SEA determined that there was very little or no appreciable difference in effects between alternatives for air quality, energy, passenger rail safety and transportation, roadway systems, navigation, hazardous waste sites, and system-wide cumulative effects.

(2) Based on land use and annual carloads
(3) Estimated total sum
(4) Without mitigation
(5) Estimated total, main line, reportable
(6) For all vehicles, not just those stopped for a train

(7) Total number per day
(8) Total land acquisition
(9) Disproportionately affected minority and low-income population
(10) Excluding associated stand-alone projects
(11) In addition to cost of Alternative 1

second shortest time), although most elements would be available immediately upon implementation of the proposed Conrail Acquisition. To implement Alternative 2, NS would have to construct several improvements, including a double-tracked connection at Cloggsville, double-tracking the Cloggsville Branch, and a new double-track route around Rockport Yard to avoid congestion there. Once constructed, the Cloggsville Alternative would avoid substantial environmental impacts on the West Shore suburbs and provide NS with the operational flexibility needed to efficiently move trains through Cleveland.

Alternatives 3 and 4 (Cleveland Flip Plans No. 1 and No. 2). Alternatives 3 and 4 are the most costly ($202.6 million and $184.5 million, respectively); Alternative 3 would cost $161.0 million more than Alternative 1, and Alternative 4 would cost $142.9 million more. These alternatives would be the most difficult to implement, with both requiring a major engineering and construction project for the Berea Rail/Rail Flyover, as well as substantial construction at the Harvard Connection and Rockport Yard. Alternative 3 would also include improvements along the Cloggsville branch, while Alternative 4 would include substantial construction at the Mayfield Connection. The implementation time for these alternatives would be at least 3 years (the longest time, along with Alternative 7). These alternatives would provide CSX access to a high-speed route through Cleveland. However, under both Alternatives 3 and 4, the CSX main line could experience delays at the Cuyahoga River Drawbridge as the drawbridge opens about 6,000 times during the navigation season (March through December). CSX would have no other route available to avoid these delays. NS would acquire two rail corridors (the Short Line and the Nickel Plate Line) through Cleveland. With these alternatives, NS would lose direct access to bulk shippers at Whiskey Island and would have poor access to the Rockport Yard.

Alternative 5 (Wickliffe Flyover). Alternative 5 is the third least costly ($151.2 million) and would cost $109.6 million more than Alternative 1. This alternative would be the third most difficult to implement, requiring a major engineering and construction project for the Wickliffe Rail/Rail Flyover. This alternative would also require construction of the Detroit Avenue Connection on the west side of Cleveland to provide NS access to the West Shore corridor from the Lakeshore Line, as well as the Mayfield Connection. The implementation time would be at least 2 to 2½ years (the second longest time, along with Alternative 6). For long-term rail operations, Alternative 5 would have several consequences: a possible NS alternate route would require trackage rights over CSX; CSX and NS would have substantial operational conflicts at Collinwood Yard because CSX would need to access its fueling facility and diesel shop across the NS double-track main line. NS would lose direct access to its existing 55th Street Yard in Cleveland; and the Cloggsville Connection could be used by both CSX and NS as a bypass of their main lines. Alternative 5 would provide NS access to a high-speed route through Cleveland on the Cuyahoga River Drawbridge, although NS could experience potential delays because of bridge openings. Overcoming the conflicts at Collinwood Yard would require CSX to experience costly relocation of the fueling and diesel shop facilities. (The costs of such relocations are not included in the total cost of Alternatives 5 or 6.)

Alternative 6 (Wickliffe Flyover with ErieConnection Rehabilitation). Alternative 6 (along with Alternative 7) is the third most costly ($176.4 million) and would cost $134.8 million more

than Alternative 1. This alternative (along with Alternative 7) would be the second most difficult to implement, requiring a major engineering and construction project for the Wickliffe Rail/Rail Flyover, rehabilitation of the Erie Line Connection, and improvements from the Cloggsville Connection to CP 190. As in Alternative 5, this alternative would also require construction of the Detroit Avenue and Mayfield Connections, as well as improvements at Rockport Yard. The implementation time would be at least 2 to 2½ years (the second longest time, along with Alternative 5). For long-term rail operations, Alternative 6 would reduce potential traffic congestion at the Cuyahoga River Drawbridge at CP Draw but would present substantial operational conflicts between CSX and NS at Collinwood Yard, as also occurs with Alternative 5. Further, Alternative 6 would severely hamper operations at the NS 55th Street Yard by limiting access to only one end, requiring trains to back up.

Alternative 7 (Cleveland Reverse Curve). Alternative 7 is the fourth most costly ($174.4 million) and would cost $132.8 million more than Alternative 1. This alternative (along with Alternative 6) would be the second most difficult to implement, requiring rehabilitation of the Erie Line Connection, improvements from the Cloggsville Connection to CP 190, construction of a new connection between the Short Line and the White-to-Cleveland rail line segment at Kinsman, acquisition of new right-of-way, and construction of the Reverse Curve Connection for CSX traffic. This alternative would also require improvements at Rockport Yard. The Reverse Curve Connection would take the greatest amount of property of any of the alternatives SEA considered for Cleveland. Alternative 7 would take the Applicants at least 3 years to implement (the longest time, along with Alternatives 3 and 4).

Alternative 7 would reduce potential traffic congestion at the Cuyahoga River Drawbridge. However, all NS traffic would need to pass through the Cloggsville Connection; this limitation of all traffic to a single line through Cleveland could be a serious constraint on NS. This alternative presents the following serious railroad operating problems: the NS route would not be equal to the Lakeshore Line high-speed route, and the NS main line would be blocked by slow trains entering and leaving the 55th Street Yard. With this alternative, NS would lose direct access to bulk shippers at Whiskey Island.

Results of Analysis: Environmental Assessment

In assessing the potential environmental impacts of the seven routing alternatives, SEA noted that, for some environmental issue areas, the impacts would generally be similar among the alternatives. In other environmental issue areas (such as noise and hazardous materials transport), the impacts would be different among the alternatives. For the most part, the environmental impacts would generally be adverse, and some of these impacts are potentially significant. (See Table 4-5, "Comparison of Alternative Routes in the Greater Cleveland Area.") The results of SEA's analysis are discussed in the following section.

Table 4-7, "Summary of Adverse Environmental Impacts by State," lists the results of SEA's environmental analysis for all geographic areas, including the Greater Cleveland Area.

Energy. SEA determined that, system-wide, the proposed Conrail Acquisition would have a beneficial effect on the consumption of energy resources (primarily diesel fuel) and that, similarly, all the Greater Cleveland Area alternatives would have comparable energy benefits. SEA concluded that none of the alternatives would materially change consumption of energy resources in the Greater Cleveland Area.

Air Quality. Commentors from the Greater Cleveland Area generally accepted the Draft EIS conclusions that the proposed Conrail Acquisition would have a net air quality benefit over the entire system. SEA determined that none of the seven alternatives would materially affect air pollutant emissions on a county-wide basis because the amount of freight transported through the area would be substantially the same for all alternatives.

Cumulative Effects (System-wide). SEA evaluated the potential impacts of the system-wide Application Base Case (Alternative 1) of the proposed Conrail Acquisition on air quality, energy consumption, and transportation. SEA concluded that all alternatives in the Greater Cleveland Area would have comparable region-wide benefits. SEA also evaluated site-specific cumulative effects of other projects or activities that are geographically related to the proposed Conrail Acquisition, such as major infrastructure projects, community development improvements, and private developments. Based on its review of public comments and information received, SEA did not identify any site-specific projects or activities that may contribute to cumulative effects impacts.

Safety: Passenger Rail Service. SEA determined that none of the seven alternatives under consideration would cause additional environmental impacts on the safety of rail passenger operations because passenger train operations and the signal systems to ensure safety would be comparable for all alternatives.

Transportation: Passenger Rail Service. SEA's formulation of alternatives was contingent upon freight traffic being compatible with passenger rail services. Based on its analysis, SEA concluded that CSX and NS could meet all contractual obligations for passenger rail services under any of the alternatives. SEA notes that existing local heavy rail and light rail passenger operations, including Amtrak service, would continue unchanged under all seven alternatives.

Transportation: Roadway Systems. SEA determined that operations at the proposed new Collinwood intermodal facility would increase the number of trucks by 49 per day to a new total of 71 per day in the Greater Cleveland Area, no matter which alternative is selected. Because the expected increase is less than the Board's threshold for environmental analysis (50 or more trucks per day), SEA reaffirms its conclusion in the Draft EIS that the effects of this new facility on area roadways would be insignificant.

Transportation: Navigation. The changes in traffic on the two movable bridges over the Cuyahoga River (one on N-293 and one on N-075) in the study area would differ among the alternatives. However, because waterborne traffic always has the right-of-way over rail traffic on movable bridges, any changes in rail traffic on these bridges would have no effect on

navigation. However, SEA notes that navigation activities at these bridges could decrease the capacity and flexibility of rail operations over these rail line segments.

Hazardous Waste Sites. SEA concluded that Alternatives 1, 4, 5, and 6 would not involve construction at known hazardous waste sites. However, SEA determined that construction in Alternatives 2 and 3 (the Rockport Yard) and in Alternative 7 (the Reverse Curve Connection site) would potentially encounter hazardous waste sites. SEA based its conclusions on a review of available databases and public records, site visits, and identification of hazardous waste sites within 500 feet of the right-of-way, as detailed in Appendix N, "Community Evaluations." SEA does not recommend mitigation because existing regulations and the standard construction practices of CSX and NS adequately address the assessment and remediation of contaminated areas.

Safety: Highway/Rail At-Grade Crossings. SEA received numerous comments on the Draft EIS from the Greater Cleveland Area regarding safety at highway/rail at-grade crossings, particularly in the densely populated West Shore communities. Some commentors requested improving the warning and protection devices at such crossings or upgrading the crossing to full grade separations.

In the Draft and Final EISs, SEA analyzed all highway/rail at-grade crossings on which traffic would increase by eight or more trains per day. However, for the in-depth analysis of the Greater Cleveland Area, SEA analyzed all 86 highway/rail at-grade crossings potentially affected by one of the seven alternatives. A comparison of total predicted accidents between alternatives showed that the predicted overall accident rate in the study area in Alternative 1 is 5.44 accidents per year, compared with the existing rate of 4.62 accidents per year. The total predicted accident rates in Alternatives 2 through 7 range from 4.95 (Alternative 2) to 5.07 (Alternative 5) accidents per year; the difference among these accident rates is negligible.

SEA used the same criteria of significance for mitigation as it used in the Draft EIS: (a) a potential increase in accident frequency of five or more additional accidents every 100 years, or (b) an increase of one or more accidents every 100 years for crossings that would have a high accident frequency. SEA determined that no existing safety impacts would result at the highway/rail at-grade crossings under any of the alternatives.

SEA initially determined that one highway/rail at-grade crossing (at Cook Avenue) in the Greater Cleveland Area meets the criteria of significance and would warrant safety mitigation under Alternative 1. SEA based its safety analysis on accident history and physical characteristics for 1991 to 1995, as shown in the FRA database. However, SEA discovered that the crossing warning device has since been upgraded from flashing lights to a gate. This upgrade is the mitigation measure that SEA would have recommended to lower the accident frequency rate to the conditions that existed before the proposed Conrail Acquisition. Therefore, SEA concluded that no further mitigation is needed at this location.

Safety: Hazardous Materials Transport. Commentors on the Draft EIS were concerned that the Greater Cleveland Area would have the largest increase in volume of hazardous materials transported of any area in the proposed CSX/NS system and requested that the Applicants reroute hazardous materials through less populated, more industrial areas. Some commentors suggested proactive efforts to reduce the likelihood of an accidental spill as mitigation instead of the safety drills that the Draft EIS recommended.

SEA determined that the total volumes of hazardous materials transported through the Greater Cleveland Area under any of the seven alternatives would not change substantially, although the volume of hazardous materials routed through specific residential areas would differ among the alternatives. SEA acknowledges the differences among the alternatives in volumes of hazardous materials that would be transported and that these differences may be useful in comparing alternatives. SEA made a qualitative assessment of exposure to risk from hazardous materials transport based on land use, population density, and approximate hours per day of exposure, as well as volumes transported. SEA determined that the exposure effect was low for Alternatives 3 and 4 and high for Alternative 1. SEA recommends that the Applicants mitigate this exposure effect by surrounding the City of Cleveland with a safety cordon of supplemental train defect detectors[cc] devices that would improve train accident prevention capabilities. (See Chapter 7, "Recommended Environmental Conditions.")

Safety: Freight Rail Operations. SEA received only a few general comments on the safety of freight rail operations. SEA's recommended installation of supplemental train defect detectors in the Greater Cleveland Area would reduce the likelihood of freight rail accidents, including those involving hazardous materials, in all alternatives.

SEA determined that the difference in predicted accident rates among the alternatives is negligible: from 2.32 (Alternative 5) to 2.39 (Alternative 1) reportable accidents (derailments) per year. SEA reached this conclusion using the same analytic methods as it used in the Draft EIS. SEA's estimate was developed for the 30 rail line segments that collectively comprise the 295.5 miles of railroad routes. For the rail line segments that were not described in the Draft EIS, SEA assumed physical characteristics (length, number of main tracks, method of control, and class of track) that are consistent with the proposed usage.

Transportation: Highway/Rail At-grade Crossing Delay (Including Emergency Vehicle Response). Commentors on the Draft EIS from the Greater Cleveland Area were concerned about existing and future traffic delays at highway rail at-grade crossings and about traffic diversions to avoid the crossings. Some commentors believe that SEA had overestimated train speeds (and correspondingly underestimated traffic delays) and that the projected increases in delay of 150 percent in some locations would be more than a "minimal effect." Others were

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cc A train defect detector is an electronic device located alongside a rail track that monitors passing trains to determine the presence of certain potentially dangerous conditions, such as an overheated wheel bearing ("hot box") or a shifted load that protrudes from the rail car.

particulary concerned about potential delays of emergency response vehicles and disputed SEA's conclusion that emergency vehicle delays are random events that cannot be accurately predicted.

SEA found that, in all alternatives, the predicted vehicle delays at highway/rail at-grade crossings in the Greater Cleveland Area would increase, but that none of the 86 crossings meet the criteria of significance for mitigation of vehicle delay and queues. For this analysis, SEA evaluated all 86 highway/rail at-grade crossings that would potentially be affected by one of the seven alternatives. (This larger group is the same set of highway/rail at-grade crossings that SEA analyzed for safety.) SEA used the same measures of vehicle traffic delay and the same criteria of significance that it used in the Draft EIS.

To compare alternatives, SEA first determined that the existing average delay per vehicle for all vehicles passing through a highway/rail at-grade crossing is 4.61 seconds per day. In Alternatives 1 through 7, the predicted delays would range from 7.90 seconds per day (Alternative 4) to 8.56 seconds (Alternative 1). (These average delay calculations are based on the total number of vehicles passing through the crossing, not just the vehicles that are stopped at the crossing.) Further, SEA calculated the number of vehicles delayed per day under existing conditions to be 9,771; in Alternatives 1 through 7, the predicted number of vehicles delayed ranges from 16,301 per day (Alternative 2) to 17,720 per day (Alternative 1). Appendix G, "Transportation: Highway/Rail At-grade Crossing Traffic Delay Analysis," contains a more detailed discussion of the traffic delay issue.

SEA also analyzed the effects of the proposed Conrail Acquisition on emergency response in the communities in the Greater Cleveland Area that commented on the issue. SEA contacted the emergency service providers in the communities to determine the locations of their facilities and additional details. SEA calculated the change in the time that trains would block highway/rail at-grade crossings as a result of the proposed Conrail Acquisition. Section G.2 of Appendix G, "Transportation: Highway/Rail At-Grade Crossing Traffic Delay Analysis," describes the methodology in greater detail. Chapter 5, "Summary of Comments and Responses," provides additional details on blockage of highway/rail at-grade crossings in each community as a result of the proposed Conrail Acquisition.

SEA analyzed the effects of Alternative 1 in these communities and determined that the impacts warranted the installation of a real-time train location monitoring system as a mitigation measure in Berea, Lakewood, and Vermilion. SEA also analyzed the effects of Alternative 2 in the communities and determined that the impacts of that alternative would warrant the installation of a real-time train location monitoring system only in Berea (assuming that there would be no highway/rail grade separation at Front Street that would also provide nonrestricted access to the area between the CSX and NS tracks). Alternatives 3 and 4 incorporate a highway/rail grade separation at Front Street into the rail/rail flyover. Assuming that the area between the tracks is provided access, SEA determined that emergency vehicle access mitigation measures would not be warranted for Alternatives 3 and 4. For Alternatives 5, 6, and 7, train traffic levels in Berea are similar to Alternative 2 and the between-tracks area of Front Street would remain vulnerable to being isolated by trains on both the CSX and NS tracks. For those reasons, SEA

has determined that Alternatives 5, 6, and 7 warrant the installation of a real-time train location monitoring system in Berea.

Noise. SEA received many comments from the Greater Cleveland Area about potential increases in noise as a result of the proposed Conrail Acquisition. Commentors questioned the validity of SEA's train speed calculations, the thresholds for mitigation in the Draft EIS, and the effectiveness of the recommended mitigation. Some commentors characterized the Draft EIS noise analysis as over-simplified and lacking sufficient consideration of the number and nature of persons that would be affected by increased noise.

In response, SEA performed noise analyses for Alternatives 1 through 7, using the same methodology as for the Draft EIS. SEA performed the noise analysis on rail line segments that would exceed the Board thresholds for noise analysis for which changes in operations would increase the noise level by 2 dBA L_{dn} or more. The number of sensitive receptors expected to exceed 65 dBA L_{dn} is 8,199 in Alternative 1; for other alternatives, the number ranges from 2,652 (Alternative 4) to 3,724 (Alternative 5). These results are detailed in Appendix N, "Community Evaluations."

SEA determined that all alternatives would warrant noise mitigation along several rail line segments in the communities of Berea and Cleveland. However, less mitigation would be warranted in Alternatives 3 and 4 because CSX would divert increased traffic on one of those rail line segments (C-073, Quaker-to-Mayfield) to the Lakeshore Line (C-691).

Cultural Resources. SEA visited all of the Greater Cleveland Area sites with potential cultural resources that could be affected by construction of any of the alternatives and identified the cultural resources located in the vicinity of the project. Details of SEA's cultural resources are in Appendix N, "Community Evaluations."

In evaluating the effects of the various alternatives, SEA determined that any noise walls used as mitigation and constructed along the Quaker-to-Mayfield rail line segment would be located in the vicinity of the 131st Street and 133rd Street Historic Districts and the potentially historic General Book Binding Company Building.

For Alternatives 3 and 4, the Berea Rail/Rail Flyover with Front Street Highway/Rail Grade Separation would be located near the potential Berea Railroad Historic District, which appears to meet National Register of Historic Places (NRHP) criteria. The Harvard Connection would be located near the Broadway Avenue Stone Bridge over Mill Creek, which appears eligible for the NRHP. For Alternatives 5 and 6, the Detroit Avenue Connection would potentially affect the West Boulevard Bridge, which meets NRHP Criterion C. For Alternative 7, the Reverse Curve Connection would be near East 40th Street and St. Clair Avenue and would potentially affect historic structures, including four buildings potentially eligible for NRHP inclusion.

If the Board selected any of these alternatives, the appropriate cultural resources documentation and Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) consultation process would be completed prior to the Applicants undertaking any activity involving these resources.

Natural Resources. SEA received only a few comments on natural resources from the Greater Cleveland Area. The Applicants noted that, under Alternatives 3 and 4, construction of the Harvard Connection could adversely affect the nearby Mill Creek waterfall. Vermilion Township expressed concern about seasonal drainage problems near the proposed Vermilion Double Connection. SEA visited all sites in the Greater Cleveland Area that construction of any of the alternative rail routes could affect. The sites potentially affected by each alternative are discussed below. Potential issues are noted, including potential significant adverse environmental impacts (as defined by SEA's criteria of significance described in the Draft EIS).

For all alternatives, construction of the Vermilion Double Connection could cause minor loss of farmland, require installation of a culvert, and disturb potential habitat of the Indiana bat (a potentially significant adverse environmental impact).

For Alternatives 2 and 3, construction at Rockport Yard would cause probable impact on a wetland area, possible sedimentation impacts, and a possible opportunity to clean up polluted soil. For Alternatives 3 and 4, the Harvard Connection would cause a potential increase of erosion and consequent effects on water quality of a stream and construction might require a high retaining wall adjacent to or encroaching into the Mill Creek waterfall area (a potential significant adverse environmental impact). For Alternatives 5 and 6, the Wickliffe Rail/Rail Flyover would potentially affect 2 acres of low-quality wetlands.

The environmental impacts identified above are minor, except for involvement of the potential Indiana bat habitat and the Mill Creek Waterfall. Appendix N, "Community Evaluations," contains the results of SEA's analysis of potential environmental impacts on natural resources.

Environmental Justice. SEA received a number of comments from the Greater Cleveland Area raising concerns about environmental justice issues, generally stating that the increased train traffic under the proposed Conrail Acquisition would affect low-income and minority populations by disproportionally increasing noise, hazardous materials transport, and safety risks in these neighborhoods. In response, SEA analyzed environmental justice issues for all seven alternatives, including extensive site visits, identification of cohesive communities, and qualitative assessment of existing circumstances and the practicality of mitigation. SEA determined that only the effects of noise and hazardous materials transport have potentially high and adverse impacts on low-income and minority populations in Cuyahoga County.

SEA determined that only Alternative 4 avoids disproportionate high and adverse impacts on minority or low-income populations in Cuyahoga County. All of the other alternatives (without mitigation) would have, overall, disproportionate high and adverse impacts on environmental

justice populations ranging from 50,800 persons (Alternative 3) to 98,800 persons (Alternative 1). These populations are predominantly in Cleveland and East Cleveland, and in small portions of Cleveland Heights, Berea, and Euclid.

In particular, SEA concluded that the effects of hazardous materials transport on environmental justice populations (absent mitigation) would result in disproportionately high and adverse impacts in Alternatives 1, 2, 3, 5, and 7. Alternative 4 avoids disproportionate high and adverse impacts in Cuyahoga County. SEA also determined that, in Alternative 6 (absent mitigation), the effects of noise on minority and low-income populations would have disproportionately high and adverse effects in areas adjacent to train routes in Cleveland and East Cleveland. Appendix N, "Community Evaluations," presents details of SEA's environmental justice analysis for the Greater Cleveland Area.

SEA recommends that the Board require CSX and NS to implement tailored measures to further mitigate the transport of hazardous materials and to abate noise impacts in environmental justice communities, as detailed in Chapter 7, "Recommended Environmental Conditions," if Alternative 1, 2, 3, 5, 6, or 7 is approved.

Land Use/ Socioeconomics. After the Draft EIS, SEA received a few comments from the Greater Cleveland Area relating to land use, most of which concerned perceived effects of the proposed Conrail Acquisition on property values. SEA visited all Greater Cleveland Area sites that construction of any of the alternative rail routes could affect. SEA determined that all alternatives except Alternative 7 would have no significant land use impacts; these alternatives would require acquisition of from 12 acres to 24 acres of non-railroad land for right-of-way. The land required (except at Vermilion) is located in rail transportation corridors bordered by residential, commercial, and industrial land uses. SEA has not determined whether prime farmlands are present or whether the area is within a designated coastal zone. For Alternative 4, the Berea Front Street/ Bagley Road Separations would convert a small amount of commercial, residential, or industrial land into railroad or roadway use. Alternative 7 would require the acquisition of 57.5 acres of land and its Reverse Curve Connection would require demolition of 10 to 12 structures in an industrial area of Cleveland. SEA has not determined the number of jobs that this action would displace or eliminate. This alternative would also cause several local streets to be closed. SEA has not determined whether this impact would be consistent with future land use plans in effect for the City of Cleveland and its older inner-city industrial neighborhoods.

For most of the proposed constructions–the Detroit Avenue Connection, the Cloggsville Connection, the Wickliffe Flyover, the Harvard Connection, the Erie Connection Rehabilitation, and the Rockport Yard Diversion–CSX and NS would use existing railroad property within existing railroad corridors. SEA has not determined whether these constructions are consistent with local land use plans in effect. However, because these constructions would only serve to enhance transportation activity along an existing corridor, SEA does not anticipate any inconsistencies with local land use plans.

Comparisons and SEA's Conclusion

SEA compared the seven alternative routes for the Greater Cleveland Area in three types of issues:

- Implementation (feasibility).
- Operational considerations (near and long-term consequences).
- Environmental effects.

Implementation and Constructibility Issues. SEA's analysis of implementation issues showed that the total cost for each alternative would range from $41.6 million for Alternative 1 (Application Base Case) to $202.6 million for Alternative 3 (Cleveland Flip No. 1). The second least expensive alternative would be Alternative 2, (NS Cloggsville) at $68.8 million, and the third least expensive would be Alternative 5 (SEA Wickliffe Flyover) at $151.2 million. Alternative 6 (SEA Wickliffe/ Erie Rehabilitation) and Alternative 7 (Cleveland Reverse Curve) are similar in cost (approximately $175 million each). Alternative 4 (Cleveland Flip No. 2) would cost $184.5 million. Alternatives 3 through 7 would involve substantial engineering and construction challenges, and implementation of these alternatives would take 2 to 3 years. SEA's analysis of constructibility showed that Alternative 1 has "high" constructibility because it would be operational on Day One, and would not involve any construction projects. Alternative 2 also has "high" constructibility because NS would be required to construct only a few minor projects, which could be complete within a year and a half. The other alternatives were not as constructible, primarily because they would involve major construction projects that would take significantly longer to complete.

Operational Issues. SEA's analysis of operational issues shows that Alternative 1 would be operationally efficient and would have no significant near-term or long-term operational consequences. Once several additional rail facility improvements are constructed, Alternative 2 would provide NS with a high degree of operational flexibility. Alternatives 3 and 4 would provide CSX a high-speed route through Cleveland, but it could also restrict traffic and result in congestion and delays at the Cuyahoga River Drawbridge, and NS would lose direct access to shippers at Whiskey Island. Alternatives 5 and 6 would provide both railroads with individual high speed routes plus a shared corridor through Cleveland, but could cause operational difficulties at Collinwood Yard and the 55th Street Yard, as well as potential delays for NS on the Cuyahoga River Drawbridge. Alternative 7 offers a high speed route through Cleveland, but it could cause operational complexities because it routes all NS mainline trains over the 37th Street-to-Cloggsville rail line segment of the Nickel Plate Line.

Environmental Impact Issues. SEA's analysis of environmental issues shows that Alternatives 2 through 7 would all mitigate, to varying degrees, some of the potential significant adverse environmental impacts of Alternative 1. However, compared to Alternative 1, none of the other six alternatives would be without its own potential significant environmental impacts on communities or neighborhoods where train traffic would increase. Compared to the other alternatives, Alternative 1 (Application Base Case) would result in the greatest number of

potential significant adverse environmental effects. The principal such effects would be noise impacts (more than double in any other alternative), the greatest number of minority and low-income populations disproportionately affected by impacts, and the highest degree of exposure of the population from hazardous materials transport.

Compared to Alternative 1, Alternative 2 (NS Cloggsville) would substantially reduce environmental impacts to the West Shore suburbs of Cleveland, and at the same time reduce the increased train traffic on the east side of the City. As with all of the Alternatives, Alternative 2 would have several potential adverse environmental impacts, such as noise and environmental justice concerns. In the near term during construction, increased train traffic would need to use the Nickel Plate Line through the West Shore suburbs; in the long term, communities along the Cloggsville Connection (N-074) would experience substantial increases in train traffic compared to Alternative 1 as well as to existing train traffic levels.

The alternatives that the City of Cleveland proposed (Alternatives 3 and 4) would show advantages in that they would avoid environmental impacts on the east side of the City. These advantages, however, would be offset by substantial adverse environmental impacts in other locations, particularly in the Berea area. Alternatives 5, 6, and 7 would not offer any clear or distinct environmental benefits over Alternative 2, and would have several significant adverse environmental effects such as noise, cultural resource issues, and environmental justice concerns. For example, Alternative 7 would require the taking of substantial land and structures.

SEA's Conclusion Regarding Greater Cleveland Area Alternatives. SEA recommends that the Board require (as NS has agreed) NS to implement the physical and operational improvements associated with Alternative 2 if the Board approves the proposed Conrail Acquisition. SEA's environmental review indicates that this alternative would mitigate some of the potential adverse environmental impacts of Alternative 1 by, among other things, reducing the levels of increased train traffic in East Cleveland and the West Shore suburbs. Moreover, NS has volunteered to implement Alternative 2, which would be constructible and operationally feasible; further, Alternative 2 is supported in principle by East Cleveland and the West Shore suburbs. SEA is presenting Alternatives 3 through 7 so the Board can make an informed decision as to whether one of the other alternatives would be a preferable train routing alternative in the Greater Cleveland Area. Each of these alternatives, including Alternative 2, raises complex issues related to service and rail operations that are outside of the scope of SEA's environmental review. In presenting all of these alternatives, SEA is providing the Board with information to balance the economic, transportation, and environmental effects of these train traffic routing alternatives for the Greater Cleveland Area.

SEA's Recommended Environmental Conditions

Based on its environmental analysis, public comments, and the information available to date, SEA has developed a comprehensive and balanced set of environmental mitigation measures to address the potential significant adverse environmental effects of the base case in the Greater Cleveland Area. In developing reasonable mitigation measures to address those environmental

impacts that would directly result from the proposed Conrail Acquisition, SEA had to consider the various perspectives and concerns the public raised and the range of environmental impacts and issues.

In addition, the Applicants offered to participate in the construction of certain improvements that would be considered as "stand-alone" (independent of most other construction activities). The Applicants proposed these improvements in response to community concerns. These improvements are:

- Highway/rail at-grade separations at Front Street and at Bagley Road in Berea.
- Highway/rail at-grade separations at Nottingham/ Dille Road (in Cleveland and Euclid) and London Road.

SEA encourages the Applicants and communities to continue to discuss these improvements, which would address safety and delay concerns in these areas.

SEA's recommended environmental mitigation measures for the Greater Cleveland Area include conditions that would directly benefit the communities where increases in train traffic related to the proposed Conrail Acquisition could cause significant adverse environmental impacts. These measures would address safety, traffic delay, noise, cultural resources, environmental justice, and other community environmental concerns. The following section summarizes these measures; Chapter 7, "Recommended Environmental Conditions," contains a complete description of SEA's recommended environmental conditions.

- For segments where hazardous materials transport would significantly increase, SEA recommends that the Board require CSX and NS to:
  - Comply with additional safety procedures (as described by Association of American Railroads recommendations).
  - Distribute the railroads' current Hazardous Materials Emergency Response Plans.
  - Prepare and distribute local Hazardous Materials Emergency Response Plans.
  - Implement a real-time or desktop simulation emergency response drill.
  - Assign fully trained local supervisory personnel, available 24 hours a day, 7 days a week, to mobilize additional emergency response personnel and equipment and to coordinate with local authorities in the event of a hazardous materials release.
  - Install and maintain supplemental train defect detectors that would detect potential causes of accidents (would also reduce risk of freight rail accidents).

- Notify USFWS and the appropriate state departments of natural resources in the event of a reportable hazardous materials release with the potential to affect wetlands or wildlife habitat(s).

- To address increases in predicted accident risk for freight rail operations, SEA recommends that the Board require CSX and NS to:

  - Conduct track inspections based on FRA's proposed rules.

- To address potential safety effects of increased train traffic on bridges, SEA recommends that the Board require CSX and NS to inspect all railroad bridges and overpasses and take necessary action to ensure that the bridges are structurally sound and well maintained.

- To address potential delays for emergency response vehicles, SEA recommends that the Board require CSX and NS to provide, install, and maintain a real-time train location monitoring system to improve local emergency vehicle dispatching at Berea, unless either Alternative 3 or 4 were implemented.

- To address noise impacts along segments where increases in train traffic would increase noise beyond SEA's mitigation criteria, SEA recommends that the Board require CSX and NS to:

  - Provide noise barriers or sound insulation that would reduce wayside noise by 10 dBA.

  - Install continuous welded rail in all new rail construction or replacement programs, and implement a program to replace existing jointed rail in residential areas. Continuous welded rail could reduce wayside noise by 5 dBA.

  - Install rail lubrication systems at curves, to reduce wheel squeal, where effective noise abatement would be possible.

- To address disproportionately high and adverse impacts in environmental justice populations, SEA recommends the Board require CSX and NS to:

  - Provide and install "Operation Respond" software and computers, if necessary, at the local emergency response centers serving environmental justice populations to assist emergency responders in identifying hazardous materials characteristics.
  - Adapt and modify the local component of its required Hazardous Materials Emergency Response Plan to account for the special needs of environmental justice populations in Cleveland, Cleveland Heights, Berea, and Euclid.

- To facilitate communication among the Greater Cleveland Area communities and the railroads, SEA recommends that the Board require the CSX and NS to establish a communication liaison for environmental concerns, develop cooperative solutions, and offer periodic public outreach meetings.

- To address safety at highway/rail at-grade crossings, SEA recommends that the Board require CSX and NS to:

  - Upgrade highway/rail at-grade crossing warning devices.

  - At public highway/rail at-grade crossings wherever trains increase by 8 or more trains per day, conduct prompt maintenance to comply with all applicable regulations.

  - At public highway/rail at-grade crossings wherever trains increase by 8 or more trains per day, provide and maintain permanent signs with a toll-free telephone number and a unique crossing identification number, install notification of the impending increase in train traffic and a crossing safety advisory message.

  - At public highway/rail at-grade crossings wherever trains increase by 8 or more trains per day, make Operation Lifesaver programs available to communities, schools, and other organizations.

- To address environmental concerns in the Greater Cleveland Area, SEA recommends that the Board require NS to construct Alternative 2, the Cloggsville Alternative.

- With the advice and consent of the City of Cleveland, construct and maintain fencing and landscaping to prevent, reduce or discourage pedestrian access to rail lines and facilities.

- To address local environmental concerns, SEA recommends the Board require CSX and NS to comply with the terms and conditions of the following Negotiated Agreements:

  - East Cleveland Agreement.
  - Brook Park Agreement.
  - Olmsted Falls Agreement.

4.19.2 Erie, Pennsylvania

Overview

The NS main line in Erie runs in the center of 19th Street for 1.25 miles, has no buffer between the tracks and houses or vehicles, and traverses 20 highway/rail at-grade crossings. (See Figures 4-9a and 4-9b, "Erie Area Rail Routes.") The maximum train speed is 15 mph, and residents experience frequent vehicle traffic delays. Nine of the crossings have ADT levels greater than SEA's threshold for traffic delay analysis of 5,000 vehicles. In its Operating Plan, NS proposes

to increase train traffic on this rail line by 12 trains per day for a total of 25 trains per day, which exceeds the Board's thresholds for environmental analysis. In addition, the projected volume of hazardous materials transported on the 6.25-mile main line segment (N-070) would increase from 8,000 to 26,000 carloads annually. CSX would acquire Conrail's Lakeshore rail corridor (rail line segment C-690), which is located approximately ½ mile north of and parallel to the NS 19th Street Nickel Plate Line. After the proposed Conrail Acquisition, train traffic on this rail line segment would decrease slightly (from 50.1 to 49.6 trains per day). Appendix N, "Community Evaluations," presents details of SEA's Erie evaluation.

Relocation of Main Line. To mitigate the effects of the proposed Operating Plans, CSX and NS agreed (as part of the Primary Application) that NS would relocate its rail line from 19th Street (rail line segment N-070) to a new NS line constructed in the nearby parallel CSX Lakeshore right-of-way (N-502, N-502a, and N-502b). This bypass, referred to as the Erie bypass, would be mostly grade-separated and would have substantially fewer highway/rail at-grade crossings. In addition, the bypass plan would remove the NS tracks from the center of 19th Street, which the City of Erie has sought for years. NS has executed a Negotiated Agreement with the City of Erie to relocate all train traffic by April 1, 2000, and to implement interim safety measures until the relocation is complete.

SEA conducted a detailed evaluation of the potential environmental effects of the proposed Conrail Acquisition because of the unique community concerns about vehicle traffic safety, as well as vehicle traffic delay, and to consider interim safety measures until NS completes the relocation. To evaluate noise impacts and vehicle safety and delay issues at highway/rail at-grade crossings, SEA analyzed the combined train volumes (both CSX and NS) along this corridor, whereas to evaluate the safety of freight rail operations and hazardous materials transport, SEA analyzed the CSX and NS operations as two separate and distinct operations that coincidentally share a common corridor. The Erie area is shown in Figures 4-9a and 4-9b, "Erie Area Rail Routes."

Additional Evaluation

SEA evaluated the potential environmental effects of the proposed Erie bypass using the methods detailed in the Draft EIS and in earlier sections of this chapter. Additional detail is provided in Appendix N, "Community Evaluations."

Results and Impacts

The following paragraphs summarize the results of the additional evaluations of the environmental issues that are relevant in Erie. Table 4-7, "Summary of Adverse Environmental Impacts by State," lists the results of SEA's environmental analysis for all geographic areas, including the Erie area.

Safety: Highway/Rail At-grade Crossings. The predicted accident rate on the proposed Erie bypass is one-third of the rate prior to the proposed Conrail Acquisition because the bypass would eliminate most of the 19th Street highway/rail at-grade crossings. SEA identified three highway/rail at-grade crossings on the 19th Street corridor that would experience a significant increase in accident rate; however, implementation of the Negotiated Agreement would eliminate the need to mitigate these locations. The projected accident rate at only one highway/rail at-grade crossing, Pittsburgh Road, on the relocated NS line would increase significantly. However, NS and the City of Erie have negotiated an agreement that addresses safety concerns for this crossing; therefore, SEA does not recommend any additional mitigation.

Safety: Hazardous Materials Transport. SEA determined that the proposed Erie bypass would increase hazardous materials transport from 48,000 carloads to 70,000 carloads annually in the combined CSX and NS rail corridor. Hazardous materials transport on the CSX line (rail line segment C-690) would increase slightly as a result of the proposed Conrail Acquisition, from 40,000 to 44,000 cars handled per year (from an average of 2.2 to 2.4 cars of hazardous material per train). Along the NS main line, hazardous material transport would increase substantially as a result of the proposed Conrail Acquisition from 8,000 to 26,000 cars handled per year. SEA notes that this increase along the NS main line exceeds SEA's thresholds for designating a new key route and a major key route. Since the two rail lines will be operationally separate in a common physical corridor, SEA recommends that the Board require NS to comply with key route and new key route mitigation requirements in the new construction and operation. See Section 4.3, "Safety: Hazardous Materials Transport," for details about this key route designation. The CSX corridor is already a key route and does not require such designation.

Safety: Freight Rail Operations. SEA applied the existing and proposed freight train traffic levels on rail line segment N-070 to rail line segments N-502a and N-502b, and similarly to N-502. Although N-502 would share a corridor with C-690, the CSX and NS tracks could be separated by a fence, and their trains would be dispatched independently. For this reason, SEA did not combine freight train volumes of both rail lines for this analysis, but analyzed the safety of freight operations as two separate rail operations.

Table N-34 in Appendix N, "Community Evaluations," displays the rail accident prediction data for the rail line segments that pass through Erie.

SEA determined that, if the proposed Conrail Acquisition were approved, the projected number of reportable freight train accidents would decrease slightly along the CSX corridor, but it would increase along the NS line segment. The accident rate is expressed as the expected time interval between accidents (derailments). Along the CSX corridor, the predicted accident rate would decrease, from 97 years to 103 years between accidents. Along the NS line segment (N-070), or along its relocated alignment (N-502 and its N-502a and N-502b connections), the predicted accident rate would increase, from 349 years to 175 years between accidents. This increase in the projected freight train accident rate for NS is below SEA's criteria of significance, so it does not warrant mitigation.

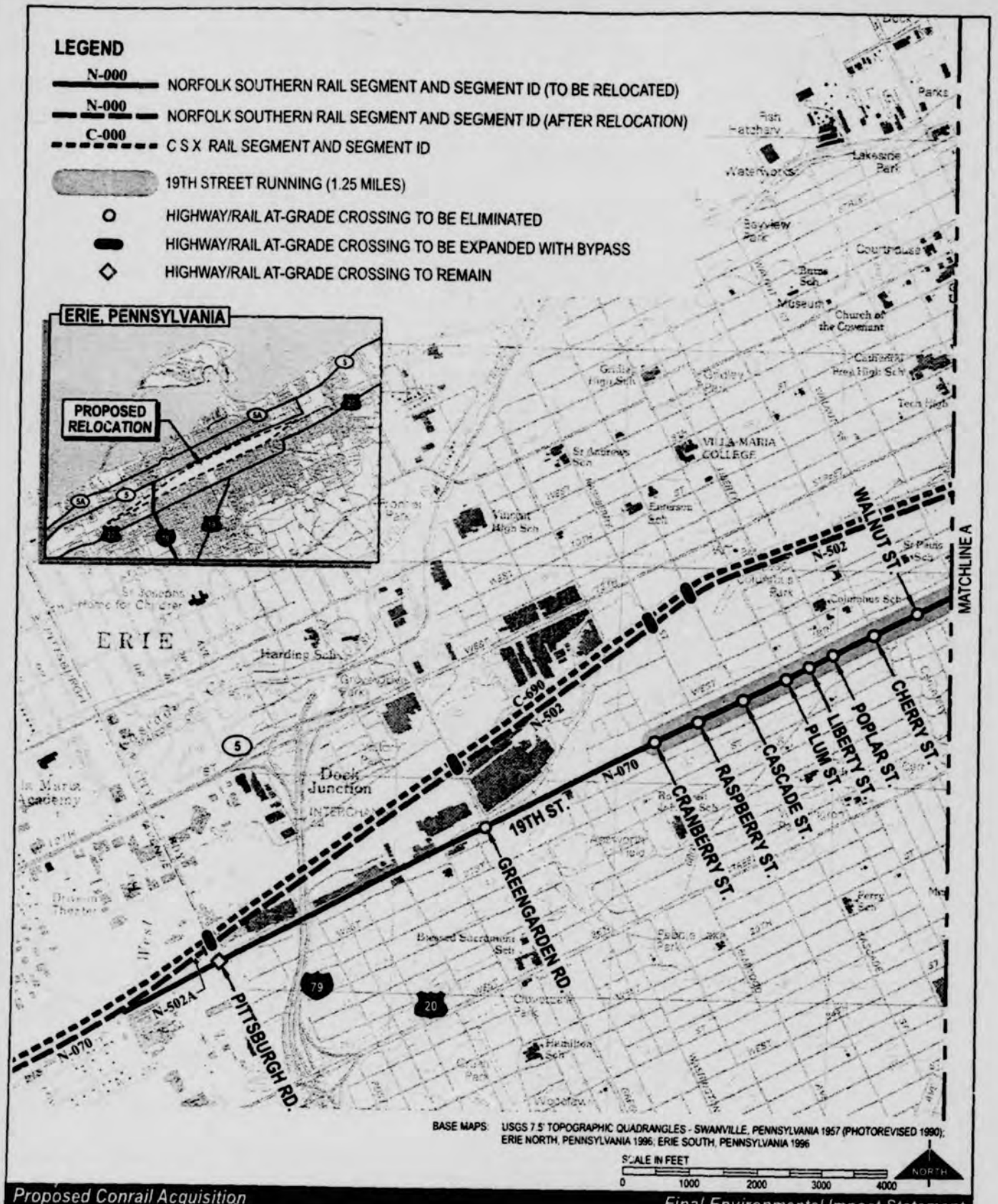

FIGURE 4-9A
ERIE AREA RAIL ROUTES

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FIGURE 4-9B
ERIE AREA RAIL ROUTES

Transportation: Highway/Rail At-grade Crossing Delay. Following the proposed Conrail Acquisition, and implementation of the Erie bypass, the level of vehicle delay at highway/rail at-grade crossings would be lower than without the bypass, as well as lower than existing levels. SEA identified four highway/rail at-grade crossings on the 19th Street corridor that, without the bypass, would experience a significant increase in vehicle delay; however, the Negotiated Agreement would eliminate the need to mitigate these locations. After the relocation of the NS line, no highway/rail at-grade crossings would meet SEA's criteria of significance. Therefore, no mitigation conditions for vehicle delay at highway/rail at-grade crossings are warranted.

Energy. The proposed Erie bypass would not affect the expected overall system-wide decrease in usage of diesel fuel.

Air Quality. The proposed Erie bypass would not significantly affect air quality in Erie County.

Noise. The three line segments (N-502, N-502a, and N-502b) of the proposed Erie bypass route exceed the Board's threshold for noise analysis. To accurately evaluate noise effects of the proposed bypass, SEA used traffic volumes on the existing 19th Street track (line segment N-070) to model traffic volumes on the proposed line segments N-502a and N-502b. For line segment N-502 (which would share a corridor with CSX's line segment C-690), SEA combined the predicted daily traffic of both the NS and CSX segments. SEA determined that predicted noise levels from increased traffic on N-502a and N-502b would exceed a 2 dBA L_{dn} increase; therefore, SEA determined the number of noise-sensitive receptors. Appendix N, "Community Evaluations," contains the results of this analysis. SEA determined that noise from the proposed Erie bypass (N-502) would affect substantially fewer receptors than the existing NS line (N-070).

SEA concluded that no line segments on the proposed Erie bypass would meet SEA's noise mitigation criteria.

Cultural Resources. SEA determined that two of the four guard shanties that remain on the south side of the 19th Street right-of-way retain historical integrity as they date from the 1890s and are considered NRHP-eligible. SEA also determined that the five early 20th century bridges at the eastern end of that rail line segment are also considered NRHP-eligible. Plans by NS to remove these seven historic properties would result in an adverse effect. SEA recommends that the Board require NS to implement mitigation measures because of the potential adverse impacts of NS's potential abandonment of the 19th Street rail line in the proposed Erie bypass. Those mitigation measures are described in the mitigation section below.

Hazardous Waste Sites. SEA reviewed available databases and public records on hazardous waste sites, made site visits, and identified 33 known sites within 500 feet of the right-of-way. Appendix N, "Community Evaluations," lists these sites and the sources of information. If NS encounters these or other sites during the proposed construction or abandonment activities, NS or other responsible parties would comply with Federal, state, and local statutes for assessment or remediation. Because existing regulatory requirements together with NS's standard construction practices adequately address potential disturbances of hazardous waste sites, SEA

determined that proposed construction or abandonment activities related to the proposed Erie bypass would not result in impacts on hazardous waste sites that warrant mitigation measures.

Natural Resources. The proposed Erie bypass construction area has no wetlands and no unique features or potential for supporting protected species. Although some trees and brush would require clearing, no significant impacts would result.

Land Use and Socioeconomics. The proposed Erie bypass would be located in an existing rail corridor and would result in minimal adverse environmental impacts on surrounding land uses. It is unknown whether the proposed construction would be consistent with local land use plans, but adverse effects on land use appear unlikely. The proposed construction area contains no designation of prime farmland, is not in a designated coastal management zone, and does not involve Native American lands. SEA notes that removing the NS main line from its existing setting in the middle of 19th Street would substantially improve urban land use and provide an environmental benefit to Erie residents.

Environmental Justice. In analyzing environmental justice issues in Erie, SEA made numerous site visits, conducted extensive public outreach activities, and carefully considered public comments. SEA's analysis identified 91 census block groups in Erie within the Area of Potential Effect. These block groups generally are located between 19th and 14th Streets and between Myrtle and State Strects. Thirty-one of these block groups contain environmental justice populations. SEA's environmental justice analysis focused on four environmental issues. For two issues, noise and hazardous materials transport, SEA identified no disproportionate impacts on the environmental justice populations. For two other issues, safety and vehicle delay at highway/rail at-grade crossings, SEA concluded that, in the absence of mitigation, these populations could incur disproportionately high and adverse impacts. Attachment M-17 of Appendix M, "Environmental Justice Analysis," of this Final EIS presents these results.

The City of Erie and NS have signed an agreement that commits NS to relocate NS service from 19th Street to the existing Conrail corridor through Erie to a combined CSX/NS corridor. SEA's environmental justice analysis of the relocated corridor identified no disproportionate safety or other impacts. Because the relocation eliminates disproportionate impacts on environmental justice populations, SEA does not recommend further mitigation

Mitigation

Mitigation Recommended in the Draft EIS. SEA's preliminary recommended mitigation presented in the Draft EIS would limit the number of additional NS trains to 2 trains per day on the existing NS line along 19th Street until improvements on the alternate route are complete and would require NS trains to operate on the CSX corridor to mitigate traffic delay at five highway/rail at-grade crossings. In its comments on the Draft EIS, NS objected to the two-train maximum increase and to the recommended traffic delay mitigation.

NS has since proposed a "fast-track" plan to reroute trains from 19th Street to a new bypass track along the former New York Central elevated line by early 2000. The new plan would accelerate bypass construction, minimize the length of time trains would operate over the existing lines after the proposed Conrail Acquisition, and provide interim safety mitigation measures during construction.

Final Recommended Mitigation. SEA recommends that the Board require the following mitigation measures:

- The Applicants shall comply with their agreement of June 23, 1997, to relocate NS train traffic onto new tracks in the CSX right-of-way.

- NS shall comply with terms and conditions of its Negotiated Agreement with the City of Erie regarding relocating NS train traffic from the 19th Street tracks to the CSX corridor.

- NS shall, before demolishing, removing, or altering its 19th Street facilities and pending SHPO concurrence, photographically document the two guard shanties and five bridges and relocate one guard shanty (eligible for NRHP listing) to the Lake Shore Railway Historical Museum.

4.19.3 Four City Consortium, Indiana

Overview

The Four City Consortium, which is composed of the cities of East Chicago, Gary, Hammond, and Whiting in northwest Indiana, has recommended solutions to alleviate potential adverse environmental impacts resulting from the proposed Conrail Acquisition. The Consortium's primary concerns are related to the increased train traffic and its potential impacts on highway/rail at-grade crossing safety, delay (of motorists and emergency response vehicles), and air quality. As SEA suggested in the Draft EIS, CSX and NS met with Consortium representatives to discuss its concerns and to develop and agree on potential alternative mitigation measures. The Consortium also commented on the Draft EIS, and SEA responds to these comments in this Final EIS.

Figures 4-10a and 4-10b, "Four City Area Rail Routes," show the locations mentioned in the alternative route descriptions. (See Chapter 5, "Responses to Comments on the Draft EIS.") Appendix N, "Community Evaluations," presents details of SEA's evaluation of the Four City Area. Table 4-7, "Summary of Adverse Environmental Impacts by State," lists the results of SEA's environmental analysis for all geographic areas, including the Four City area.

Description of Alternative Routes

Proposed CSX Routes. Under the Operating Plans, CSX traffic would use three routes through the Four City area after the proposed Conrail Acquisition. The following describes these routes, from east to west:

- From Willow Creek, the first CSX route goes northwest through Gary to Pine Junction (on rail line segment C-027), then turns west at Pine Junction and goes through Hammond and East Chicago to Barr Yard (on C-023).

- From Willow Creek, the second CSX route goes southwest to East Gary and then northwest to Gary (on C-693), turns west to Gibson and Dolton (on C-776), then northwest to Barr Yard (on C-023).

- From Hobart, the third CSX route goes northwest through Gary to Clarke Junction (on C-026 and C-024), where it turns west to Barr Yard (on C-023).

As proposed by CSX, both its first and third routes traverse the Pine Junction-to-Barr Yard track through Hammond and East Chicago (on C-023). The second CSX route also traverses the western portion of this rail line segment. Most of the concerns that the Four City Consortium expressed relate to rail line segment C-023, as well as to C-026 and C-024 from Hobart through Gary to Clarke Junction.

Alternative Routing Plan. The Four City Consortium proposed an alternative route for CSX trains to maximize the use of grade-separated rail lines and to minimize the use of at-grade rail lines.

To avoid numerous highway/rail at-grade crossings, this alternative route would divert all eastbound CSX traffic from the portion of rail line segment C-023 that runs through Hammond and East Chicago onto C-776 and C-693; westbound traffic would not change. The diverted train traffic would use a proposed new CSX connection with the Indiana Harbor Belt Railroad Company (IHB) Line (C-776) at Lincoln Avenue and an elevated portion of the IHB Line (C-775) east of Ivanhoe (now out of service) that has no highway/rail at-grade crossings.

The Four City Consortium also opposes reopening the out-of-service portion of rail line segments C-024 and C-026 on the third CSX route through Gary between Clarke Junction and Hobart, and consequent reopening of several highway/rail at-grade crossings. The Consortium suggested a second alternative route that would use NS rail line segment N-469 from Hobart to Van Loon and the Elgin, Joliet, and Eastern Railway rail line segment C-774 from Van Loon to Pine Junction.

Additional Analysis and Results

CSX Capital Improvements. The CSX Operating Plan focuses on improving traffic through and within the Chicago terminal area by substantially improving track and yards, upgrading connections, reconfiguring traffic and blocking patterns, and improving dispatching. These capital improvements would enable CSX to raise train speeds substantially, especially on the congested portion of rail line segment C-023 that concerns the Four City Consortium. The increased train speeds would reduce and offset vehicle traffic delays. CSX would also reduce daily train traffic at Barr Yard.

SEA's Evaluation. SEA independently collected and reviewed data on issues raised by the Consortium related to train operations, interlocking towers, potential grade separations, warning devices at highway/rail at-grade crossings, mainline signals, safety, and vehicle traffic delay. In particular, SEA compared the routing that CSX proposed to the Alternative Routing Plan that the Consortium proposed on the basis of rail operations, train traffic congestion, and time to implement. In general, SEA identified indications of existing general vehicle delays unrelated to the proposed Conrail Acquisition at highway/rail at-grade crossings in several locations. For example, on the portion of rail line segment C-023 through East Chicago, SEA estimates that as many as 10,000 vehicles per day drive around crossing gates to cross the tracks because of lengthy crossing closures when slow-moving or stopped trains are nearby.

SEA determined that congested rail traffic in the CSX Barr Yard is a frequent source of vehicle delays at highway/rail at-grade crossings along rail line segment C-023; trains waiting to enter the yard are "held" on the tracks approaching the yard and block the crossings. Although CSX has committed to improving operations to reduce congestion in Barr Yard and traffic backups on the main line, SEA investigated nearby areas as possible sites for sidings on which trains could be held without blocking crossings. Although sidings could be built that could hold short trains off the main line, finding sufficient space to accommodate the longer trains would be difficult.

SEA's Conclusion Regarding Analysis Results and Routes. SEA determined that the Consortium's Alternative Routing Plan would not be practical, timely, or reasonable for implementation with the proposed Conrail Acquisition.

SEA concluded that the proposed routing and operational improvements of CSX and NS would better address the area's vehicle traffic delay and train traffic congestion. The results of SEA's evaluation are detailed in Appendix N, "Community Evaluations."

In summary, SEA's major conclusions related to the Four City Consortium's Alternative Routing Plan are:

- Reactivating the IHB line (C-775) is not a viable option because it would require complex planning and funding, and could not be completed within a reasonable time. However, SEA concurs with CSX that reactivating the IHB Line (C-775) warrants future consideration. The added capacity of the IHB line would enable CSX to reroute traffic from its first route.

- CSX could not practically reroute all eastbound trains because the Porter Branch (C-693) has a limited capacity. SEA further determined that imposing an absolute limit on the number of trains on C-023 is not a viable option because it would severely limit the routing flexibility that CSX needs to maintain operational flexibility throughout the Chicago area.

- The Alternative Routing Plan would require moving many trains several miles off the first route and onto the lines of other rail carriers. This rerouting would substantially add to the transit time and to the potential for delay and congestion for CSX trains.

- Opening the out-of-service track between Clarke Junction and Hobart is necessary to CSX's plan to divert slower-moving bulk trains from high-speed rail lines and to streamline train traffic flow throughout the area.

- Introducing additional CSX trains onto the NS rail line segment between Hobart and Van Loon (N-469) would not relieve congestion because this rail line segment is currently a single track.

- Adding an additional signalized mainline track on NS rail line segment N-469 would require extensive planning and a major capital investment.

- Using the Elgin, Joliet, and Eastern elevated tracks would require CSX trains to make complex stopping and backing maneuvers to access rail line segments C-023 and C-024, which would pose unacceptable safety risks.

Overall, SEA determined that the Alternative Routing Plan does not recognize the improved operational factors in the Operating Plan that CSX proposes. The recent revision of the CSX and NS Operating Plans reduces the number of trains on rail line segment C-023, which is one of the routes of greatest concern to the Four City Consortium. SEA concludes that although the Alternative Routing Plan would impose considerable capital expense and operational problems, it would not significantly improve operations for either CSX or NS, nor would it relieve vehicle delays at highway/rail at-grade crossings.

SEA's Conclusion Regarding Analysis Results and Routes

In summary, SEA determined that the proposed Conrail Acquisition would not result in any environmental impacts beyond those that SEA noted in the Draft EIS.

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FIGURE 4-10A
FOUR CITY CONSORTIUM AREA RAIL ROUTES

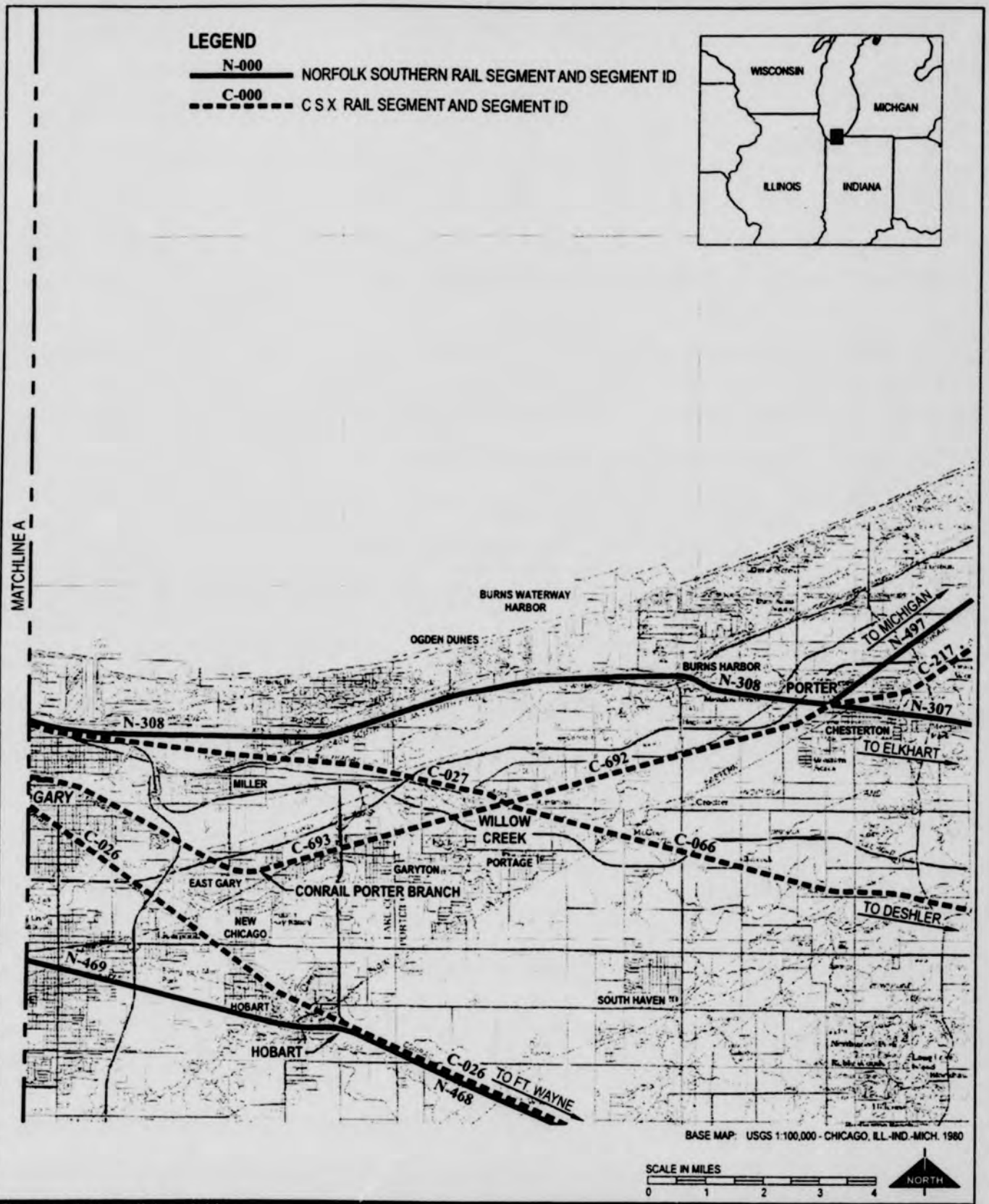

FIGURE 4-10B
FOUR CITY CONSORTIUM AREA RAIL ROUTES

Mitigation Recommended in the Draft EIS

In the Draft EIS, SEA recommended that the Board require CSX and NS to consult with representatives of the Four City Consortium and others to address potential vehicle traffic delay and safety concerns. Since the issuance of the Draft EIS, CSX has revised its Operating Plan to substantially reduce the projected train traffic on rail line segment C-023. CSX expects that only the rail line segment in the eastern portion of its first route (C-027, from Willow Creek through Gary to Pine Junction) would experience a substantial increase in train traffic levels following the proposed Conrail Acquisition.

Final Recommended Mitigation

Recommended Mitigation. The proposed Conrail Acquisition would increase train traffic in the Four City area to levels that meet or exceed the Board's thresholds for environmental analysis. However, as shown in the Draft EIS, SEA's analysis indicates that the only environmental impacts that would meet the criteria of significance and warrant mitigation are safety impacts at highway/rail at-grade crossings. Nonetheless, SEA is sensitive to the unique concerns of the Four City Consortium and recommends that the Board require the following mitigation measures to improve safety and alleviate vehicle delays at highway/rail at-grade crossings:

- CSX shall upgrade the highway/rail at-grade crossing signal warning systems to include constant warning time circuits with motion detectors at important crossings to reduce crossing blockage time and the observed likelihood of motorists driving around activated gates on the Pine Junction-to-Barr Yard rail line segment (C-023), and the Tolleston-to-Clark Junction rail line segment (C- 024).

- CSX shall make Operation Lifesaver programs available to schools and other community organizations near the Pine Junction-to-Barr Yard rail line segment (C-023), the Tolleston-to-Clark Junction rail line segment (C-024), and the Tolleston-to-Hobart portion of the Warsaw-to-Tolleston rail line segment (C-026). As agreed to by CSX, CSX shall upgrade the track structure and signal systems to allow 40-mph train operation, consistent with safe operating practices, between Pine Junction and Barr Yard.

- CSX shall install temporary signs or electronic message boards at highway/rail at-grade crossings at least 30 days before initiating new train traffic on two rail line segments [C-024, Tolleston-to-Clark Junction, and the Hobart-to-Tolleston portion of C-026 (Warsaw-to-Tolleston)]. These signs or message boards will notify motorists to expect a substantial increase in both number of trains and train speeds and shall remain in place for a year.

- CSX shall improve coordination between Pine Junction and Barr Yard at IHB interlockings where CSX rail lines cross or join to reduce railroad congestion and blockage at highway/rail at-grade crossings.

- As agreed to by CSX, CSX shall reroute as much train traffic as is practicable from the Pine Junction-to-Barr Yard rail line segment (C-023) to other rail lines in the area.

- To the extent practicable, CSX shall hold its westbound trains that would be delayed in entering Barr Yard in holding areas without highway/rail at-grade crossings.

Voluntary Mitigation. In response to comments on the Draft EIS, CSX has reduced projected traffic volumes on rail line segment C-023. To offset potential increases in vehicle traffic delay times at the highway/rail at-grade crossings on this rail line segment, CSX has included in its Operating Plan the capital improvements that will facilitate operating its trains at higher speeds. CSX has also agreed to certain voluntary mitigation measures, including the following:

- Work with the Four City Consortium to obtain public funding to rehabilitate the elevated portion of the IHB Line (C-775). After rehabilitation, CSX will shift some train traffic off its first and second routes to the grade-separated line, which would further reduce vehicle traffic delays at highway/rail at-grade crossings.

- Work with the Four City Consortium to automatically notify emergency response vehicle dispatchers when a highway/rail at-grade crossing is closed because of an approaching train. During the transition period after the proposed Conrail Acquisition, CSX will work with all parties (including NS) and participate in regular meetings to reassess delays of motorists and emergency response vehicles.

Additional Recommendations. SEA further recommends that CSX voluntarily implement the following additional actions to improve local rail operations and minimize potential local adverse environmental impacts:

- CSX is encouraged to use the IHB tracks between Lincoln Avenue and Ivanhoe (C-776) and the CSX Porter Branch between Ivanhoe and Willow Creek (C-693) for as much traffic as is reasonably practical.

- CSX is encouraged to work with the Cities of Gary and East Chicago to close little-used highway/rail at-grade crossings along rail line segment C-023 (Pine Junction to Barr Yard) in Gary and rail line segment C-024 (Tolleston to Clark Junction) in East Chicago.

4.19.4 Lafayette, Indiana

Overview

After the proposed Conrail Acquisition, CSX freight rail traffic levels through Lafayette on rail line segments C-255 and C-256 would not change. However, train traffic on the NS main line that passes through Lafayette on rail line segment N-046 would increase by 21.8 trains per day (from 18.4 to 40.2 trains per day). The Draft EIS identified potential vehicle traffic safety impacts at ten highway/rail at-grade crossings on the NS rail line segment that warrant

mitigation. In addition, SEA identified potential vehicle traffic delay impacts at ten closely spaced crossings and analyzed these crossings as a corridor, rather than individually. Appendix N, "Community Evaluations," presents details of SEA's Lafayette evaluation.

Relocation of NS Main Line

SEA determined that both the delay and safety concerns at the NS crossings along N-046 in Lafayette might be temporary. Since the 1970s, the City of Lafayette has been working to consolidate several rail lines into a bypass rail corridor along the riverfront that will ultimately eliminate 42 highway/rail at-grade crossings in the city, including the ten on the NS line segments that SEA evaluated for traffic safety. This $180 million rail bypass project is more than 80 percent complete, and it has already eliminated 18 highway/rail at-grade crossings through the relocation of the CSX rail line. The City expects to obtain $30 million in required additional funding and complete the project by 2001. When completed, NS will relocate 4.2 miles of its main line out of the central business district and into this new bypass corridor, which CSX already uses. This new joint CSX/NS corridor would have no highway/rail at-grade crossings, and so would eliminate all crossing impacts (for both vehicle safety and delay) and obviate the need for mitigation on the NS line segments. See Figure 4-11, "Lafayette Area Rail Routes."

The U.S. House of Representatives version of the Intermodal Surface Transportation Efficiency Act (ISTEA) reauthorization bill (April 1998) would provide $30 million to fund the Lafayette bypass project over five years. However, the U.S. Senate's version of the bill does not specify certain projects. SEA assumes that the funding commitment, if enacted, would expedite the project through financing options and estimates that the rail bypass could be in place within 2 or 3 years.

Additional Evaluations

SEA reviewed the City's Final EIS (1979) for the bypass project and determined that the conclusions of the EIS for all environmental issue areas related to direct construction activities for the proposed NS route are still valid. SEA's additional evaluation focused exclusively on operational issues.

SEA evaluated the potential environmental impacts of relocating all NS traffic to a combined CSX/NS rail corridor. To calculate predicted traffic levels, SEA combined CSX and NS traffic levels for the parallel line segments (C-255 and N-046) and (for analytic purposes only) designated the combined lines as rail line segment N-500 (and N-500a, a subsegment that connects the shared corridor with the NS main line north of the CSX shop area). After the proposed Conrail Acquisition, the total rail traffic in the shared corridor would be 43.2 trains per day. However, because CSX and NS would dispatch their trains independently, operate on

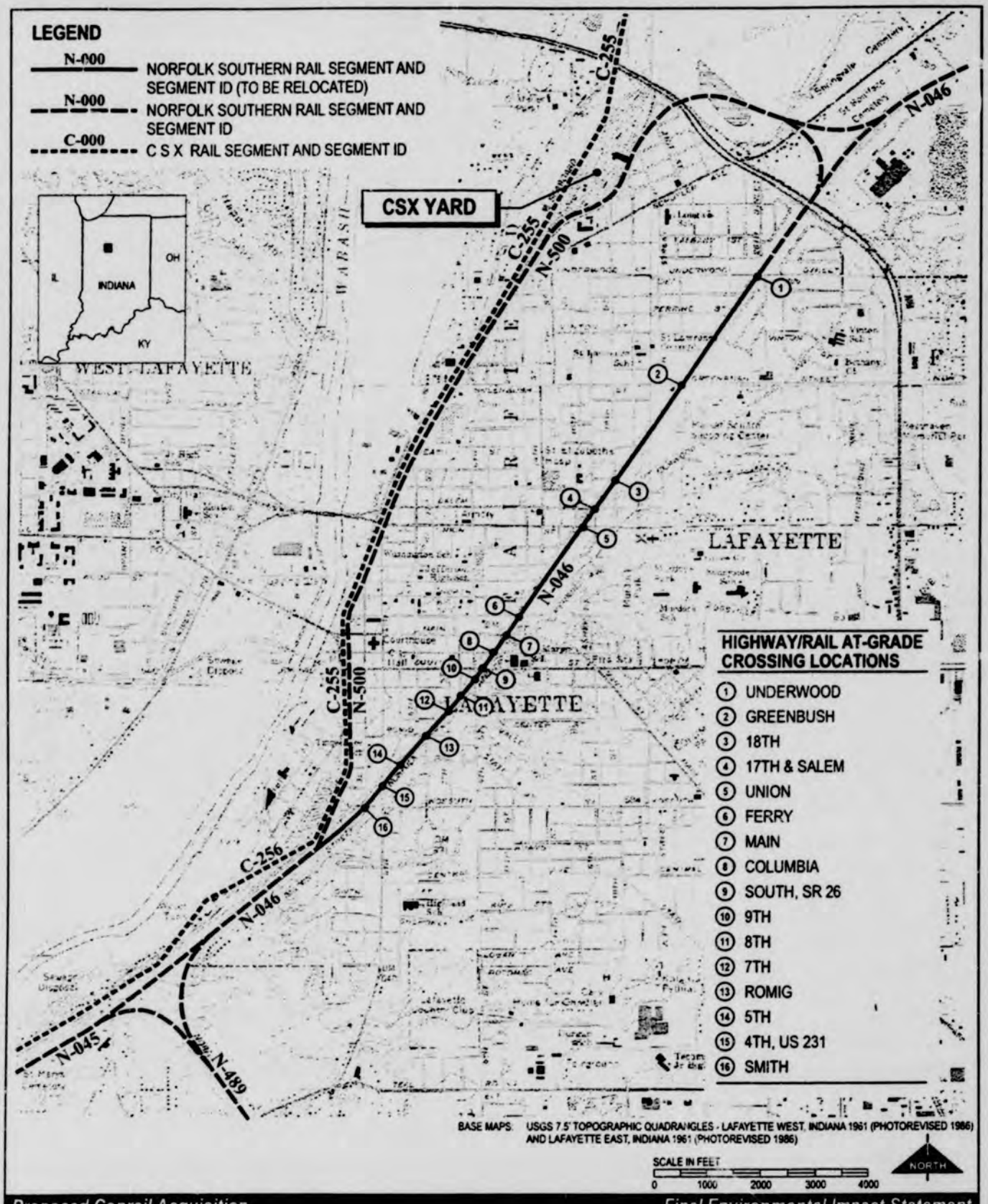

FIGURE 4-11
LAFAYETTE AREA RAIL ROUTES

independent tracks, and would not combine their rail operations, SEA conducted separate line segment analyses to evaluate the safety of freight rail operations and hazardous materials transport. Table 4-7, Summary of Adverse Environmental Impacts by State," lists the results of SEA's environmental analysis for all geographic areas, including the Lafayette area.

Results and Impacts

Safety of Highway/Rail At-grade Crossings. Because of the unique circumstances in Lafayette of multiple highway/rail at-grade crossings that are closely spaced, SEA analyzed the safety of all 39 such crossings, regardless of whether they meet the Board's or SEA's thresholds for environmental analysis. On the existing route SEA identified 10 highway/rail at-grade crossing with significant safety impacts. These crossings are listed in Appendix N "Community Evaluations." For the relocation project, according to the City of Lafayette Final EIS (1979) and the Lafayette rail relocation project director, rail line segments N-500 and N-500a on the proposed Lafayette bypass do not have any highway/rail at-grade crossings, nor do CSX rail line segments C-255 and C-256 within the limits of the Lafayette bypass corridor.

Hazardous Materials Transport. SEA determined that the combined operations of CSX and NS through the common railroad corridor would result in a total of 50,000 annual hazardous materials carloads handled after the proposed Conrail Acquisition instead of 47,000 carloads. However, because each railroad could operate independently, SEA evaluated the rail line segments individually. The 50,000 figure reflects the combined annual increases from rail line segment C-255 (from 1,000 to 3,000 cars) and N-046 (from 11,000 to 47,000 cars). According to the Draft EIS, N-046 qualified for mitigation based on SEA's threshold for designation as a major key route which is defined as a doubling of hazardous materials carloads and more than 20,000 carloads transported annually. Therefore, NS is primarily responsible for the mitigation required for major key routes.

Table N-44 of Appendix N, "Community Evaluations," shows the projected percentage increase in reportable mainline hazardous materials releases following the proposed Conrail Acquisition.

Safety of Freight Rail Operations. SEA applied the existing and proposed freight train traffic levels on rail line segment N-046 to rail line segment N-500a, the connection north of N-500. Because N-500 would share a common corridor with C-255, SEA combined the proposed freight train traffic on these two rail line segments to assess changes in rail traffic levels along this common corridor resulting from the proposed Conrail Acquisition. However, because both CSX and NS would operate separately and dispatch trains independently, SEA analyzed freight safety for the individual rail line segments that coincidentally share a common corridor. SEA determined that, by itself, rail line segment C-255, which would experience no change in train volume through Lafayette as a result of the proposed Conrail Acquisition, does not meet Board thresholds for evaluation of freight rail safety. However, once NS has relocated its main line onto the common corridor, SEA encourages both CSX and NS, with the City of Lafayette, to establish guidelines and procedures that would minimize the confusion that might arise concerning the ownership of and responsibility for a train accident (derailment) occurring in the

common corridor. As shown in Table N-45 of Appendix N, "Community Evaluations," the proposed Conrail Acquisition would result in a decrease in the expected interval between NS freight rail accidents of 137 years (from 244 years to 107 years).

SEA requires consideration of mitigation for an increased derailment risk greater than ten percent only when the interval between accidents would be less than 100 years after the proposed Conrail Acquisition. None of the Lafayette rail line segments, including the rail bypass project, meets this criterion. Thus, SEA recommends no special action or mitigation with respect to freight rail safety.

Transportation: Highway/Rail At-grade Crossing Delay. For the Draft EIS, SEA evaluated ten high-traffic, closely spaced highway/rail at-grade crossings on the NS main line in Lafayette. SEA concluded that, considered individually, none of these crossings meets SEA's criteria of significance nor do they warrant mitigation. However, SEA determined that the number and proximity of these crossings in Lafayette and their combined effects on downtown traffic are unique circumstances that warrant a roadway corridor analysis of traffic delay. SEA identified and analyzed all closely spaced highway/rail at-grade crossings in Lafayette that are within 800 feet of each other. Because the number of trains on the NS main line would more than double without the bypass, the predicted average vehicle delay would also more than double. SEA concluded that the bypass would eliminate the predicted delay and that the aggregate traffic delays in this roadway corridor are not sufficient to warrant mitigation. SEA determined that interim mitigation until implementation of the bypass is not warranted. Appendix G, "Transportation: Highway/Rail At-Grade Crossing Traffic Delay Analysis," of the Final EIS presents details of SEA's analysis.

Air Quality. SEA concluded that the bypass route would have no significant impact on air quality in Tippecanoe County.

Noise. Using the same methods as described in Section 4.12, "Noise," SEA predicted that combined noise levels from the NS relocated track combined and the existing CSX rail traffic would increase by more than 2 dBA L_{dn}, and it identified the number of noise-sensitive receptors along the line. SEA determined that, compared to the existing NS line, the relocated line would affect substantially fewer receptors. In addition, SEA determined that the bypass route would not meet SEA's noise mitigation criteria. Although the increased traffic on the NS lines would increase noise levels in the new bypass corridor, SEA determined that any such increased noise would be consistent with the corridor's intended land use and it would not warrant consideration for mitigation. Attachment N-7 of Appendix N, "Community Evaluations," presents details of SEA's analysis.

Environmental Justice. SEA conducted a special environmental justice analysis for census block groups in Lafayette, Indiana, in the region of northwest Indiana. Because the City is in the process of relocating the existing NS rail traffic using a bypass, SEA examined the potential impacts on Lafayette from both regional (multicounty) and local (county) perspectives to ensure that the analysis for disproportionately high and adverse effects would be addressed.[18]

At the regional level, SEA's analysis of 103 block group Areas of Potential Effect showed that disproportionately high and adverse effects in minority and low-income populations would occur (absent mitigation) from hazardous materials transport, but not from noise or from safety and vehicle delay at highway/rail at-grade crossings.

SEA recommends a tailored mitigation plan to mitigate the disproportionately high and adverse hazardous materials transport effects. This tailored mitigation includes the installation of Operation Respond hardware and software at the local emergency response center to serve minority and low-income populations adjacent to the rail line segment. SEA also recommends that the Applicants be required to provide training with this software as well.

Further, SEA recommends that the Applicants modify the local components of its required emergency response plan to account for the unique concerns of minority and low-income populations adjacent to or in the immediate vicinity of the rail line segment(s). In addition, NS has agreed to fund participation in a training sessions at the national training center in Pueblo, Colorado for two representatives of the emergency response provider for the City of Lafayette, Indiana.

At a local level, SEA's analysis identified 45 census block groups within the Area of Potential Effect in Tippecanoe County. These block groups are adjacent to several consecutive highway/rail at-grade crossings along rail line segments N-045 and N-046 in Lafayette. Nine of the block groups contain environmental justice populations. SEA determined that disproportionately high and adverse impacts on minority and low-income populations could occur (absent mitigation) from noise, but would not occur from hazardous materials transport or from safety and vehicle delay at highway/rail at-grade crossings. The disproportionate noise impacts at these locations result primarily from horn noise at highway/rail at-grade crossings. The City of Lafayette is in the process of relocating the existing NS rail traffic using a bypass, which would eliminate 42 such crossings. SEA's analysis of the bypass (rail line segment N-500) identified no disproportionate impacts for noise or other environmental issues on environmental justice populations.

Appendix M, "Environmental Justice Analysis," presents the Lafayette analysis results in detail.

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[18] SEA relied upon regional analysis in cases where there were not enough block groups in a given county to provide a statically significant answer. In the region of northwestern Indiana and Illinois, SEA analyzed the counties of Tippecanoe, Porter, and Fountain in Indiana and Vermilion County in Illinois.

Final Recommended Mitigation

Safety of Highway/Rail At-grade Crossings. Even though the NS rail line segment (N-046) is likely to be rerouted within 2 or 3 years, SEA determined that the interim traffic safety issues related to the proposed Conrail Acquisition warrant mitigation based on the safety analysis at these crossings. Therefore, SEA recommends that NS upgrade the warning devices at the ten highway/rail at-grade crossings with safety impacts, all of which the bypass would eliminate. Alternatively, NS and the City of Lafayette and the Indiana Department of Transportation can reach agreement to achieve an equivalent level of safety improvement until the relocation project is complete. See Chapter 7, "Recommended Environmental Conditions," and Appendix N, "Community Evaluations."

Safety: Hazardous Materials Transport. SEA notes that NS rail line segment N-046 currently carries 11,000 carloads of hazardous materials per year, which NS predicts will increase to 47,000 carloads per year. This increase exceeds SEA's threshold for designation as a major key route. Accordingly, after the proposed Conrail Acquisition, SEA requires major key route mitigation for the entire rail line segment. However, upon relocation of the NS line onto the bypass corridor, SEA encourages CSX and NS to establish guidelines and procedures to minimize the confusion that could arise about ownership if an accident should occur within the rail corridor.

4.20 INCONSISTENT AND RESPONSIVE APPLICATIONS AND REQUESTS FOR CONDITIONS

Board procedures require parties to file Inconsistent and Responsive (IR) applications to request inclusion in, or additions or modifications to, the Primary Application. The deadline for these filings was October 21, 1997. In Decision No. 54 issued on November 20, 1997, the Board accepted 15 IR applications. Prior to the issuance of this Final EIS, four applicants withdrew their IR applications after reaching settlements with NS or CSX.

SEA reviewed all IR applications that the Board received by the deadline to determine whether any would result in significant environmental impacts. After reviewing the IR applications that the Board accepted, SEA determined that only two could cause potentially significant environmental impacts; these two consisted of filed requests for overlapping trackage rights by New England Central Railroad and jointly by the State of New York and New York City Economic Development Commission. SEA determined that the other IR applications would not result in significant environmental impacts. Each of the two IR applications proposed adding two trains to the affected rail line segment (10 miles of segment C-726 from CP-187 to Selkirk Yard near Albany, New York). Neither the Environmental Report nor the Draft EIS analyzed the segment, which is in a nonattainment area, because CSX, the proposed line operator, anticipated no increase in trains per day. However, if the Board approved both IR applications, the combined total of four new trains per day would exceed the Board's threshold for environmental analysis for air quality in a nonattainment area (three trains per day). Therefore,

SEA analyzed the rail line segment for potential impacts on air quality in Albany County and Rensselaer County, the location of the rail line segment.

Because neither IR applicant provided estimates of the amount of freight that would be transported over the rail line segment as a result of its proposal, SEA estimated the annual amount of freight (in million gross tons) to calculate emissions resulting from the proposed additional traffic. SEA's estimate is based on the annual amount of freight per train on all rail line segments included in the detailed emissions analysis presented in the Draft EIS.

EPA has designated Albany and Rensselaer Counties as a marginal nonattainment area for ozone. SEA estimated the projected increase in emissions on rail line segment C-726 in the counties because the rail line segment would experience an increase in traffic that would meet the Board's thresholds for environmental analysis as a result of the proposed Conrail Acquisition and IR applications. (See Tables I-2 and I-3 in Appendix I, "Air Quality Analysis.") Based on the analysis, SEA determined that the increased traffic would result in an increase in emissions. However, SEA concluded that the estimated increase is below the screening levels that SEA developed based on the EPA emissions levels for stationary source permitting for all of the pollutants in both counties. This increase would not adversely affect air quality in those areas. (See Table I-1, "County/Jurisdiction Emissions Screening Levels.")

SEA also reviewed approximately 100 Comments and Requests for Conditions that the Board received on or before October 21, 1997, and described them in Appendix U of the Draft EIS, "List of Comments and Petitions/Requests for Conditions." Based on its review, SEA concluded that most of these focused on the competitive aspects of the merits of the proposed Conrail Acquisition. SEA also determined that 11 Comments and Requests for Conditions proposing additional railroad activities had the potential, when considered in conjunction with the proposed Conrail Acquisition, to meet or exceed the Board's thresholds for environmental analysis. SEA received those Comments and Requests for Conditions from the following:

- Congressman Dennis Kucinich (10th District, Ohio) regarding a proposed neutral independent railroad to operate in the Cleveland area. (Although Congressman Kucinich titled his filing an IR application, the Board accepted it instead as a Comment and Request for Conditions.)

- Congressman Jerrold Nadler and 23 other members of Congress from New York and Connecticut requesting an additional freight railroad be given trackage rights over Conrail's Hudson line from Selkirk Yard near Albany, New York to New York City. (Although the members of Congress titled their filing a "Petition for Intervention," the Board accepted it as a Comment and Request for Conditions.)

- The Four City Consortium (East Chicago, Hammond, Gary, and Whiting, Indiana) requesting that CSX and NS amend their Operating Plans to incorporate the Consortium's Alternative Routing Plan and adhere to the Plan after implementing the proposed Conrail Acquisition.

- Nine passenger/commuter rail organizations seeking mitigation conditions that would ensure their current and/or planned operations over rail line segments included in the proposed Conrail Acquisition.

The following describes SEA's analysis of the potential environmental impacts resulting from these filings.

Congressman Dennis Kucinich. Congressman Kucinich requests that the Board establish a neutral, independent railroad company in the Greater Cleveland Area, Ohio. The new entity would control all dispatching, switching, and signaling in the Cleveland Area. Heavy freight routes would be jointly owned by NS and CSX, while other track routes with potential for regional commuter traffic would be placed into the neutral independent railroad company. SEA evaluated Congressman Kucinich's request and determined that it does not provide documentation or specific information regarding possible environmental benefits or impacts. Accordingly, SEA cannot identify the local environmental impacts, including impacts on residential, minority, and low-income populations. However, SEA concludes that the proposal could result in adverse safety impacts from the increased operational complexity throughout the Greater Cleveland Area. (See Section 4.19, "Community Evaluations," and Appendix N, "Community Evaluations," of this Final EIS for detailed discussion.)

Congressman Jerrold Nadler. SEA conducted an evaluation to determine whether environmental impacts would occur if the Board grants the request of Congressman Jerrold Nadler and 23 other members of Congress for trackage rights for an additional railroad over Conrail's Hudson Line (from Selkirk Yard to New York City). The railroad that received the trackage rights would compete with CSX if the Board approves the proposed Conrail Acquisition. SEA determined that this request seeks the same trackage rights on the same rail line segment as the State of New York and the New York City Economic Development Commission proposed in their joint IR application (trackage rights for one additional railroad to provide service on the Hudson Line to and from the New York Metropolitan Area). Based on its evaluation of the joint IR application, which projected two additional trains per day, and of the CSX Operating Plan, which projected no additional trains over the line, SEA determined that if the Board approves the request for trackage rights, the two additional trains per day would not meet or exceed the Board's thresholds for environmental analysis and no significant adverse impacts would occur.

The members of Congress who are seeking trackage rights also suggested that truck traffic through the New York City/Northern New Jersey Metropolitan Area will significantly increase if the Board approves the proposed Conrail Acquisition. They rationalized that the additional truck traffic could be diverted to the recipient of the trackage rights, which would reduce air pollution and environmental justice impacts in the metropolitan area.

SEA analyzed the potential increase in truck traffic in the New York City/Northern New Jersey Metropolitan Area. (See Section 4.8, "Transportation: Roadway Systems," and Appendix H, "Transportation: Roadway Systems Analysis," of this Final EIS for detailed discussion.) SEA

concluded that truck traffic would not increase but some trucks could shift their routes through the metropolitan area as a result of the proposed Conrail Acquisition. However, SEA determined that the environmental effects of these potential truck trips shifts would be insignificant.

The Four City Consortium. In its request, the Four City Consortium proposes two alternate routes for CSX trains to maximize the use of grade-separated rail lines and minimize the use of at-grade rail lines (to avoid highway/rail at-grade crossings). SEA evaluated the request and determined that the alternative routes would impose considerable capital expenses and operational problems, would not significantly improve operations either for CSX or NS, and would not relieve vehicle delays at highway/rail at-grade crossings. (See Section 4.19, "Community Evaluations," and Appendix N, "Community Evaluations," of this Final EIS for detailed discussion.)

Passenger/Commuter Rail Organizations. SEA evaluated whether any of the Requests for Conditions made by nine passenger/commuter rail organizations would sufficiently affect either CSX's or NS's Operating Plans to cause potentially significant environmental impacts. Table 4-6, "Requests for Conditions Submitted by Passenger/Commuter Rail Organizations," identifies the passenger/commuter rail organizations that filed Comments and Requests for Conditions, the conditions they sought, and the results of SEA's analyses. SEA determined that either the requests would not result in significant environmental impacts or they represented expansion plans that were too speculative to conduct environmental analyses. Prior to the publication of this Final EIS, SEA was informed that CSX and NS reached a Agreement with the New Jersey Department of Transportation/New Jersey Transit Corporation and CSX reached an agreement with Chicago Metra, as indicated in Table 4-6, "Requests for Conditions Submitted by Passenger/Commuter Rail Organizations." These agreements address some or all of the requested conditions.

TABLE 4-6
REQUESTS FOR CONDITIONS
SUBMITTED BY PASSENGER/COMMUTER RAIL ORGANIZATIONS

Submitted By	Condition(s) Requested	Potential Operating Plan Effects	Potential Environmental Impacts
Amtrak (National Railroad Passenger Corporation).	1. Board 5-year oversight of effect on Amtrak's on-time performance.	None.	None.
	2. Confirm Amtrak control over sharing of freight easement on Northeast Corridor.	None.	None.
	3. Require CSX to cooperate with Amtrak and New York State on providing high speed Albany-to-Buffalo service.	None.	None.
	4. Require NS to cooperate on	None.	None.

TABLE 4-6
REQUESTS FOR CONDITIONS
SUBMITTED BY PASSENGER/COMMUTER RAIL ORGANIZATIONS

Submitted By	Condition(s) Requested	Potential Operating Plan Effects	Potential Environmental Impacts
Chicago Metra (Commuter Rail Division of the Regional Transportation Authority of Northeast Illinois) [Agreement reached with CSX].	1. Transfer control of the Forest Hill and Chicago Ridge interlocking from CSX/Indiana Harbor Belt to Metra.	None.	None.
	2. Require NS and CSX to obtain BRC's agreement to transfer control of the Belt Junction interlocking to Metra.	None.	None.
	3. Require NS to control CP 518 interlocking so that no freight train is allowed to proceed if this will cause a delay to Metra.	None.	None.
	4. Require the Board to submit quarterly reports about plans to mitigate adverse impacts of the Acquisition for 5 years.	None.	None.
Metro-North Commuter Railroad Company (MNCR)	Seeks acquisition of Suffern-Port Jervis, New York line, or imposition of a long-term trackage rights agreement on MNCR's behalf.	MNCR would make capital improvements to the line and increase passenger service from 17 trains per day in 1997 to 33 trains by the year 2020.	Plans are long-term and, therefore, are too speculative to conduct environmental analysis.
New Jersey Department of Transportation/New Jersey Transit Corporation (NJT), [Agreement reached with CSX and NS].	1. Seeks operating rights on nine Conrail line segments and one New York, Susquehanna and Western Railway (NYSW) line segment that it currently does not operate.	Six of the nine Conrail line segments have through freight train service on all or part. One segment (Bordentown) is a light rail proposal opposed by Applicants. No NJT plan data are available on others. NYSW lines are not part of the proposed Acquisition.	Plans are too speculative to conduct environmental analysis.
	2. Require Applicants to coordinate with NJT in Shared Asset Areas.	None.	None.
	3. Require Applicants' capital investment in the NK-to-Aldene line segment, and Automatic Train Control and Positive Train Stop on locomotives on NJT lines.	None.	None.

TABLE 4-6
REQUESTS FOR CONDITIONS
SUBMITTED BY PASSENGER/COMMUTER RAIL ORGANIZATIONS

Submitted By	Condition(s) Requested	Potential Operating Plan Effects	Potential Environmental Impacts
Northeast Ohio Four County Regional Planning & Development Organization (NEFCO)	Grant NEFCO commuter rail operating rights on Cleveland to Hudson line segment (25 miles) for start-up passenger service.	NEFCO has not identified the number of commuter trains that it would operate. This line segment presently has two Amtrak trains and is projected to have 30.1 freight trains, an increase of 3.7 trains per day, on a line with limited signaling capabilities.	Plans are too speculative to conduct environmental analysis.
Northwest Pennsylvania Rail Authority (NPRA)	Require trackage rights exchange between NS and NPRA.	NS has not sought trackage rights and does not intend to use the out-of-service segment of the Meadville-to-Corry, Pennsylvania-to-Salamanca, New York line for through service.	None.
Rhode Island DOT (RI DOT)	1. Seeks second Class I Railroad in southern New England. NS trackage rights to Boston on CSX or on Guilford Transportation Industries (GTI).	NS on CSX to Boston would divert traffic from GTI and CSX, possible increase in trains per day on Conrail Boston Line. NS on GTI would divert from CSX, decrease of trains per day on CR Boston Line (no net increase should occur).	None.
	2. Require that CSX provide Rhode Island with rate parity.	None.	None.
	3. Prevent CSX from interfering with passenger rail service on Northeast Corridor or future routes.	None (Conrail does not operate in Rhode Island or eastern Connecticut).	None.
	4. Board retains jurisdiction over affected lines for 3 to 5 years.	None.	None.

TABLE 4-6
REQUESTS FOR CONDITIONS
SUBMITTED BY PASSENGER/COMMUTER RAIL ORGANIZATIONS

Submitted By	Condition(s) Requested	Potential Operating Plan Effects	Potential Environmental Impacts
Southeastern Pennsylvania Transportation Authority (SEPTA)	1. Long-term extension of Operating Agreement with SEPTA dispatch control of Trenton Line.	None.	None.
	2. Trackage rights for SEPTA light rail on Harrisburg and Morrisville Lines.	Potential impact on NS and CSX, which would operate on lines only at night. SEPTA has not completed study or obtained capital funding	Plans are too speculative to conduct environmental analysis
	3. CSX access to Lansdale via NS's freight-only Stoney Creek Branch, rather than via SEPTA Main Line.	Reduction in size and frequency of CSX local train on SEPTA Main Line. CSX access to Lansdale (and beyond) would be trackage rights on NS or haulage by NS. Increase in train size and frequency on NS Stoney Creek Branch that SEPTA owns and dispatches.	None.
	4. Restriction on CSX use of NS Morrisville Line for dimensional (oversized) traffic through Norristown.	Minimal impact at Norristown, under any SEPTA assumption.	None.
Virginia Railway Express (VRE) (Northern Virginia Transportation Commission, and Potomac and Rappahannock Transportation Commission)	Trackage rights on all lines presently used by VRE, and revision of its Operating/Access Agreements with NS and CSX.	Would result in Board's jurisdiction over trackage rights disputes.	None.

Key to table:

BRC = Belt Railway of Chicago
GTI = Guilford Transport Industries
IHB = Indiana Harbor Belt
MNCR = Metro-North Commuter Railroad Company
NEFCO = Northeast Ohio Four County Regional Planning & Development Organization
NJT = New Jersey Transit Corporation
NPRA = Northwest Pennsylvania Rail Authority
NYSW = New York, Susquehanna and Western Railway
NK = Interlocking in New Jersey on Conrail Lehigh Line
RI DOT = Rhode Island DOT
SEPTA = Southeastern Pennsylvania Transportation Authority
VRE = Virginia Railway Express

4.21 SETTLEMENT AGREEMENTS AND NEGOTIATED AGREEMENTS

4.21.1 Settlement Agreements

SEA used the Operating Plans and traffic projections from the Primary Application of the proposed Conrail Acquisition to determine which rail line segments, intermodal facilities, and rail yards to analyze in the Draft EIS. Following publication of the Draft EIS, SEA determined that certain additional facilities may require analysis, pursuant to Board regulations, because of operating changes that could result from Settlement Agreements between CSX and NS and other railroads, including any Settlement Agreements resulting from previously submitted IR applications.

For the purposes of this Final EIS, a Settlement Agreement is a privately negotiated settlement between CSX, NS, or both and one or more interested parties, including other railroads; the settlement agreement would become effective if the Board approves the proposed Conrail Acquisition. While the Board has not approved the terms of any Settlement Agreements, it is responsible for addressing significant environmental effects that may result from the implementation of a Settlement Agreement. Consequently, SEA is obligated to review the environmental effects of any Settlement Agreement that would change CSX's or NS's Operating Plans or traffic projections contained in the Primary Application. CSX and NS have entered into 21 Settlement Agreements with freight railroads that could provide the settling party with trackage rights and the right to add trains to affected rail line segments. Railroad activities on the affected rail line segments could exceed the Board's thresholds for environmental analysis as a result of such additional trains.

In a letter dated February 13, 1998, SEA requested that NS and CSX conduct an analysis of operating changes that could result from each Settlement Agreement with another freight railroad and provide SEA with either of the following documents:

- A Verified Statement attesting that the Settlement Agreement would have no significant environmental impacts, or

- A Supplemental Environmental Report for each Settlement Agreement analyzing potential environmental impacts that could result from rail activities that would meet or exceed the Board's thresholds for environmental analysis.

See Appendix C, "Settlement Agreements and Negotiated Agreements," for the copy of SEA's letter to CSX and NS. In response to SEA's February 13, 1998 request, on March 5, 1998, NS provided SEA with 11 Verified Statements and one Supplemental Environmental Report. On March 6, 1998, CSX provided nine Verified Statements. Appendix C, "Settlement Agreements and Negotiated Agreements," includes copies of the Verified Statements and the Supplemental Environmental Report.

Based on its review of these documents, SEA determined that 19 Settlement Agreements for which CSX and NS provided Verified Statements do not warrant additional environmental analysis because the anticipated rail activities would not meet or exceed the Board's thresholds for environmental analysis.

SEA determined that CSX's Settlement Agreement with Louisville and Indiana Railroad (LIRC) would affect traffic on several rail line segments in Indiana, Kentucky, Ohio, and Tennessee. Based on the revised Operating Plan that would result from this agreement, SEA identified two LIRC rail line segments (Louisville, Kentucky-to-Seymour, Indiana and Seymour, Indiana-to-Indianapolis, Indiana) that would exceed the Board's threshold for air quality analysis. CSX would divert the additional traffic from other rail line segments SEA had analyzed in the Draft EIS to the two affected rail line segments. SEA evaluated the air pollutant emissions for those two rail line segments and also revised emissions estimates for other segments that would experience traffic decreases as a result of the Settlement Agreement. Based on the evaluation and revisions, SEA determined that for all the affected counties, the net emissions resulting from the Settlement Agreement in conjunction with the proposed Conrail Acquisition would not have a significant air quality impact. See Section 4.10, "Air Quality," and Appendix I, "Air Quality Analysis," of this Final EIS for detailed discussion.

SEA also verified that the Settlement Agreement, covered by a Supplemental Environmental Report, which is between NS and the Indiana & Ohio Rail System, would not cause significant environmental impacts. SEA determined that the anticipated increase in Indiana & Ohio trains would cause only a slight increase in net NO_x emissions in Butler County, Ohio. This NO_x increase would be less than 1 percent of the existing county emissions. SEA considered this increase insignificant. See Section 4.10, "Air Quality," and Appendix I, "Air Quality Analysis," of this Final EIS for further discussion.

In a subsequent letter dated March 27, 1998, SEA requested that CSX and NS provide copies of these Settlement Agreements by April 15, 1998, for its review. See Appendix C, "Settlement Agreements and Negotiated Agreements," for the copy of SEA's letter to CSX and NS.

In response to the March 27th request, SEA received copies of 19 of the 21 Settlement Agreements CSX and NS had entered into with freight railroads. On May 8, 1998, NS informed SEA that NS's Settlement Agreements with the Eastern Shore Railroad and the Maryland and Delaware Railroad were verbal agreements and had not been documented. NS had provided SEA the Verified Statements attesting that the Settlement Agreements with these two railroads would have no significant environmental impacts because the agreements would not result in railroad activities that could exceed the Board's thresholds for environmental analysis.

SEA reviewed the documents it received to confirm the conclusions CSX and NS reached in their Verified Statements and the Supplemental Environmental Report and SEA's decision to evaluate the Louisville & Indiana Railroad rail line segment over which CSX would obtain trackage rights.

The following lists the parties that have entered into Settlement Agreements with CSX or NS or both:

CSX

1. Buffalo & Pittsburgh Railroad, Inc. (and its affiliates Allegheny & Eastern Railroad Inc., Rochester & Southern Railroad, Inc., Pittsburgh & Shawmut Railroad, Inc., and Genesee and Wyoming, Inc.).

2. Canadian National Railway Company.

3. Canadian Pacific Railway Company (and its affiliates Soo Line Railroad Company, Delaware and Hudson Railway Company, and St. Lawrence and Hudson Railway Company).

4. Central Railroad Company of Indiana/Central Railroad Company of Indianapolis.

5. Chicago, SouhShore & South Bend Railroad Company.

6. Iowa Interstate Railroad, Inc.

7. Louisville & Indiana Railroad.

8. Massachusetts Central Railroad Corporation.

9. Providence and Worcester Railroad Company.

NS

1. Black River and Western Railroad/Belevedere and Delaware River Railroad.

2. Buffalo & Pittsburgh Railroad (and its affiliates, Allegheny & Eastern Railroad, Rochester & Southern Railroad, and Pittsburgh & Shawmut Railroad).

3. Canadian National Railway.

4. Canadian Pacific Railway.

5. Chicago, SouthShore & South Bend Railroad.

6. Central Railroad of Indiana and Central Railroad of Indianapolis.

7. Eastern Shore Railroad (verbal agreement).

8. Illinois Central Railroad.

9. Rail System.

10. Maryland and Delaware Railroad (verbal agreement).

11. Michigan Southern Railroad.

12. Nittany and Bald Eagle Railroad (and its affiliates, North Shore Railroad, Shamolin Valley Railroad, and Union County Industrial Railroad).

4.21.2 Negotiated Agreements

For the purposes of this Final EIS, a Negotiated Agreement is an agreement between CSX, NS, or both and one or more communities or other governmental units (including passenger service organizations) that is directed at mitigating the potential environmental effects of the proposed Conrail Acquisition, with specified duties and responsibilities assigned to each party. In previous proceedings, the Board has required applicants to comply with the terms of these types of agreements as a condition of approval.

In a letter dated March 27, 1998, SEA requested that CSX and NS provide for SEA's review copies of all Negotiated Agreements that CSX or NS have reached with affected communities or organizations and status reports on negotiations under way by April 15, 1998. See Appendix C, "Settlement Agreements and Negotiated Agreements," for the copies of SEA's letters to CSX and NS.

By the publication date of this Final EIS, SEA received and reviewed 18 Negotiated Agreements. The following lists the parties that have entered into Negotiated Agreements with CSX or NS or both. SEA recommends that the Board require the Applicants to comply with the terms and conditions of these Negotiated Agreements.

CSX

1. State of Maryland, dated September 24, 1997.

2. Commonwealth of Pennsylvania and the City of Philadelphia, dated October 21, 1997.

3. City of East Cleveland, dated February 11, 1998.

4. Metra (Northeast Illinois Regional Commuter Railroad Corporation), dated February 19, 1998.

5. Village of Greenwich and the Board of Huron County, Ohio, dated March 23, 1998.

6. City of Newark, Delaware and the University of Delaware, dated May 12, 1998.

7. City of Brook Park, Ohio, dated February 17, 1998.

NS

1. State of Maryland, dated September 24, 1997.

2. Commonwealth of Pennsylvania and the City of Philadelphia, dated September 21, 1997.

3. The Toledo-Lucas County Port Authority and Toledo Metropolitan Area Council of Governments, dated February 18, 1998.

4. Erie, Pennsylvania, dated April 9, 1998.

5. City of Tilton, Illinois, dated April 14, 1998.

6 Fremont, Ohio, dated April 15, 1998.

7. Bellevue, Ohio, dated April 22, 1998.

8. City of East Cleveland, Ohio, dated April 27, 1998.

9. City of Danville, Illinois, dated May 5, 1998.

CSX and NS

1. Cities of Brook Park and Olmsted Falls, Ohio, dated February 24, 1998.

2. New Jersey Department of Transportation/New Jersey Transit Corporation, New Jersey, dated March 20, 1998.

4.22 ANTICIPATED ENVIRONMENTAL BENEFITS

The proposed Conrail Acquisition would result in anticipated system-wide environmental benefits in the areas of energy efficiency and consumption, air quality, hazardous materials transportation, and transportation safety. Truck-to-rail freight diversions, more efficient routes, fewer traffic delays, and improved technology could contribute to these potential benefits. In addition, railroad operations will decrease in many areas, resulting in beneficial environmental impacts in the communities along those rail line segments or adjacent to rail facilities with decreased activities.

4.22.1 Energy Efficiency and Consumption

SEA's energy analysis for the Draft EIS assessed the change in fuel consumption as a result of the proposed Conrail Acquisition. Because energy use can vary among locations, SEA conducted its energy analysis on a system-wide basis. Based on available information, SEA concluded that the proposed Conrail Acquisition should provide a net reduction in energy consumption. Overall fuel consumption would decrease as a result of truck-to-rail freight diversions and other regulatory and technology changes.

The proposed Conrail Acquisition could lead to a significant decrease in annual diesel fuel consumption as a result of the potential truck-to-rail diversions. Because locomotives use one-fifth of the fuel per ton-mile of freight than trucks, increased reliance on rail service and the use of more efficient and more direct routes could cause a net decrease in diesel fuel consumption. Based on the results of its analysis, SEA determined that truck-to-rail diversions and increased train traffic related to the proposed Conrail Acquisition could reduce diesel fuel consumption by approximately 80 million gallons annually.

4.22.2 Air Quality

SEA performed air quality analysis to determine projected emissions rates following the proposed Conrail Acquisition and compared the projected rates with existing conditions. Based on its air quality analysis, SEA estimated that system-wide net emissions of NO_x, particulate matter less than 10 microns in diameter, volatile organic compounds, and carbon monoxide would decrease following the proposed Conrail Acquisition. SEA estimated potential emissions using the projected Acquisition-related truck-to-rail diversions, system-wide changes in emissions at railyards and intermodal facilities, and highway/rail at-grade crossings with more than 5,000 vehicles per day. Based on the same analysis, SEA identified a slight increase in sulfur dioxide emissions (521 tons per year) because the sulfur content in locomotive fuels is typically higher than the sulfur content in truck fuel. However, SEA considers this sulfur dioxide increase to be insignificant compared with the several million tons of sulfur dioxide emitted annually by other sources in the states affected by the proposed Conrail Acquisition. Therefore, SEA concluded that the proposed Conrail Acquisition would result in a slight overall reduction of most air pollutant emissions.

4.22.3 Hazardous Materials Transport

For the Final EIS, SEA determined that the number of rail car miles of hazardous materials transport would increase by 2 percent following the proposed Conrail Acquisition, while rail yard freight car handling would decrease by 4 percent. On a system-wide basis, SEA determined that the proposed expansion of single-line rail service, which allows rail cars to be grouped for longer trips and fewer car-switching movements, would result in a 4 percent decrease in freight-car handling in rail yards. SEA determined that this overall decrease in freight car handling in rail yards would lead to an overall 14-percent decrease in the risk of a release or spill of hazardous materials arising from a rail yard accident.

The expected decrease in highway truck-miles resulting from Acquisition-related truck-to-rail freight diversions would also reduce the risk of hazardous materials accidents. The U.S. Bureau of Transportation Statistics indicates that railroads experience less than one-tenth the number of hazardous materials incidents compared with trucks, despite equal ton-mileage. Therefore, the diversion of hazardous materials from truck to rail transport may lead to a reduced number of hazardous materials incidents.

SEA expects that any increased risk in hazardous materials transport caused by the increased hazardous materials car miles following the proposed Conrail Acquisition would be more than offset by the lower risk resulting from the decreased rail yard activity and truck-miles. Moreover, it concluded that the proposed Conrail Acquisition would reduce the risk associated with hazardous materials transport on a system-wide basis.

4.22.4 Transportation Safety

The proposed Conrail Acquisition could benefit national and regional highway systems. The proposed Conrail Acquisition would result in changes to the freight rail network that would reduce truck traffic on major highways, including the interstate system, and on regional, state, and primary routes.

SEA's transportation analysis for the Draft EIS assessed the impact of the proposed Conrail Acquisition on rail and highway systems. Based on the Applicants' information, SEA anticipates that the proposed Conrail Acquisition would result in enhanced rail traffic safety through improved track maintenance and longer, more direct routes with fewer interchanges. SEA projected that the annual net reduction in truck travel as a result of the proposed Conrail Acquisition would be approximately 1.03 million truck trips. The Applicants estimated that the competition resulting from the proposed Conrail Acquisition would divert 782 million truck-miles of freight to rail service. Based on accident rates obtained from the U.S. Bureau of Transportation Statistics, this reduction in truck-miles would result in 1,600 fewer projected highway accidents annually. SEA reviewed the Applicants' data and analyses for estimating truck-to-rail diversions and determined that the procedures and results are reasonable.

4.23 SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS

SEA's analysis of the proposed Conrail Acquisition identified potential system-wide, regional, local, and site-specific adverse environmental impacts. On a system-wide basis, SEA's analysis showed no significant adverse environmental impacts. On a regional basis, SEA identified potential significant adverse environmental impacts on passenger rail safety and hazardous materials transport. On a local or site-specific basis, SEA identified potential significant adverse impacts on the following environmental issue areas: highway/rail at-grade crossing safety, traffic delay at highway/rail at-grade crossings, freight rail operations, noise, cultural resources, natural resources, and environmental justice. The following states could be affected by one or more potential environmental impacts: Alabama, Delaware, Georgia, Illinois, Indiana, Kentucky, Maryland, Michigan, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, and the District of Columbia.

Table 4-7 of the Final EIS, "Summary of Adverse Environmental Impacts by State," presents an alphabetical listing of the potential adverse environmental impacts, which SEA identified for mitigation. This summary incorporates impacts identified for both the Draft EIS and, where applicable, as a result of the additional analysis SEA performed after the issuance of the Draft EIS. These site-specific potential impacts are listed for the applicable states. The table also includes the potential adverse environmental impacts SEA identified for the communities where SEA conducted additional analysis as discussed in Section 4.19, "Community Evaluations."

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
ALABAMA				
Safety	C-376: La Grange, GA – Parkwood, AL	Rail Line Segment	Jefferson, Shelby, Talladega, Clay, Randolph, Chambers	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	CY01: Boyles Rail Yard	Rail Yard	Jefferson	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Jefferson County City of Birmingham
DELAWARE				
Cultural Resources	NR01: Shellpot Bridge	Construction	New Castle	Rehabilitation of Shellpot Bridge at Wilmington.
Natural Resources	NR01: Shellpot Bridge	Construction	New Castle	Recommended environmental conditions apply to proposed construction activities to reduce or avoid the potential for environmental impacts as a result of the proposed Acquisition. Expanding existing rail yard to accommodate intermodal facility.
Community	Newark	Rail Line Segment	New Castle	Pedestrian safety and safety at highway/rail at-grade crossings. CSX shall comply with the terms and conditions of its executed Negotiated Agreements with the City of Newark, Delaware and the University of Delaware. Hudson County City of Newark University of Delaware

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
			GEORGIA	
Safety	C-346: Savannah – Jesup	Rail Line Segment	Wayne, Long, Liberty, Chatham	*Passenger Rail Safety*: Increase in estimated frequency of accidents between passenger and freight trains.
	C-376: La Grange, GA – Parkwood, AL	Rail Line Segment	Troup	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	C-377: Manchester – La Grange	Rail Line Segment	Troup, Meriwether	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	NY01: Doraville Rail Yard	Rail Yard	DeKalb	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. DeKalb County City of Doraville
	CM01: Hulsey Intermodal	Intermodal Facility	Fulton	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Fulton County City of Atlanta
	NM01: Inman Intermodal	Intermodal Facility	Fulton	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Fulton County City of Atlanta

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
			ILLINOIS	
Safety	N-033: Tilton – Decatur	Rail Line Segment	Piatt	*Highway/Rail At-grade Crossing Safety:* Increase in potential for vehicle-train accident. Piatt County TR 145
	N-045: Lafayette Jct., IN – Tilton, IL	Rail Line Segment	Vermilion	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A major key route).
	NY02: Colehour Rail Yard	Rail Yard	Cook	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Cook County City of Chicago
	CM02: 59th Street Intermodal	Intermodal Facility	Cook	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Cook County City of Chicago
	NM02: Landers Intermodal	Intermodal Facility	Cook	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Cook County City of Chicago
	NM03: 47th Street Intermodal	Intermodal Facility	Cook	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Cook County City of Chicago

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
ILLINOIS (Continued)				
Transportation	C-010: Barr Yard – Blue Island Jct.	Rail Line Segment	Cook	*Highway/Rail At-grade Crossing Delay:* Increase in vehicle delay at crossing. Cook County Dixie Highway Broadway Street - 135th Street at Blue Island
Cultural Resources	CC-01: 75th Street, Chicago Connection	Construction	Cook	Interlocking Tower will be demolished. CSX shall not alter the historic integrity of the 75th Street Interlocking Tower until it completes Section 106 process of the National Historic Preservation Act.
	CC-02: Exermont Connection	Construction	St. Clair	The Branta's Landing/Mees-Notcha archaeological site will be disturbed by construction activities.
Natural Resources	CC01: 75th Street, Chicago Connection	Construction	Cook	Recommended environmental conditions apply to proposed construction activities to reduce or avoid the potential for environmental impacts as a result of the proposed Acquisition.
	CC02: Exermont Connection	Construction	St. Clair	Recommended environmental conditions apply to proposed construction activities to reduce or avoid the potential for environmental impacts as a result of the proposed Acquisition.
	CC03: Lincoln Avenue, Chicago Connection	Construction	Cook	Recommended environmental conditions apply to proposed construction activities to reduce or avoid the potential for environmental impacts as a result of the proposed Acquisition.
	NC01: Kankakee Connection	Construction	Kankakee	Recommended environmental conditions apply to proposed construction activities to reduce or avoid the potential for environmental impacts as a result of the proposed Acquisition. Expanding existing rail yard to accommodate intermodal facility.

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
ILLINOIS (Continued)				
Community	Tilton	Rail Line Segment	Vermilion	Traffic delay and safety at highway/rail at-grade crossings. NS shall comply with the terms and conditions of its Negotiated Agreement with the City of Tilton, Illinois. Vermilion County City of Tilton
	Tolono	Rail Line Segment	Champaign	Traffic delay and safety at highway/rail at-grade crossings. NS shall limit construction of the Tolono Connection to within the existing railroad right-of-way, so as to avoid permanent, adverse effects on Daggy Street or nearby residential properties. Champaign County City of Tolono
INDIANA				
Safety	C-027: Willow Creek – Pine Jct.	Rail Line Segment	Lake	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Lake County Countyline Road Lake Street Hobart Road Clarke Road

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
INDIANA (Continued)				
Safety	C-066: Deshler, OH – Willow Creek, IN	Rail Line Segment	De Kalb, Elkhart, Kosciusko, La Porte, Marshall, Noble, Porter, St. Joseph, Lake	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Elkhart County: CR 9 Kosciusko County: Seventh Street; Huntington Street; Main/Syr-Web; Oak Street La Porte County: CR 875 E; 500W Marshall County: First Road-Smith; Thorn Road Noble County: CR 500 W.; 900 W. Porter County: 900 North *Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A major key route).

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
INDIANA (Continued)				
Safety	N-040: Alexandria – Muncie	Rail Line Segment	Delaware, Madison	*Highway/Rail At-grade Crossing Safety:* Increase in potential for vehicle-train accident. Madison County CR 100 E. *Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-041: Butler – Fort Wayne	Rail Line Segment	De Kalb, Allen	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Allen County Notestine Road Estella Avenue Anthony Boulevard *Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route and a major key route).
	N-042: Control Point 501 – Indiana Harbor	Rail Line Segment	Lake	*Freight Rail Operations*: Increase in accident frequency.

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
INDIANA (Continued)				
Safety	N-044: Fort Wayne – Peru	Rail Line Segment	Miami, Wabash, Huntington, Allen	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Allen County: Engle Road Huntington County: Briant Street Wabash County: Olive Street *Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A major key route).
	N-045: Lafayette Jct., IN – Tilton, IL	Rail Line Segment	Warren, Fountain, Tippecanoe	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Tippecanoe County CR 172 CR 400 S *Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A major key route).

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
			INDIANA (Continued)	
Safety	N-046: Peru – Lafayette Jct.	Rail Line Segment	Carroll, Cass, Miami Tippecanoe	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Carroll County / Cass County / Miami County Washington St./CR 100 E. / Cedar Street / CR 250 W. Meridian Line / 18th Street Tippecanoe County 8th Street / Smith Street / 18th Street 7th Street / CR 900 N. / 17th & Salem Streets Romig Street / CR 700 N. 5th Street / CR 500 E. / Union Street 4th Street/US 231 / Greenbush Street *Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A major key route).
	CY02: Curtis Rail Yard	Rail Yard	Lake	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Lake County City of Gary
	NY03: Ft. Wayne Rail Yard	Rail Yard	Allen	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Allen County City of Ft. Wayne

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
			INDIANA (Continued)	
Transportation	CC-05: Willow Creek Connection	Rail Line Segment	Porter	Hazardous Materials Transport.
	C-066: Deshler, OH – Willow Creek, IN	Rail Line Segment	DeKalb	*Highway/Rail At-grade Crossing Delay*: Increase in vehicle delay at crossing. DeKalb County Randolph Street
Noise	C-026: Warsaw – Tolleston	Rail Line Segment	Kosciusko, La Porte, Lake, Marshall, Porter, Starke	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and increase of at least 5 dBA. Kosciusko County: Etna Green Marshall County: Plymouth
	N-040: Alexandria – Muncie	Rail Line Segment	Madison, Delaware	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and increase of at least 5 dBA. Communities: Alexandria Muncie
	CC-05: Willow Creek Connection	Rail Line Segment	Porter	Wheel squeal noise.
Natural Resources	NC05: Butler Connection	Construction	De Kalb	Recommended environmental conditions apply to proposed construction activities to reduce or avoid the potential for environmental impacts as a result of the proposed Acquisition. Expanding existing rail yard to accommodate intermodal facility.
	NC06: Tolleston Connection	Construction	Lake	Recommended environmental conditions apply to proposed construction activities to reduce or avoid the potential for environmental impacts as a result of the proposed Acquisition. Expanding existing rail yard to accommodate intermodal facility.

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
INDIANA (Continued)				
Environmental Justice	NA02: Dillon Junction – South Bend Abandonment	Abandonment	St. Joseph, La Porte	Recommended environmental conditions apply to proposed abandonment activities to reduce or avoid the potential for environmental impacts as a result of the proposed Acquisition. Expanding existing rail yard to accommodate intermodal facility.
	N-045: Lafayette Jct., IN – Tilton, IL	Rail Line Segment	Fountain	Minority and low-income population: Hazardous Materials Transport Noise Fountain County Attica
	Gary	Rail Line Segment	Lake	Minority and low-income population: Noise
	C-′66: Deshler, OH – Willow Creek, IN	Rail Line Segment	Porter	Minority and low-income population: Hazardous Materials Transport Porter County Portage
	N-046: Peru – Lafayette Jct.	Rail Line Segment	Tippecanoe	Minority and low-income population: Hazardous Materials Transport Tippecanoe County Lafayette City
Community	Delphi	Rail Line Segment	Carroll	Train horn noise.

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
INDIANA (Continued)				
Community	Four City Consortium	Rail Line Segment	Lake	Traffic delay and safety concerns (gate avoidance) at highway/rail at-grade crossings. East Chicago – Operational Improvements C-023: Pine Junction and Barr Yard C-024: Tolleston – Clark Junction C-026: Warsaw – Tolleston Indiana Harbor Belt Railroad Reduce railroad congestion and blockage at highway/rail at-grade crossings to the extent practicable.
	Huntington	Rail Line Segment	Huntington	Train horn noise.
	Logansport	Rail Line Segment	Cass	Train horn noise.
KENTUCKY				
Safety	C-230: NJ Cabin, KY – Columbus, OH	Rail Line Segment	Greenup	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	NM04: Buechel Intermodal	Intermodal Facility	Jefferson	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Jefferson County City of Louisville

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
KENTUCKY (Continued)				
Transportation	C-021: Evansville, IN – Amqui, TN	Rail Line Segment	Hopkins	*Highway/Rail At-grade Crossing Delay*: Increase in vehicle delay at crossing. Hopkins County West Noel Avenue
LOUISIANA				
Safety	NM05: Oliver Intermodal	Intermodal Facility	Orleans	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Orleans County City of New Orleans
MARYLAND				
Safety	C-003: Washington, DC – Pt. of Rocks, MD	Rail Line Segment	Frederick, Montgomery	*Passenger Rail Safety*: Increase in risk of passenger train accidents.
	C-031: Alexandria Jct., MD – Washington, DC	Rail Line Segment	Prince George's	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	C-034: Jessup – Alexandria Jct.	Rail Line Segment	Anne Arundel, Prince George's	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	C-037: Relay – Jessup	Rail Line Segment	Anne Arundel, Baltimore, Howard	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
MARYLAND (Continued)				
Safety	N-091: Harrisburg, PA – Riverton Jct., VA	Rail Line Segment	Washington	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Washington County Reiff Church Road Shawley Drive
	NM06: E. Lombard Street Intermodal	Intermodal Facility	City of Baltimore	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. City of Baltimore
Natural Resources	NC07: Hagerstown Connection	Construction	Washington	Recommended environmental conditions apply to proposed construction activities to reduce or avoid the potential for environmental impacts as a result of the proposed Acquisition. Expanding existing rail yard to accommodate intermodal facility.
Community	State of Maryland	Rail Line Segment	Various Counties in Maryland	CSX shall comply with the terms and conditions of its Negotiated Agreement with the State of Maryland. NS shall comply with the terms and conditions of its Negotiated Agreement with the State of Maryland.
MICHIGAN				
Safety	S-020: Carleton – Ecorse	Rail Line Segment	Monroe, Wayne	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Wayne County Pennsylvania Road
	CY03: Rougemere Rail Yard	Rail Yard	Wayne	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Wayne County City of Detroit

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
MICHIGAN (Continued)				
Safety	NM07: Melvindale Intermodal	Intermodal Facility	Wayne	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Wayne County City of Detroit
Noise	S-020: Carleton – Ecorse	Rail Line Segment	Monroe, Wayne	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and an increase of at least 5 dBA. Communities: Lincoln Park, Allen Park, Taylor, Brownstown, Huron, Carleton
Natural Resources	NC08: Ecorse Junction Connection	Construction	Wayne	Recommended environmental conditions apply to proposed construction activities to reduce or avoid the potential for environmental impacts as a result of the proposed Acquisition. Expanding existing rail yard to accommodate intermodal facility.
MISSOURI				
Safety	N-478: Moberly – CA Junction	Rail Line Segment	Randolph, Charlton, Carroll, Ray	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	NY04: Luther Rail Yard	Rail Yard	St. Louis	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. St. Louis County City of St. Louis

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
MISSOURI (Continued)				
Safety	NM08: Voltz Intermodal	Intermodal Facility	Clay	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Clay County City of Kansas City
	NM09: Luther Intermodal	Intermodal Facility	St. Louis	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. St. Louis County City of St. Louis
NEW JERSEY				
Safety	C-768: CP Wood, PA – Trenton, NJ	Rail Line Segment	Mercer	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	C-769: Trenton – Port Reading	Rail Line Segment	Mercer, Somerset	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	S-032: PN – Bayway	Rail Line Segment	Union, Essex	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A major key route).
	S-233: Philadelphia Frankford Jct., PA – Camden, NJ	Rail Line Segment	Camden	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
NEW JERSEY (Continued)				
Safety	CM03: Little Ferry Intermodal	Intermodal Facility	Bergen	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Bergen County City of Little Ferry
	CM04: South Kearny Intermodal	Intermodal Facility	Hudson	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Hudson County City of South Kearny
	NM10: E-Rail Intermodal	Intermodal Facility	Union	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Union County City of Elizabeth
	SM01: Portside Intermodal	Intermodal Facility	Union, Essex	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Union/Essex Counties City of Elizabeth
Natural Resources	CC04: Little Ferry	Construction	Bergen	Recommended environmental conditions apply to proposed construction activities to reduce or avoid the potential for environmental impacts as a result of the proposed Acquisition. CSX proposes two separate connections (600 and 480 feet in length) at Little Ferry, New Jersey.

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
NEW JERSEY (Continued)				
Community	New Jersey Department of Transportation	Rail Line Segment	Various Counties in New Jersey	CSX shall comply with the terms and conditions of its Negotiated Agreement with the New Jersey Department of Transportation.
NEW YORK				
Safety	N-061: Ebenezer Jct. – Buffalo	Rail Line Segment	Erie	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-062: Suffern – Campbell Hall	Rail Line Segment	Orange, Rockland	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-063: Campbell Hall – Port Jervis	Rail Line Segment	Orange	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-065: Corning – Buffalo	Rail Line Segment	Erie, Wyoming, Allegany, Steuben, Livingston, Genesse	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-070: Buffalo FW, NY – Ashtabula, OH	Rail Line Segment	Chautauqua, Erie	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Chautauqua County Loomis Street *Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key and a major key route).

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
NEW YORK (Continued)				
Safety	N-245: Port Jervis – Binghamton	Rail Line Segment	Broome, Delaware, Sullivan, Orange	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-246: Binghamton – Waverly	Rail Line Segment	Tioga, Broome	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-247: Waverly – Corning	Rail Line Segment	Chemung, Steuben, Tioga	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	NY05: Bison Rail Yard	Rail Yard	Erie	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Erie County City of Buffalo
Natural Resources	NC09: Buffalo (Blasdell) Connection	Construction	Erie	Recommended environmental conditions apply to proposed construction activities to reduce or avoid the potential for environmental impacts as a result of the proposed Acquisition. Expanding existing rail yard to accommodate intermodal facility.
	NC10: Buffalo (Gardenville Junction) Connection	Construction	Erie	Recommended environmental conditions apply to proposed construction activities to reduce or avoid the potential for environmental impacts as a result of the proposed Acquisition. Expanding existing rail yard to accommodate intermodal facility.

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
SENECA NATION OF INDIANS				
Environmental Justice	N-070: Buffalo FW, NY – Ashtabula, OH	Construction	N/A	Minority and low-income population: Hazardous Materials Transport Seneca Nation [Buffalo (Gardenville Junction) Connection]
NORTH CAROLINA				
Safety	C-103: S. Richmond, VA -- Weldon, NC	Rail Line Segment	Northampton	*Passenger Rail Safety*: Increase in risk of passenger train accidents.
	C-334: Weldon – Rocky Mount	Rail Line Segment	Northampton, Halifax, Nash, Edgecomb	*Passenger Rail Safety*: Increase in risk of passenger train accidents.
	N-360: Salisbury – Asheville	Rail Line Segment	Rowan, Iredell, Catawba, Burke, McDowell, Buncombe	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-361: Asheville, NC – Leadvale, TN	Rail Line Segment	Madison, Buncombe	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
			OHIO	
Safety	C-061: Berea – Greenwich	Rail Line Segment	Cuyahoga, Huron, Lorain	*Highway/Rail At-grade Crossing Safety:* Increase in potential for vehicle-train accident. Huron County Townline *Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A major key route). *Freight Rail Operations:* Increase in accident frequency.
	C-065: Deshler – Toledo	Rail Line Segment	Henry, Wood	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Henry County Main Street North Street Wood County Range Line Road, Fire Point Road, W. Boundary St. Kellogg Road, Roachton Road, Ford Road Washington Street, Eckel Jct. Road, Bates Road Tontogony Road, Eckel Road, Schrick Road Middletown Pike, Eckel Road *Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
			OHIO (Continued)	
Safety	C-066: Deshler, OH – Willow Creek, IN	Rail Line Segment	Defiance, Henry	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A major key route).
	C-068: Greenwich – Willard	Rail Line Segment	Huron	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A major key route). *Freight Rail Operations*: Increase in accident frequency.
	C-069: Marcy – Short	Rail Line Segment	Cuyahoga	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key and a major key route).
	C-070: Marion – Fostoria	Rail Line Segment	Delaware, Franklin, Hancock, Marion, Seneca, Wyandot, Wood	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Seneca County Main Street Twp. 0180 *Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key and a major key route).
	C-071: Marion – Ridgeway	Rail Line Segment	Hardin, Marion	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Hardin County Marsh Road

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
OHIO (Continued)				
Safety	C-072: Mayfield–Marcy	Rail Line Segment	Cuyahoga	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident. (A key and a major key route).
	C-073: Quaker – Mayfield	Rail Line Segment	Cuyahoga	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key and a major key route).
	C-074: Short – Berea	Rail Line Segment	Cuyahoga	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key and a major key route).
	C-075: Willard – Fostoria	Rail Line Segment	Huron, Seneca	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A major key route). *Freight Rail Operations*: Increase in accident frequency.
	C-228: Fostoria – Toledo	Rail Line Segment	Seneca, Wood	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident. (A key and a major key route).
	C-229: Columbus – Marion	Rail Line Segment	Marion, Delaware, Franklin	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	C-230: NJ Cabin, KY – Columbus, OH	Rail Line Segment	Marion, Franklin, Pickaway, Pike, Ross	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
			OHIO (Continued)	
Safety	N-070: Buffalo FW, NY – Ashtabula, OH	Rail Line Segment	Ashtabula	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key and a major key route).
	N-071: Bucyrus – Bellevue	Rail Line Segment	Crawford, Sandusky, Seneca, Huron	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Crawford County Andrews
	N-072: Vermilion – Bellevue	Rail Line Segment	Huron, Erie, Sandusky	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-073: Fairgrounds (Columbus) – Bucyrus	Rail Line Segment	Crawford, Delaware, Franklin, Marion	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Crawford County Hopley Marion County Galion-Marseilles Scott Twp. Road-190
	N-074: Cleveland–CP-190	Rail Line Segment	Cuyahoga	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A major key route).
	N-075: Ashtabula – Cleveland	Rail Line Segment	Cuyahoga, Lake, Ashtabula	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key and a major key route).
	N-077: Oak Harbor – Miami	Rail Line Segment	Lucas, Ottawa, Wood	*Freight Rail Operations*: Increase in accident frequency.

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
OHIO (Continued)				
Safety	N-079: Oak Harbor – Bellevue	Rail Line Segment	Ottawa, Sandusky	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Sandusky County Kilbourne Street CR 292 Fangboner Road *Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-080: Cleveland – Vermilion	Rail Line Segment	Cuyahoga, Erie, Lorain	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key and a major key route).
	N-081: White – Cleveland	Rail Line Segment	Cuyahoga	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A major key route).
	N-082: Youngstown – Ashtabula	Rail Line Segment	Ashtabula, Mahoning, Trumbull	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-085: Bellevue – Sandusky Dock	Rail Line Segment	Erie, Huron	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Erie County Bradshar Skadden/CR 42

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
OHIO (Continued)				
Safety	N-086: Miami – Airline	Rail Line Segment	Lucas	*Freight Rail Operations*: Increase in accident frequency.
	N-095: Rochester, PA – Youngstown, OH	Rail Line Segment	Mahoning	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-293C: CP-190–Berea	Rail Line Segment	Cuyahoga	*Freight Rail Operations*: Increase in accident frequency.
	CY04: Stanley Rail Yard	Rail Yard	Wood	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Wood County City of Toledo
	NY06: Conneaut Rail Yard	Rail Yard	Ashtabula	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Ashtabula County City of Conneaut
	NY07: Homestead Rail Yard	Rail Yard	Lucas	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Lucas County City of Toledo
	NY08: Airline Rail Yard	Rail Yard	Lucas	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Lucas County City of Toledo

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
OHIO (Continued)				
Safety	NM11: Sandusky Intermodal	Intermodal Facility	Erie	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Erie County City of Sandusky
	NM12: Discovery Park Intermodal	Intermodal Facility	Franklin	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Franklin County City of Columbus
	CC-06: Greenwich Connection	Rail Line Segment	Huron	CSX shall comply with its Negotiated Agreement executed with the Village of Greenwich, Ohio and the Board of Huron County, Ohio Commissioners regarding relocation of the connection construction project in Greenwich. Hazardous Materials Transport.
	NC-11: Bucyrus Connection	Rail Line Segment	Crawford	Hazardous Materials Transport.
Transportation	C-063: Cincinnati – Hamilton	Rail Line Segment	Butler, Hamilton, Sandusky	*Highway/Rail At-grade Crossing Delay*: Increase in vehicle delay at crossing. Butler County — Vine Street Hamilton County — Township Avenue
	NC-12: Columbus Connection	Construction	Franklin	*Safety and Traffic:* Vertical alignment of new highway/rail at-grade crossing.
	NC-13: Oak Harbor Connection	Construction	Ottawa	*Safety and Traffic:* Vertical alignment of new highway/rail at-grade crossing.

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
OHIO (Continued)				
Safety	NC-14: Vermilion Connection	Construction	Erie	*Safety and Traffic:* Vertical alignment of new highway/rail at-grade crossing.
Noise	C-061: Berea – Greenwich	Rail Line Segment	Cuyahoga, Lorain, Huron	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and an increase of at least 5 dBA. Communities: Berea, Grafton, Rochester Olmsted Falls, LaGrange, New London Eaton Estates CDF, Wellington
	C-065: Deshler – Toledo	Rail Line Segment	Henry, Wood	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and an increase of at least 5 dBA. Communities: Perrysburg, Weston, Deshler Haskins, Milton Center Tontogany, Custer
	C-072: Mayfield – Marcy	Rail Line Segment	Cuyahoga	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and an increase of at least 5 dBA. Communities: Cleveland Cuyahoga Heights
	C-073: Quaker – Mayfield	Rail Line Segment	Cuyahoga	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and an increase of at least 5 dBA Community: Cleveland

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
			OHIO (Continued)	
Noise	C-074: Short – Berea	Rail Line Segment	Cuyahoga	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and an increase of at least 5 dBA. Communities: Middleburg Heights Berea
	N-074: Cloggsville–CP 190	Rail Line Segment	Cuyahoga	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and an increase of at least 5 dBA. Communities: Cleveland Brooklyn Linndale
	N-079: Oak Harbor – Bellevue	Rail Line Segment	Huron, Ottawa, Sandusky	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and an increase of at least 5 dBA. Communities: Kingsway Booktown Fremont Clyde
	N-085: Bellevue – Sandusky Dock	Rail Line Segment	Huron, Erie, Sandusky	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and an increase of at least 5 dBA. Communities: Weyers Parkertown

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
OHIO (Continued)				
Noise	CC-06: Greenwich Connection	Rail Line Segment	Huron	CSX shall comply with its Negotiated Agreement executed with the Village of Greenwich, Ohio and the Board of Huron County, Ohio Commissioners regarding relocation of the connection construction project in Greenwich. Wheel squeal noise.
Cultural Resources	CR-03: Collinwood Yard, Cleveland	Construction	Cuyahoga	Acquisition and probable destruction of four to nine extant historic district contributors.
	NC-11: Bucyrus Connection	Construction	Crawford	NS shall retain its interest in and take no steps to alter the historic integrity of sites identified at Bucyrus, Ohio until completion of the Section 106 process of the National Historic Preservation Act.
Natural Resources	CR-03: Collinwood Yard, Cleveland	Construction	Cuyahoga	Expand existing rail yard to accommodate intermodal facility.
	NC-14: Vermilion Connection	Construction	Erie	Potential impacts on endangered Indiana bat.
	NC12: Columbus Connection	Construction	Franklin	Expanding existing rail yard to accommodate intermodal facility.
	NC13: Oak Harbor Connection	Construction	Ottawa	Expanding existing rail yard to accommodate intermodal facility.
	NC14: Vermilion Connection	Construction	Erie	Expanding existing rail yard to accommodate intermodal facility.

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
OHIO (Continued)				
Natural Resources	NA03: Toledo - Maumee Abandonment	Abandonment	Lucas	Expanding existing rail yard to accommodate intermodal facility.
Environmental Justice	C-074: Short – Berea	Rail Line Segment	Cuyahoga	Minority and low-income population: Hazardous Materials Transport Cuyahoga County City of Berea
	C-072: Mayfield – Marcy	Rail Line Segment	Cuyahoga	Minority and low-income population: Hazardous Materials Transport Cuyahoga County City of Cleveland
	C-072: Mayfield – Marcy	Rail Line Segment	Cuyahoga	Minority and low-income population: Hazardous Materials Transport Cuyahoga County City of Cleveland Heights
	C-073: Quaker – Mayfield	Rail Line Segment	Cuyahoga	Minority and low-income population: Hazardous Materials Transport Cuyahoga County City of Cleveland
	C-073: Quaker – Mayfield	Rail Line Segment	Cuyahoga	Minority and low-income population: Hazardous Materials Transport Cuyahoga County City of East Cleveland

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
			OHIO (Continued)	
Environmental Justice	N-075: Ashtabula – Cleveland	Rail Line Segment	Cuyahoga	Minority and low-income population: Hazardous Materials Transport Cuyahoga County City of Cleveland
	N-075: Ashtabula – Cleveland	Rail Line Segment	Cuyahoga	Minority and low-income population: Hazardous Materials Transport Cuyahoga County City of Cleveland Heights
	N-075: Ashtabula – Cleveland	Rail Line Segment	Cuyahoga	Minority and low-income population: Hazardous Materials Transport Cuyahoga County City of East Cleveland
	N-075: Ashtabula – Cleveland	Rail Line Segment	Cuyahoga	Minority and low-income population: Hazardous Materials Transport Cuyahoga County City of Euclid
	N-075: Ashtabula – Cleveland	Rail Line Segment	Lake	Minority and low-income population: Hazardous Materials Transport Lake County City of Mentor
	N-075: Ashtabula – Cleveland	Rail Line Segment	Lake	Minority and low-income population: Lake County City of Painesville

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
			OHIO (Continued)	
Environmental Justice	C-061: Berea – Greenwich	Rail Line Segment	Huron	Minority and low-income population: Hazardous Materials Transport Huron County City of New London
	C-068: Greenwich – Willard	Rail Line Segment	Huron	Minority and low-income population: Hazardous Materials Transport Huron County City of Willard
	C-066: Deshler, OH – Willow Creek, IN	Rail Line Segment	Defiance	Minority and low-income population: Hazardous Materials Transport Defiance County Defiance City
	C-066: Deshler, OH – Willow Creek, IN	Rail Line Segment	Henry	Minority and low-income population: Hazardous Materials Transport Henry County Holgate Village
	C-075: Willard – Fostoria	Rail Line Segment	Seneca	Minority and low-income population: Hazardous Materials Transport Seneca County City of Fostoria
	C-075: Willard – Fostoria	Rail Line Segment	Seneca	Minority and low-income population: Hazardous Materials Transport Seneca County City of Tiffin

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
OHIO (Continued)				
Environmental Justice	C-075: Willard – Fostoria	Rail Line Segment	Huron	Minority and low-income population: Hazardous Materials Transport Huron County City of Willard
Community	Ashtabula	Rail Line Segment	Ashtabula	With the concurrence of the City of Ashtabula, Ohio, NS shall provide install, and maintain a real-time train location monitoring system to improve local emergency response vehicle dispatching.
	Bellevue	Rail Line Segment	Sandusky	NS shall comply with the terms and conditions of its Negotiated Agreement executed with the City of Bellevue, Ohio.
	Brook Park	Rail Line Segment	Cuyahoga	CSX shall comply with the terms and conditions of its Negotiated Agreement dated February 17, 1998 with the City of Brook Park, Ohio.
	Brook Park and Olmsted Falls	Rail Line Segment	Cuyahoga	CSX and NS shall comply with the terms and conditions of their Negotiated Agreement dated February 24, 1998 with the Cities of Brook Park and Olmsted Falls, Ohio.
	Cleveland	Rail Line Segment	Cuyahoga	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. The Applicants shall construct and maintain, where not already present, fencing and landscaping at various locations within the City of Cleveland. Cuyahoga County City of Cleveland

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
OHIO (Continued)				
Community	Greater Cleveland Area	Rail Line Segment	Cuyahoga	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. The Applicants shall install and maintain supplemental train defect detection devices at various locations within the Greater Cleveland Area.
	Fostoria	Rail Line Segment	Seneca	Minority and low-income population: Hazardous Materials Transport Traffic delay and safety at highway/rail at-grade crossings. Seneca County City of Fostoria
	New London	Rail Line Segment	Huron	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Synchronization of warning devices at highway/rail at-grade crossing of State Route 162 in New London, with devices of Wheeling and Lake Erie Railroad at the same location. Huron County City of New London
	Oak Harbor	Rail Line Segment	Ottawa	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident.
	Oxford Township	Rail Line Segment	Butler	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Upgrading warning devices from passive to flashing lights at highway/rail at-grade crossing of Thomas Road in Oxford Township. Butler County Town of Oxford Township

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
OHIO (Continued)				
Community	Defiance	Rail Line Segment	Defiance	Minority and low-income population: Hazardous Materials Transport *Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Installation and maintenance of advance warning devices at highway/rail at-grade crossing at U.S. Route 24 in Defiance. Defiance County City of Defiance
	East Cleveland	Rail Line Segment	Cuyahoga	CSX shall comply with the terms and conditions of its Negotiated Agreement executed with the City of East Cleveland, Ohio. NS shall comply with the terms and conditions of its Negotiated Agreement executed with the City of East Cleveland, Ohio. Cuyahoga County City of East Cleveland
	Peru	Rail Line Segment	Huron	Train horn noise.
	Toledo	Rail Line Segment	Lucas	NS shall comply with the terms of its Negotiated Agreement with the Toledo-Lucas County Port Authority and the Toledo Metropolitan Area Council of Governments.
	Vermilion	Rail Line Segment	Erie	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident.

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
			PENNSYLVANIA	
Safety	C-766: West Falls – CP Newton Jct.	Rail Line Segment	Philadelphia	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident. (A key route).
	C-767: CP Newton Jct. – CP Wood	Rail Line Segment	Bucks, Philadelphia	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	C-768: CP Wood, PA – Trenton, NJ	Rail Line Segment	Bucks	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-070: Buffalo FW, NY – Ashtabula, OH	Rail Line Segment	Erie	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Erie County Peach Street — Raspberry Street Cherry Street — Lucas Road *Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key and a major key route).
	N-090: Rutherford – Harrisburg	Rail Line Segment	Dauphin	*Freight Rail Operations*: Increase in accident frequency.

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
PENNSYLVANIA (Continued)				
Safety	N-091: Harrisburg, PA – Riverton Jct, VA	Rail Line Segment	Cumberland, Franklin Dauphin, York	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. <u>Cumberland County</u> / <u>Franklin County</u> York Road/SR 74 / Guilford Springs Road Criswall / Alleman Mill / Hayes Road
	N-095: Rochester, PA – Youngstown, OH	Rail Line Segment	Lawrence, Beaver	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-203: Bethlehem – Allentown	Rail Line Segment	Lehigh, Northampton	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-216: Reading – Reading Belt Jct.	Rail Line Segment	Berks	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	S-232: Park Jct. – Philadelphia Frankford Jct.	Rail Line Segment	Philadelphia	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	S-233: Philadelphia Frankford Jct., PA – Camden, NJ	Rail Line Segment	Philadelphia	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
PENNSYLVANIA (Continued)				
Safety	SY01: Greenwich Rail Yard	Rail Yard	Philadelphia	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Philadelphia County City of Philadelphia
	NY09: Harrisburg Rail Yard	Rail Yard	Dauphin	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Philadelphia County City of Harrisburg
	CM05: Greenwich Intermodal	Intermodal Facility	Philadelphia	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Philadelphia County City of Philadelphia
	NM13: New AmeriPort/South Philadelphia Intermodal	Intermodal Facility	Philadelphia	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Philadelphia County City of Philadelphia
	NM14: Allentown Intermodal	Intermodal Facility	Lehigh	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Lehigh County City of Allentown
	NM15: Rutherford Intermodal	Intermodal Facility	Dauphin	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Dauphin County City of Harrisburg

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
PENNSYLVANIA (Continued)				
Safety	NM16: Morrisville Intermodal	Intermodal Facility	Bucks	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Bucks County City of Morrisville
	NM17: Pitcairn Intermodal	Intermodal Facility	Allegheny	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Allegheny County City of Pittsburgh
Noise	C-085: Sinns – Brownsville	Rail Line Segment	Allegheny, Fayette, Westmoreland	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and an increase of at least 5dBA. Communities: McKeesport, Elkhorn, Milesville Glassport, East Monongahela, Webster Lincoln, Manown, Belle Vernon Elizabeth, Gallatin, Fayette Bunola, Sunny Side, Newell
Environmental Justice	N-070: Buffalo FW, NY – Ashtabula, OH	Rail Line Segment	Erie	Minority and low-income population: Hazardous Materials Transport Traffic delay and safety on 19th Street. NS shall comply with the terms and conditions of its Negotiated Agreement with the City of Erie, Pennsylvania. Erie County City of Erie

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
PENNSYLVANIA (Continued)				
Community	Erie	Rail Line Segment	Erie	Traffic delay and safety on 19th Street. NS shall comply with the terms and conditions of its Negotiated Agreement with the City of Erie, Pennsylvania. Erie County City of Erie
	Commonwealth of Pennsylvania	Rail Line Segment	Philadelphia	CSX shall comply with the terms and conditions of its Negotiated Agreement with the Commonwealth of Pennsylvania and the City of Philadelphia. NS shall comply with the terms and conditions of its Negotiated Agreement with the Commonwealth of Pennsylvania and the City of Philadelphia. Philadelphia County Commonwealth of Pennsylvania City of Philadelphia
SOUTH CAROLINA				
Safety	C-344: Ashley Jct. – Yemassee	Rail Line Segment	Colleton, Charleston, Beaufort	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
TENNESSEE				
Safety	N-361: Asheville, NC – Leadvale, TN	Rail Line Segment	Cocke	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-392: New Line – Leadvale	Rail Line Segment	Cocke, Jefferson, Hamblen	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
TENNESSEE (Continued)				
Safety	N-399: Bulls Gap – Frisco	Rail Line Segment	Hawkins	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	N-406: Frisco – Kingsport	Rail Line Segment	Sullivan	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
	CY05: Leewood Rail Yard	Rail Yard	Shelby	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Shelby County City of Memphis
	NM18: Forrest Intermodal	Intermodal Facility	Shelby	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of handling. Shelby County City of Memphis
VIRGINIA				
Safety	C-101: Fredericksburg – Potomac Yard	Rail Line Segment	Stafford, Prince William, Fairfax, Alexandria City, Arlington, Fredericksburg City	*Passenger Rail Safety*: Increase in risk of passenger train accidents.
	C-103: S. Richmond, VA – Weldon, NC	Rail Line Segment	Greensville, Sussex, Dinwiddie, Chesterfield, Colonial Heights City, Petersburg City, Prince George, Richmond City	*Passenger Rail Safety*: Increase in risk of passenger train accidents.

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
VIRGINIA (Continued)				
Safety	N-091: Harrisburg, PA – Riverton Jct., VA	Rail Line Segment	Clarke, Warren	*Highway/Rail At-grade Crossing Safety*: Increase in potential for vehicle-train accident. Clarke County: SR 7 Warren County: Rockland Road
	N-432: Poe ML – Petersburg	Rail Line Segment	Petersburg City	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).
Noise	N-100: Riverton Jct. – Roanoke	Rail Line Segment	Augusta, Botetourt, Buena Vista City, Clarke, Page Roanoke City, Roanoke, Rockbridge, Rockingham, Warren, Waynesboro	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and an increase of at least 5 dBA. Communities: Front Royal, Shenandoah, Lyndhurst, Glasgow Bentonville, Elkton, Cold Spring, Buchanan Kimball, Lynnwood, Vesuvius, Lithia Luray, Grottoes, Midvale, Troutville Stanley, Crimora, Cornwall, Cloverdale Ingham, Waynesboro, Buena Vista, Hollins
WEST VIRGINIA				
Noise	N-111: Deep Water – Fola Mine	Rail Line Segment	Fayette, Nicholas	Exceeds 70 dBA L_{dn} at noise-sensitive receptors and an increase of at least 5 dBA. Communities: Jefferson Gauley Bridge Falls View

TABLE 4-7
SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS BY STATE (Continued)

Technical Area	Site ID: Name	Type of Activity	County	Potential Impact
DISTRICT OF COLUMBIA				
Safety	C-003: Washington, DC – Point of Rocks, MD	Rail Line Segment	District of Columbia	*Passenger Rail Safety*: Increase in risk of passenger train accidents.
	C-031: Alexandria Jct., MD – Washington, DC	Rail Line Segment	District of Columbia	*Hazardous Materials Transport*: Increase in potential for hazardous materials release because of an accident (A key route).

[a] Even though the noise levels do not warrant mitigation at this time, SEA included the impacts to be considered cumulatively with other potential adverse impacts.

Note: Rail line segments N-060 (Corning-to-Geneva, NY) and N-110 (Elmore-to-Deep Water, WV) do not have noise-sensitive receptors within the noise contour boundary; therefore there are no potential impacts.

SURFACE TRANSPORTATION BOARD
Finance Docket No. 33388

CSX Corporation and CSX Transportation, Inc.
Norfolk Southern Corporation and Norfolk Southern Railway Company
Control and Operating Leases/Agreements
Conrail Inc. and Consolidated Rail Corporation

GUIDE TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT

This Final Environmental Impact Statement (Final EIS) evaluates the potential environmental impacts that could result from the proposed Acquisition of Conrail Inc. and Consolidated Rail Corporation (Conrail) by CSX Corporation and CSX Transportation, Inc. (CSX) and Norfolk Southern Corporation and Norfolk Southern Railway Company (NS). The Surface Transportation Board's (Board) Section of Environmental Analysis (SEA) has prepared this document in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321); the Council on Environmental Quality (CEQ) regulations implementing NEPA; the Board's environmental rules (49 CFR Part 1105); and other applicable environmental statutes and regulations.

SEA issued the Draft EIS on December 19, 1997. Subsequently, SEA issued an Errata (January 12, 1998) and a Supplemental Errata (January 21, 1998) to clarify statements and analyses in the Draft EIS. The 45-day public comment period closed February 2, 1998. This Final EIS provides responses to comments, questions, and issues that the public, agencies, and other document reviewers raised. It describes SEA's additional environmental analysis and includes SEA's final environmental mitigation recommendations to the Board.

To assist the reader in the review of this document, each volume contains a Guide to that volume and a Table of Contents for each chapter in that volume. In addition, each individual volume also contains a Guide to the Final EIS, a Glossary of Terms, a List of Acronyms and Abbreviations, and the Table of Contents of the Final EIS. Specifically, the Final EIS document includes the following volumes:

Executive Summary Volume

The **Executive Summary** provides an overview of the proposed Conrail Acquisition, including the potential environmental impacts and the mitigation measures that SEA recommends to address those impacts. In addition, the Executive Summary Volume contains the **Letter to Interested Parties** that SEA attached to copies of this Final EIS, the **Information Sources** that SEA used for preparing both the Draft EIS and the Final EIS documents, and the **Index** of keywords and phrases that appear in this Final EIS.

Volume 1: Chapters 1, 2, and 3

- Chapter 1, "Introduction and Background," describes the purpose and need for the project, the proposed action, and the alternatives to the proposed action. It also sets forth the jurisdiction of the Board and outlines SEA's environmental review process. In addition, this chapter presents an overview of SEA's agency coordination and the public comment process.

- Chapter 2, "Scope of the Environmental Analysis," identifies the proposed Conrail Acquisition-related activities that SEA analyzed. This chapter includes a table presenting the thresholds SEA used to identify activities for environmental analysis and explains project activities that differ from those set forth in the Draft EIS.

- Chapter 3, "Agency Coordination and Public Outreach," describes SEA's public outreach activities to notify interested parties and environmental justice populations of the potential environmental impacts of the proposed Conrail Acquisition and of the availability of the Draft EIS and the Final EIS. Additionally, the chapter explains SEA's distribution of the Draft EIS and the Final EIS, explains the methods that SEA used to facilitate the public comment process, and describes the agency coordination that SEA performed as part of the environmental review process. Chapter 3 also reviews the historic properties outreach activities that SEA conducted in Ohio.

Volume 2: Chapter 4

- Chapter 4, "Summary of Environmental Review," outlines the additional environmental analysis that SEA conducted for each environmental issue area since preparation of the Draft EIS. Specifically, it explains the methods of analysis, presents the public comments and additional evaluations, identifies the results of the analysis, and reviews SEA's assessment of environmental impacts. In addition, this chapter describes SEA's refinement of the mitigation measures recommended in the Draft EIS, SEA's final recommended mitigation measures, anticipated environmental benefits, and the adverse environmental impacts of the proposed Conrail Acquisition.

Volume 3: Chapter 5

- Chapter 5, "Summary of Comments and Responses," contains summaries of the comments that SEA received on the Draft EIS and SEA's responses to the comments. The chapter provides the following: (a) an overview of the comments, including those

from Federal agencies, the Applicants, and national and regional groups as well as groups and individuals within specific states; (b) general comments on the Draft EIS, including the Application review process, the environmental review process, and the system-wide technical analysis; and (c) comments on state and community issues, organized by state and environmental issue category.

Volume 4: Chapter 6

- Chapter 6, "Safety Integration Planning," sets forth the purpose and topics of the Safety Integration Plans and presents summaries of comments that reviewing agencies and the public submitted about the Safety Integration Plans. The chapter also includes SEA's analysis and response to those comments and provides SEA's conclusion and recommended conditions regarding the Safety Integration Plans.

Volume 5: Chapter 7

- Chapter 7, "Recommended Environmental Conditions," describes the final environmental mitigation conditions that SEA recommends to address significant adverse environmental impacts that could result from the proposed Conrail Acquisition.

Volume 6: Appendices

- These four volumes (6A through 6D) include appendices containing the comments on the Draft EIS and the analysis by the technical disciplines as well as appendices containing public outreach and agency consultation information and documents.

Volume 6A contains the following appendix:

A. Comments Received on the Draft Environmental Impact Statement.

Volume 6B contains the following appendices:

B. Draft Environmental Impact Statement Correction Letter, Errata, Supplemental Errata and Additional Environmental Information, and Board Notices to Parties of Record.
C. Settlement Agreements and Negotiated Agreements.
D. Agency Consultation.
E. Safety: Highway/Rail At-Grade Crossing Safety Analysis.
F. Safety: Hazardous Materials Transport Analysis.
G. Transportation: Highway/Rail At-grade Crossing Traffic Delay Analysis.
H. Transportation: Roadway Systems Analysis.
I. Air Quality Analysis.

Volume 6C contains the following appendices:

J. Noise Analysis.
K. Cultural Resources Analysis.
L. Natural Resources Analysis.
M. Environmental Justice Analysis.

N. Community Evaluations.

Volume 6D contains the following appendices:

O. EPA Rules on Locomotive Emissions.
P. SEA's Best Management Practices for Construction and Abandonment Activities.
Q. Example Public Outreach Materials.
R. All Relevant Board Decisions.
S. Index for the Draft Environmental Impact Statement.
T. Final Environmental Impact Statement Rail Line Segments.
U. List of Preparers.

Addendum Volume

The **Addendum** contains information SEA did not include in the other portions of the Final EIS because of production timing constraints. The Addendum contains SEA's evaluation and additional analyses SEA conducted for train traffic rerouting proposed as mitigation for the Greater Cleveland Area. The Addendum also contains additional analysis of the proposed connection in Alexandria, Indiana (one of the Seven Separate Connections) as well as comments received during an additional comment period and summaries of, and responses to, those comments.

GLOSSARY OF TERMS

abandonment: The discontinuance of service on a rail line segment and the salvaging and/or the removal of railroad-related facilities for reuse, sale, and/or disposal.

Acquisition: The proposal by CSX, NS, and Conrail to acquire control of Conrail's assets and its basic railroad operations.

active warning devices: Traffic control devices that give positive notice to highway users of the approach or presence of a train. These devices may include a flashing red light signal (a device which, when activated, displays red lights flashing alternately), a bell (a device which, when activated, provides an audible warning, usually used with a flashing red light signal), automatic gates (a mechanism added to flashing red light signals to provide an arm that can lower across the lanes of the roadway), and a cantilever (a structure equipped with flashing red light signals and extending over one or more lanes of traffic).

Advanced Civil Speed Enforcement System (ACSES): A supplement to the Automatic Cab Signal (ACS) and Automatic Train Control (ATC) systems currently in place within the Northeast Corridor (NEC), ACSES uses a series of transponders to communicate location and other factors to passing trains whose on-board computers utilize the information to achieve system function. These functions include: (1) civil speed enforcement; (2) temporary speed enforcement, including protection of roadway workers; and (3) enforcement of positive stop at interlocking home signals and Control Points (CPs).

adverse environmental impact: A negative effect, resulting from the implementation of a proposed action, that serves to degrade or diminish an aspect of human or natural resources.

Advisory Council on Historic Preservation (ACHP): An independent Federal agency charged with advising the President and Congress on historic preservation matters and administering the provisions of Section 106 of the National Historic Preservation Act.

air-brake test: A test made prior to train departure, required by Federal Railroad Administration regulations and by railroad rules to ensure that a train's air-brake system is functioning as intended and that certain devices are within prescribed tolerances and physical parameters.

Allied Rail Unions (ARU): A group of unions representing railroad employees, including the Brotherhood of Locomotive Engineers, the Brotherhood of Railroad Signalmen, and the Brotherhood of Maintenance-of-Way Employees.

Applicants: CSX Corporation and CSX Transportation, Inc. (CSX), Norfolk Southern Railway Company and Norfolk Southern Corporation (NS), and Conrail Inc. and Consolidated Rail Corporation (Conrail).

Application: A formal filing with the Surface Transportation Board related to railroad mergers, acquisitions, constructions, or abandonments. Applications may be either Primary Applications or Inconsistent and Responsive (IR) Applications. See *Primary Application* and *Inconsistent and Responsive (IR) Application*.

Area of Potential Effect(s) (AoPE): The geographic area surrounding a rail activity where an individual (or resource) or group of individuals (or resources) could likely experience adverse environmental effects. For this Final EIS, where applicable, the different technical disciplines determined their own specific definitions of this term for their individual technical disciplines.

attainment area: An area that EPA has classified as complying with the National Ambient Air Quality Standards specified under the Clean Air Act.

authorized speed: Maximum permitted speed for a specific train at a specific location, taking into account the prevailing weather conditions (for example, restrictions due to heavy rain, extreme heat or cold).

Automatic Block System (ABS): A series of railroad signals that indicate track occupancy in the block (length of track of defined limits) ahead and govern the use of a consecutive set of blocks by a train. These signals include wayside track signals and cab signals (signals displayed in the locomotive cab instead of, or in addition to, wayside track signal displays), or both. This system combines automatic detection of train position with control of signals.

Automatic Train Control (ATC): A system that has components installed on both trains and tracks that, when working together, will cause the train brakes to apply automatically if the engineer fails to respond to a condition requiring train speed to be reduced.

Best Management Practice (BMP): Technique that various parties (for example, the construction industry) use to provide protection from adverse impacts to the environment. The Board may designate these techniques as mitigation measures.

block group: A small population area that the U.S. Census Bureau uses to measure and record demographic characteristics. The population of a block group typically ranges from 600 to 3,000 people and is designed to reflect homogeneous living conditions, economic status, and population characteristics. Block group boundaries follow visible and identifiable features, such as roads, canals, railroads, and above-ground high-tension power lines.

block swapping: The process of moving groups of cars with a common destination (called "blocks") from one train to another.

Board: The Surface Transportation Board, the licensing agency for the proposed Conrail Acquisition.

bulletins: Documents addressed to train crews and other operating employees specifying temporary or local operating rules and restrictions.

cab signaling: System that provides signal indications in the locomotive cab instead of, or in addition to, wayside signal displays.

carload: A unit of measure used to describe commodities transported on a railroad typically in a boxcar, tank car, flat car, hopper car, or gondola.

centralized traffic control system: A signal system that allows for the movement of trains in either direction on designated tracks at the maximum authorized speed, in accordance with the wayside or cab signals or both.

census tract: Small, relatively permanent statistical subdivisions of a county containing between 2,500 and 8,000 persons. The U.S. Bureau of Census designs census tracts to reflect homogeneous living conditions, economic status, and population characteristics.

Clean Air Act (Clean Air Act Amendments): The Clean Air Act of 1970 and the subsequent amendments, including the Clean Air Act Amendments of 1990 (42 U.S.C. 7401-7671g); the primary Federal law that protects the nation's air resources. This act establishes a comprehensive set of standards, planning processes, and requirements to address air pollution problems and reduce emissions from major sources of pollutants.

Clean Water Act: The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 *et seq.*;) is the primary Federal law that protects the nation's waters, including lakes, rivers, aquifers, and coastal areas. This act provides a comprehensive framework of standards, technical tools, and financial assistance to address the many causes of pollution and poor water quality, including municipal and industrial wastewater discharges, polluted runoff from urban and rural areas, and habitat destruction. Specifically, the Clean Water Act provides for the following:

- Requires major industries to meet performance standards to ensure pollution control.
- Charges states and tribes with setting specific water quality standards appropriate for their waters and developing pollution control programs to meet them.
- Provides funding to states and communities to help them meet their clean water infrastructure needs.
- Protects valuable wetlands and other aquatic habitats through a permitting process that conducts land development activities and other activities in an environmentally sound manner.

coastal zone: According to the Coastal Zone Management Act of 1972, lands and waters adjacent to the coast that exert an influence on the uses of the sea and its ecology, or whose uses and ecology the sea affects.

Coastal Zone Management Act (CZMA): The Coastal Zone Management Act of 1972, as amended ((16 U.S.C. 1451-1464; P.L. 92-583), is also known as "Federal Consistency With Approved State Coastal Management Programs" (15 CFR 930). This Federal act preserves, protects, develops, and, where possible, restores or enhances the resources of the nation's coastal zone for the present and for future generations. The provisions of 15 CFR 930.30 ensure that all Federally conducted or supported activities, including development projects directly affecting the coastal zone, are consistent with approved state coastal management programs as much as possible.

collective bargaining agreement: An agreement between a union and an employer that defines the scope of work, rates of pay, rules, and working conditions for the union's members.

common corridor: For the purposes of this Final EIS, a railroad line segment that accommodates both public mass transportation service and passenger and freight train operations by using separate tracks adjacent to each other in the same right-of-way or area.

compensation wetlands (compensatory wetlands): Wetlands that an agency or entity creates, enhances, or preserves to mitigate for unavoidable impacts on existing wetlands that occur as a result of implementation of the agency's or entities' proposed action. These compensation (or compensatory) wetlands replace, "in kind", wetlands that an agency or entity partially or totally fills or drains during its construction or earth-moving activities.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601-9675; P.L. 96-510); the Federal act that provides EPA with the authority to clean up inactive hazardous waste sites and distribute the cleanup costs among the parties who generated and/or handled the hazardous substances at these sites.

Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS): Federal database containing information on potential hazardous waste sites that states, municipalities, private companies, and private persons have reported to the EPA, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act. This database contains sites that are either proposed for inclusion on, or are currently on, the National Priorities List (NPL) and sites that are in the screening and assessment phase for possible inclusion on the NPL.

condition: A provision that the Board imposes as part of any decision approving the proposed Conrail Acquisition and that requires action by one or more of the Applicants.

conductor: The operating employee on a train responsible for safe and efficient train movement in accordance with all railroad operating rules and special instructions.

Conrail Shared Assets Operations: See *Shared Assets Areas*.

consist: The number and type of locomotives and cars included in a train, considering special factors such as the tonnage and the placement of hazardous materials cars and "high-wides" (oversize dimension cars).

constant warning time: A motion-sensing system with the capability of measuring train speed and providing a relatively uniform warning time by warning signal devices to highway traffic at highway/rail at-grade crossings.

Control Date: The date on which the merger can become effective, following formal approval of the Board.

Council on Environmental Quality (CEQ): Federal agency responsible for developing regulations and guidance for agencies implementing the National Environmental Policy Act.

craft employee: Term applied to a railroad employee qualified in a specific railroad operating or maintenance activity (for example, locomotive engineer, train dispatcher, signal maintainer, or car inspector).

crew caller: Term applied to a railroad employee who is responsible for notifying train crews when and where to report for duty.

crew calling: Process of notifying train crew members when and where their next tour-of-duty will start. Labor agreements commonly specify that railroads call train crews a minimum of 2 hours before crew members are required to begin their tour-of-duty.

critical habitat: The specific sites within the geographical area occupied by a threatened or endangered species that include the physical or biological features essential to the conservation of the species. These areas may require special management considerations or protection. These areas include specific sites outside the geographical areas occupied by the species at the time of the listing that are essential for the conservation of the species.

criteria of significance: The criteria SEA developed specifically for the proposed Conrail Acquisition to determine whether a potential adverse environmental effect is significant and may warrant mitigation.

cross-tie: Transverse wooden, concrete, or steel beam supporting the rails of a railroad track.

cultural resource: Any prehistoric or historic district, site, building, structure, or object that warrants consideration for inclusion in the National Register of Historic Places. A cultural resource that is listed in or is eligible for listing in the National Register of Historic Places is considered a historic property (or a significant cultural resource). For the purposes of this Final EIS, the term applies to any resource more than 50 years old for which SEA gathered information to evaluate its significance. In addition, this Final EIS addresses potential environmental impacts of the proposed rail line construction and abandonment activities on Native American reservations and sacred sites.

cumulative effects: Effects resulting from the incremental impacts of the proposed Conrail Acquisition when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (Federal or non-Federal) or person undertakes such actions, as described in 40 CFR 1508.7. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

Day 1: In the event that the Board approves the proposed Conrail Acquisition, the date (as the Applicants determine through mutual agreement) when operating responsibility for the acquired railroad is transferred to the Applicants' organizations.

decibel (dB): A unit of noise measured on a logarithmic scale that compresses the range of sound pressures audible to the human ear over a range from 0 to 140, where 0 decibels represents sound pressure corresponding to the threshold of human hearing, and 140 decibels corresponds to a sound pressure at which pain occurs. Noise analysts measure sound pressure levels that people hear in decibels, much like other analysts measure linear distances in yards or meters. A-weighted decibel (dBA) refers to a weighting that accounts for the various frequency components in a way that corresponds to human hearing.

degradation: To change a habitat, either terrestrial or aquatic, so that it no longer meets the survival needs of a particular species of plant or wildlife. Such change could include reducing the feeding area, modifying the vegetation type, and limiting the available shelter.

detector car: One of two types of rail equipment designed to detect imperfections in railroad track structure. Rail detector cars detect internal imperfections within the rail, using ultrasonic techniques. See also *track geometry inspection car*.

dimensional traffic: A freight shipment requiring special authorization for movement because of height, width, length, or gross weight.

dispatcher (train): The railroad operating employee responsible for issuing on-track movement and/or occupancy authority through the use of remotely controlled switches, signals, visual displays, voice control written mandatory directives, and/or all of the above.

dispatcher desk: The workstation from which a train dispatcher controls a specific portion of a railroad's network.

dispatching: The process of real-time planning, supervising, and controlling of train movements.

disproportionality (test for): A comparison test to assess whether potentially high and adverse impacts of an action are predominantly borne or more severe or greater in magnitude in an Environmental Justice (EJ) population than a non-EJ population within the current analysis scale (that is, at the system, state, county, segment, or block group level).

double-stack freight service: The transport of two intermodal containers stacked on top of each other on one platform of an intermodal rail flat car.

double tracking: Construction of a second railroad track immediately adjacent to an existing track, to perform railroad activities similar to those occurring on the existing track.

emergent species: Any type of aquatic plant whose vegetative growth is mostly above the water.

emissions: Air pollutants that enter the atmosphere.

endangered species: A species that is in danger of extinction throughout all or a significant portion of its range. Federal and state laws protect these species.

Endangered Species Act (ESA): The Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*; P.L. 93-205), as amended in 1978, is the primary Federal law protecting endangered and threatened wildlife and plant species. The purpose of the law is to provide for the conservation of habitat for such species.

engineer (railroad): Employee responsible for operating a railroad locomotive in accordance with train-handling practices, signal indications, operating rules, speed limits, and the technical requirements of the particular locomotive.

Environmental Impact Statement (EIS): A document that the National Environmental Policy Act requires Federal agencies to prepare for major projects or legislative proposals having the potential to significantly affect the environment. A tool for decision-making, it describes the positive and negative environmental effects of the undertaking, and alternative actions and measures to reduce or eliminate potentially significant environmental impacts.

Environmental Justice (EJ):

For purposes of this document, SEA defines environmental justice as the mission discussed in Executive Order (EO) 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (59 FR 7629, February 11, 1994). This EO directs Federal agencies to identify and address "disproportionately high and adverse human health or environmental effects" of their programs, policies, and activities on minority and low-income populations in the United States. EO 12898 also calls for public notification for environmental justice populations, as well as meaningful public participation of environmental justice populations. In this document, SEA used the guidance provided in the Department of Transportation Order on Environmental Justice, the Council of Environmental Quality, Environmental Justice Guidance under the National Environmental Policy Act, and the Interim Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA analysis to analyze potential disproportionately high and adverse impacts on environmental justice populations for rail segments, intermodal facilities, rail yards, and new construction.

Environmental Justice (EJ) population:

A population within an Area of Potential Effect whose minority and low-income composition meets at least one of the following criteria: (1) The percentage of minority and low-income population in the Area of Potential Effect is greater than 50 percent of the total population in the Area of Potential Effect; or (2) The percentage of minority and low-income population in the Area of Potential Effect is at least ten percentage points greater than the percentage of minority or low-income population in the county of which the Area of Potential Effect is a part.

Environmental Resource Category:

Any of the environmental issues that serve as the major topics of impact analysis for this EIS. Examples include land use, natural resources, noise, hazardous materials, cultural resources, water quality, or air quality.

Environmental Resource Score (ERS): The impact score determined for an environmental resource category within a (block group) Area of Potential Effect. A typical ERS ranges from 0 to 6, reflecting the relative impact on the Area of Potential Effect compared with impacts on other Areas of Potential Effect. For the Environmental Justice analysis, SEA calculated an ERS for noise, hazardous materials transport, and traffic safety and delay.

equipment: For a railroad, a term used to refer to the mobile assets of the railroad, such as locomotives, freight cars, and on-track maintenance machines. Also used more narrowly as a collective term for freight cars operated by the railroad.

equipment restrictions: Operating instructions that restrict certain types of locomotives or freight cars from operating over selected line segments.

Errata: A list of corrections to the Draft EIS, prepared to facilitate public review of the Draft EIS and to clarify some of the information contained therein.

Executive Order (EO) 12898: Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority and Low-Income Populations," issued in February of 1994; directs Federal agencies to identify and address as appropriate "disproportionately high and adverse human health or environmental effects," including interrelated social and economic effects, of their programs, policies, and activities on minority populations and low-income populations in the United States.

extra board crew caller position: Railroad employee who does not have a regularly assigned position but who works on an on-call basis.

floodplain: The lowlands adjoining inland and coastal waters and relatively flat areas and flood-prone areas of offshore islands, including, at a minimum, those areas that have a 1 percent or greater chance of flood in any given year (also known as a 100-year or a Zone A floodplain).

Four City Consortium: An alliance of the cities of East Chicago, Hammond, Gary, and Whiting, Indiana.

freight car inspections: Pre-departure tests required for railroad freight cars pursuant to Federal Railroad Administration regulations.

fugitive dust: According to EPA regulations, those particulate matter emissions that could not "reasonably pass" through a stack, chimney, vent, or other functionally equivalent opening. Examples of fugitive dust include wind-borne particulate matter from earth-moving and material handling during construction activities.

Geographic Information System (GIS): A computer system for storing, retrieving, manipulating, analyzing, and displaying geographic data. GIS combines mapping and databases.

grade crossing: See *highway/rail at-grade crossing*.

grade separation: See *separated grade crossing*.

gross ton-mile: A measure of railroad production that represents the weight of cars and freight movement in terms of total tons per mile transported system-wide or over a specific rail line segment. Specifically, 1 ton of railroad car and loading carried 1 mile.

haulage right(s): The limited right (or combination of limited rights) of one railroad to have their freight traffic moved by another railroad over the designated lines of the other railroad.

hazardous materials: Substances or materials that the Secretary of Transportation has determined are capable of posing an unreasonable risk to human health, safety, and property when transported in commerce, as designated under 49 CFR Parts 172 and 173.

hazardous wastes: Waste materials that, by their nature, are inherently dangerous to handle or dispose of (for example, old explosives, radioactive materials, some chemicals, some biological wastes). Usually, industrial operations produce these waste materials.

high-and-wide load: Load on a freight car that exceeds the normal height and/or width limits for general operation over a railroad. Such loads may move only with special operating precautions to prevent damage to wayside structures and trains on adjacent tracks.

high-profile crossings: A condition at a highway/rail at-grade crossing where the elevation of the tracks is above the elevation of the approaching roadway. This condition, generally the result of the periodic raising of the tracks for maintenance of the track bed, can affect sight distance for highway users and can become a hazard for trucks and trailers with low ground-clearance. This is also referred to as "hump crossings".

highway/rail at-grade crossing: The general area of an intersection of a public or private road and a railroad where the intersecting rail and highway traffic are at the same level.

historic property: Any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places (NRHP). The term "eligible for inclusion in the NRHP" pertains to both properties that the Secretary of the Interior has formally determined to be eligible and to all other properties that meet NRHP listing criteria.

horn noise (train): Noise that occurs when locomotives sound warning horns in the vicinity of highway/rail at-grade crossings.

hours-of-service regulations: Federal Hours of Service Law, which Federal Railroad Administration enforces, governing maximum shift lengths and minimum rest periods for railroad operating employees. These employees include train crew, train dispatchers, and signal maintainers, as well as mechanical employees such as hostlers who move equipment for the purpose of test and inspection.

Implementing Agreement: An agreement between a railroad company and an employee union regarding working conditions on a combined system, and specifying the corresponding seniority districts, work locations, and other terms and conditions of employment.

Inconsistent and Responsive (IR) application: Proposal to the Surface Transportation Board that Parties of Record submitted prior to October 21, 1997, requesting modifications of, or alternatives to, the proposed Conrail Acquisition.

Indian tribe: According to Indian Self-Determination and Education Assistance Act (25 U.S.C. 450-458; P.L. 93-638), any Indian tribe, band, nation, or other organized group or community recognized as eligible for the special programs and services that the United States provides to Indians because of their status as Indians.

interchange point: Point at which two or more railroads join to exchange freight traffic.

interlocking: An arrangement of switch, lock, and signal devices that is located where rail tracks cross, join, or separate. The devices are interconnected in such a way that their movements must succeed each other in a predetermined order, thereby preventing opposing or conflicting movements.

intermodal facility: A site consisting of tracks, lifting equipment, paved and/or unpaved areas, and a control point for the transfer (receiving, loading, unloading, and dispatching) of trailers and containers between rail and highway, or between rail and marine modes of transportation.

jurisdictional wetland: Wetlands that the U.S. Army Corps of Engineers regulates under Section 404 of the Clean Water Act (33 U.S.C. 1344).

key route: For the purposes of this Final EIS, a rail line segment that carries an annual volume of 10,000 or more carloads of hazardous material.

key train: Any train with five or more tank carloads of chemicals classified as a Poison Inhalation Hazard (PIH), or with a total of 20 rail cars with any combination of PIHs, flammable gases, explosives, or environmentally sensitive chemicals.

L_{dn}: The day-night average noise sound level, which is the receptor's cumulative noise exposure from all noise events over a full 24 hours. This is adjusted to account for the perception that noise at night is more bothersome than the same noise during the day.

$L_{eq(h)}$: The hourly energy-averaged noise level.

labor relations culture: Philosophy by which an employer and/or parties to a collective bargaining agreement conduct labor-management relations.

land use consistency: Determination of whether the proposed Conrail Acquisition represents a change that is consistent with local land use plans in effect, based on consultation with local and/or regional planning agencies and/or a review of the official planning documents that such agencies have prepared.

Level of Service (LOS): A measure of the operational efficiency of a roadway vehicle traffic stream using procedures that consider factors such as vehicle delay, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Traffic analysts express LOS as letter grades, ranging from Level of Service A (free flowing) to Level of Service F (severely congested); they measure LOS by the average delay for all vehicles. Specifically, Level of Service A describes operations with very low delay (less than 5.0 seconds per vehicle); Level of Service B describes operations with delay in the range of 5.1 to 15.0 seconds per vehicle; Level of Service C describes operations with delay in the range of 15.1 to 25.0 seconds per vehicle; Level of Service D describes operations with delay in the range of 25.1 to 40.0 seconds per vehicle; Level of Service E describes operations with delay in the range of 40.1 to 60.0 seconds per vehicle; and Level of Service F describes operations with delay in excess of 60.0 seconds per vehicle.

low-income population: A population composed of persons whose median household income is below the Department of Health and Human Services poverty guidelines.

maintenance area: An area classified by EPA as meeting National Ambient Air Quality Standards (NAAQS) and which previously (within the last 10 years before reclassification) did not meet NAAQS.

maintenance-of-way: The activity of maintaining the track and structures of a railroad.

major key route: For the purposes of this Final EIS, a rail line segment where the annual volume of hazardous material it carries is projected to double and also exceed 20,000 carloads as a result of the proposed Conrail Acquisition.

Mechanical Department: Department of the railroad primarily responsible for the maintenance and inspection of locomotives, freight cars, and other moving equipment.

Memorandum of Agreement (MOA): With regard to cultural resources for the Final EIS, a legally binding document executed under 36 CFR 800.5(e)(4) that either specifies the process a Federal agency will undertake in order to avoid, reduce, or mitigate adverse effects on historic properties by the implementation of a proposed action, or documents the acceptance of such effects in the public interest. The parties who sign a MOA generally include the lead agency, the State Historic Preservation Office, the Advisory Council on Historic Preservation, and sometimes other interested parties.

Memorandum of Understanding (MOU): An agreement that two or more parties execute that sets forth the specific duties and responsibilities of each party. For the purposes of this Final EIS, MOU is an agreement that the Applicants may negotiate with communities.

minority population: A population composed of persons who are Black (non-Hispanic), Hispanic, Asian American, American Indian, or Alaskan Native.

mitigation: An action taken to prevent, reduce, or eliminate adverse environmental effects.

motive power: Locomotives operated by the railroad.

multi-level rail car: A two- or three-level freight car, designed for transporting automotive vehicles.

Multiple Resource Score (MRS): For the Environmental Justice analysis, a measure of aggregate impacts used to identify the geographic areas of greatest concern. This score sums the environmental resource scores for hazardous materials transport, noise, and traffic safety and delay and forms the basis for the tests for disproportionality.

National Ambient Air Quality Standards (NAAQS): Air pollutant concentration limits established by the EPA for the protection of human health, structures, and the natural environment.

National Environmental Policy Act (NEPA): The National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321-4347; P.L. 91-190) is the basic national charter for the protection of the environment. It establishes policy, sets goals, and provides means for carrying out the policy. Its purpose is to provide for the establishment of a Council on Environmental Quality and to instruct Federal agencies on what they must do to comply with the procedures and achieve the goals of NEPA.

National Historic Preservation Act (NHPA): The National Historic Preservation Act of 1966, as amended (16 U.S.C. 470-470t *et seq.*; P.L. 89-665), is the basic legislation of the Nation's historic preservation program that established the Advisory Council on Historic Preservation and the Section 106 review process. Section 106 of the NHPA requires every Federal agency to "take into account" the effects of its undertakings on historic properties.

National Priorities List (NPL): A subset of CERCLIS; EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund Program.

National Register of Historic Places (NRHP): Administered by the National Park Service, the Nation's master inventory of known historic properties, including buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the Federal, state, and local levels.

Native American: According to the Native American Graves Protection and Repatriation Act of 1990, as amended (25 U.S.C. 3001 *et seq.*; P.L. 101-601), of, or relating to, a tribe, people, or culture that is indigenous to the United States.

Native American lands: According to the regulations of the Advisory Council on Historic Preservation in 36 CFR 800.2, as modified by the scope of this EIS, all lands under the jurisdiction or control of an Indian tribe, including all lands within the exterior boundaries of any American Indian reservation.

Negotiated Agreement: An agreement between CSX, NS, or both, and one or more communities or other governmental units that addresses potential environmental impacts or other issues.

No-Action Alternative: The proposed acquisition of Conrail by CSX and NS does not take place under this alternative; also the present setting for the pre-Acquisition conditions.

noise: A disturbance or annoyance of an intruding or unwanted sound. Noise impacts essentially depend on the amount and nature of the intruding sound, the amount of background sound already present before the intruding or unwanted sound occurred, and the nature of working or living activity of the people occupying the area where the sound occurs.

noise contour: Lines plotted on maps or drawings connecting points of equal sound levels.

noise-sensitive receptor: Location where noise can interrupt ongoing activities and can result in community annoyance, especially in residential areas. The Board's environmental regulations include schools, libraries, hospitals, residences, retirement communities, and nursing homes as examples of noise-sensitive receptors.

nonattainment area: An area that EPA has classified as not complying with the National Ambient Air Quality Standards promulgated under the Clean Air Act.

Northeast Corridor (NEC): Railroad right-of-way between Boston, Massachusetts and Washington, D.C. on which Amtrak and others operate; Amtrak is responsible for operation and maintenance on all of the route, except the route segment between New Haven, Connecticut and New Rochelle, New York.

Northeast Operating Rules: Rules that govern railroad operations, adapted by members of the Northeast Operating Rules Advisory Committee (NORAC). These operating rules apply to all railroads when working on any NORAC member's territory. The NORAC members are Bay Colony Railroad, Conrail Inc. and Consolidated Rail Corporation (Conrail), Delaware & Hudson Railway company, Guildford Transportation Industries, National Railroad Passenger Corporation (Amtrak), New Jersey Transit (NJT), New York Susquehanna & Western Railway Corporation, Providence & Worcester Railroad Company, and Southeastern Pennsylvania Transportation Authority (SEPTA).

notices: Documents addressed to engineers and other operating employees detailing temporary or local operating rules and restrictions.

on-track (maintenance) equipment: Track and other maintenance equipment provided with flanged wheels and able to move along railroad track.

operating employee: Railroad employee engaged in the operation of trains, including a member of the train crew; a train dispatcher; and a track, a signal, and an equipment maintenance employee.

Operating Plans: Documents that CSX and NS provided as part of the Application, detailing their planned railroad operations following the proposed Conrail Acquisition.

operating practices: Safety and operating rules, practices, and procedures contained in operating rulebook, timetable, special instructions, or any other company-issued instructions and the management decisions implementing those rules and instructions that govern the movement of trains and work on or around active tracks.

operating rules: Written rules of a railroad governing the operation of trains and the conduct of employees responsible for train operations when working on or around active tracks.

Operation Lifesaver: A non-profit public information and safety education program dedicated to eliminating collisions, deaths, and injuries at highway/rail at-grade crossings and on railroad rights-of-way. It is composed of a broad-based coalition of Federal, state, and local government agencies, private safety groups, and transportation industry representatives.

particulate matter (PM): Airborne dust or aerosols.

Party of Record (POR): Party that notified the Board of their active participation in the proceeding about the proposed Conrail Acquisition. When submitting a filing to the Board, the POR must also notify the entire POR service list.

passive warning devices: Traffic control devices that do not give positive notice to highway users of the approach or presence of a train. These devices may include signs and pavement markings, located at, or in advance of, railroad crossings to indicate the presence of a crossing and the presence of a train. These signs are either regulatory or non-regulatory and may include parallel track signs, crossbucks, stop signs, yield signs, and constantly flashing lights.

positive train separation: Mechanism included in positive train control, an experimental, automated safety system, using Global Positioning System (GPS) technology, onboard computers and wayside information inputs to control train movement. In the event of failure on the primary safety system, positive train control reduces the risk of single-point failure (that is, human error).

posted speed: Maximum speed permitted at a specific location on the railroad network irrespective of train type.

Prevention of Significant Deterioration (PSD) Class I Areas: National parks and wilderness areas designated under the Clean Air Act as areas for which users are to maintain air quality at pristine levels, with very small increases in air pollution levels allowed.

Primary Application: The formal filing of documents with the Surface Transportation Board by applicants for railroad mergers, acquisitions, constructions, or abandonments. The Primary Application contains Operating Plans and information describing related construction projects. It also includes an Environmental Report, describing the physical and operational changes associated with the proposed action and the potential environmental effects of that action.

prime farmland: According to Natural Resources Conservation Service, land having the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops.

proposed Conrail Acquisition: The proposed acquisition of Conrail's physical assets and operating systems by CSX and NS, for which the Applicants are seeking approval from the Board.

public uses: According to 49 U.S.C. 10905 and STB Regulations "Surface Transportation Manual," Section 1105.7(3)iv, those identified alternative public purposes for the use of rail properties proposed for abandonment or discontinuance, including highways, other forms of mass transportation, conservation, energy production or transmission, or recreation.

queue: A line of vehicles waiting at a highway/rail at-grade crossing for an obstruction to clear.

rail line segment: For the purposes of this Final EIS, portions of rail lines that extend between two terminals or junction points.

rail route: Line of railroad track between two points on a rail system.

rail spur: A railroad track that typically connects to the main line at only one end and provides rail service to one or more railroad freight customers. A rail spur could also parallel the main line.

rail yard: A location or facility with multiple tracks where rail operators switch and store rail cars.

receptor: See *noise-sensitive receptor*.

regional and system gang: A group of railroad maintenance-of-way employees that work a particular region or an entire railroad system.

remediation (remedial actions): Actions taken to mitigate the adverse effects, or potential adverse effects, to the environmental or to the public health and welfare resulting from the release or spill of hazardous substances.

Request for Conditions: A document filed with the Board by a party to this proceeding on or before October 21, 1997, that requests the Board to impose one or more specified requirements on the Applicants as a condition to the Board's approval of the proposed Conrail Acquisition.

Resource Conservation and Recovery Act (RCRA): The Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6901 *et seq.*; P.L. 94-580) is a Federal act governing the generating, storing, transporting, treating, and disposing of hazardous waste.

Resource Conservation and Recovery Information System (RCRIS): Federal database containing information on facilities that generate, transport, store, treat, and/or dispose of hazardous waste.

Responsive Environmental Report (RER): A report, submitted by an Inconsistent and Responsive applicant, that contains detailed environmental information regarding the activities proposed in its IR Application and complies with the requirements for environmental reports in the Board's rules at 49 CFR 1105.7(e).

restricted speed: A speed that will permit a train to stop within one-half the range of vision of the railroad employee controlling the movement of the train; the train must stop before passing improperly aligned switches, a defect in the track structure, deliberately placed objects, or striking other railroad equipment. According to Federal Railroad Administration regulations, this speed is not to exceed 20 miles per hour.

retarder: In railroad yards, a braking device, usually power-operated, built into a railroad track to reduce the speed of cars by means of brake-shoes which, when set in braking position, press against the sides of the lower portions of the wheels.

right-of-way: The strip of land for which an entity (for example, a railroad) has a property right to build, operate, and maintain a linear structure (for example, a rail line).

roadmaster: Railroad supervisor responsible for track inspection and maintenance over a specified portion of the railroad network.

Safety Assurance and Compliance Program (SACP): Federal Railroad Administration program to audit railroad safety practices and to ensure compliance with Federal regulations.

safety culture: The manner in which management and employees in an organization view and approach the issue of safety, including both formalized rules and informal practices in the organization.

Safety Implementation Plan Guidelines (SIPG): A series of acquisition-related guidelines that the Federal Railroad Administration developed for CSX and NS, detailing a list of safety concerns that CSX and NS must address in their Safety Integration Plans.

Safety Integration Plans: Plans that the Applicants prepared and submitted to the Board to explain how they propose to provide for the safe integration of their separate corporate cultures and operating systems, if the Board approves the proposed Conrail Acquisition.

Section 106 review process: The review process set forth in Section 106 of the NHPA (16 U.S.C. 470) that requires every Federal agency to "take into account" the effects of its undertakings on historic properties and affords the ACHP the opportunity to comment on those undertakings and their effects.

seniority district: A geographic area within which a group of employees in a specific labor union (for example, engineers, dispatchers) are authorized and expected to work.

seniority rights: The priority one employee has over another employee in bidding for available positions, choice of work assignments, and similar matters, based on length of employment in a specified category. Agreements between railroad companies and labor unions specify such rights.

sensitive receptor: See *noise-sensitive receptor.*

separated grade crossing: The site where a local street or highway crosses railroad tracks at a different level or elevation, either as an overpass or as an underpass.

service: The official notification and delivery of Board decisions and notices (including EAs and EISs) by the Secretary of the Board to persons involved in a particular proceeding.

Settlement Agreement: An agreement negotiated between CSX or NS or both and one or more parties, including other railroads, that addresses concerns or requests of the party (or parties). Generally, such an agreement addresses competitive customer service or labor issues.

Seven Separate Connections: Seven new rail line connection construction projects in Illinois, Indiana, and Ohio. These projects total approximately 4 miles of new track. CSX and NS requested that the Board give early consideration and approval to the physical construction of these particular connections.

Shared Assets Areas: Areas comprising Conrail facilities in southeastern Michigan, northern New Jersey, and southern New Jersey/Philadelphia that CSX and NS would share and Conrail Shared Assets Operations would operate for the benefit of both CSX and NS, if the Board approves the proposed Conrail Acquisition.

shifted load: An improperly secured freight car load that has moved and may protrude beyond the allowed dimensional limits.

shipment: A unit of freight given to the railroad for movement to its destination by an individual customer.

siding: A track parallel to a main track that is connected to the main track at each end. A siding is used for the passing and/or storage of trains.

signal maintainer: Railroad employee who maintains signal and communications systems.

socioeconomic: For this Final EIS, job loss directly attributable to changes in the physical environment as a result of construction and abandonment activities and other activities related to the proposed Conrail Acquisition project.

Sound Exposure Level (SEL): For a transient noise event such as a passing train, equivalent to the maximum A-weighted sound level that would occur if all of the noise energy associated with the event were restricted to a time period of 1 second. The SEL accounts for both the magnitude and the duration of the noise event; noise analysts use SEL to calculate the day-night average noise level.

Spill Prevention, Control, and Countermeasures Plan (SPCCP): A site-specific document written to detail measures to prevent discharges of oil into waters of the United States (as defined in the Clean Water Act). Facilities with aboveground storage capacities in a single container greater than 660 gallons, or the aggregate aboveground storage capacity greater than 1,320 gallons, or total underground storage capacity greater than 42,000 gallons are required to prepare SPCCPs.

superior train: For purposes of this Final EIS, a passenger train operating on the same track network with freight trains. Superior trains must have track clear of all trains not less than 15 minutes prior to their arrival. See *temporal train separation*.

Supplemental Environmental Report: A report that analyzes the environmental impacts of operating changes related to a Settlement Agreement between an Applicant and another railroad that exceed the Board's thresholds when added to changes proposed in the Applicants' Operating Plans.

switch: The portion of the track structure used to direct cars and locomotives from one track to another.

switching: The activity of moving cars from one track to another in a yard or where tracks go into a railroad customer's facility.

temporal train separation: The time separation of passenger trains that share rail lines with freight trains, in order to reduce the possibility of train collisions. See *superior train.*

territory: The portion of a railroad's track network under the management of a particular supervisor.

threatened species: A species that is likely to become endangered within the foreseeable future throughout all or part of its range. Federal and state laws protect these species.

threshold for environmental analysis: A level of proposed change in railroad activities that determines the need for SEA's environmental review. For the proposed Conrail Acquisition, SEA used the Board's environmental rules at 49 CFR Part 1105 to determine the activities that it would examine for air and noise impacts ("Board thresholds"). For other issue areas, SEA developed appropriate thresholds to guide its environmental review ("SEA thresholds"). The term "Board thresholds", as used in this EIS, may refer to either Board or SEA thresholds.

timetable: A document that identifies key railroad line features over a defined portion of the network. The features usually include distances, speed limits, track layout, type of signaling, location and length of passing sidings, and the local applicability of specific operating rules. Operating rules are often published with the timetable.

track geometry: Dimensional description of railroad track and individual rails compared to optimal design criteria.

track geometry inspection car: Rail vehicle equipped with instruments to make continuous, in-motion measurements of variations in the track gauge, alignment, and cross level.

trackage right(s): The right (or combination of rights) of one railroad to operate over the designated trackage of another railroad including, in some cases, the right to operate trains over the designated trackage; the right to interchange with all carriers at all junctions, the right to build connections or additional tracks to access other shipper or carriers. See also *haulage right(s)*.

trackage rights agreement: An agreement between two parties that defines the trackage rights granted to one party over the tracks of a second party.

traffic volume (highway): The number of highway vehicles that pass over a given point during a given period of time, often expressed on an annual, daily, hourly, and sub-hourly basis. For the purposes of this Final EIS, SEA expressed highway traffic volumes on a daily basis.

traffic volume (rail): The total volume of rail traffic that passes over a given rail line segment, typically expressed in either trains per day or annual million gross tons per year.

train (freight): A conveyance transported by one or more locomotives typically with 40 to 150 freight cars, measuring approximately 5,000 to 8,000 feet in length. For the purposes of this Final EIS, does not apply to locals, work trains, switch-engine movements, or engine-only movements.

train (passenger): Equipment composed of one or more rail cars designed to carry passengers, propelled by a locomotive or self-propelled, moving from one place to another.

train crew: Employees assigned to operate a train, usually an engineer, a conductor, and one or more trainmen.

train defect detector: An electronic device located alongside a rail track that monitors passing trains to determine the presence of certain potentially dangerous conditions, such as an overheated wheel bearing ("hot box") or a shifted load that protrudes from the rail car.

trainman: Member of a train crew responsible for assisting the engineer and conductor in operating the train, especially with switching cars.

trainmaster: Railroad operations supervisor responsible for managing train and yard operations and operating employees on a defined portion of the railroad network.

transient noise event: An intermittent occurrence of noise, such as the passing of a train that generates such noise.

Transportation Department: Department of the railroad responsible for day-to-day train operations and dispatching.

Triple Crown Service (TCS): An expedited intermodal service offered by both Conrail and NS. TCS trains do not require the use of flat cars, but rather use specially designed dual-mode highway trailers that are coupled together with two-axle rail wheel sets that support the ends of the trailers for the rail portion of the rail-highway movement. The equipment used is similar to "RoadRailer" equipment.

turnout: The portion of railroad track structure where a single track divides into two tracks.

Verified Statement: A party's sworn statement that provides information to the Board.

vibration velocity: The rate of change of displacement of a vibration. Noise analysts often express measurements of vibration in terms of velocity because velocity correlates well with human response to vibration.

waybill: Document or computer record containing details of a rail shipment: origin, destination, route, commodity, freight rate, car or cars used, and similar information.

wayside: Adjacent to the railroad track, as in "wayside signals" or "wayside defect detectors."

wayside noise: Train noise adjacent to the right-of-way that comes from sources other than the horn, such as engine noise, exhaust noise, and noise from steel train wheels rolling on steel rails.

wetlands: According to 40 CFR Part 230.41, those "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions," generally including swamps, marshes, bogs, and similar areas.

yardmaster: Railroad operations supervisor responsible for railroad operations and employees in a railyard.

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LIST OF ACRONYMS AND ABBREVIATIONS

AAR	Association of American Railroads
ABS	Automatic Block System
ACHP	Advisory Council on Historic Preservation
ACS	Automatic Cab Signals
ACSES	Advanced Civil Speed Enforcement System
ADT	Average Daily Traffic
Amtrak	The National Railroad Passenger Corporation
ANSI	American National Standards Institute
AoPE	Area of Potential Effect(s)
APL	American Presidents Line
APTA	American Public Transit Association
ARU	Allied Rail Unions
ASTM	American Society for Testing and Materials
ATC	Automatic Train Control
B&O	Baltimore & Ohio Railroad Company
B&OCT	Baltimore & Ohio Chicago Terminal Railroad Company
BIA	Bureau of Indian Affairs
BMP	Best Management Practice
Board	Surface Transportation Board
BOCT	Baltimore & Ohio Chicago Terminal Railroad Company
BRL	The Cities of Bay Village, Rocky River, and Lakewood, Ohio
CAA	Clean Air Act of 1970
CAAA	Clean Air Act Amendments of 1990
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CO	carbon monoxide
Conrail	Conrail, Inc. and Consolidated Rail Corporation
CP	Control Point
CPR	Canadian Pacific Railway
CRC	Comments and Requests for Conditions
CSX	CSX Corporation and CSX Transportation, Inc.

CTC	Centralized Traffic Control
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act of 1972
dB	decibel
dBA	A-weighted decibels
DES	Division of Endangered Species
DOI	U.S. Department of the Interior
DOT	U.S. Department of Transportation
EA	Environmental Assessment
EDR	Environmental Data Resources, Inc.
EIS	Environmental Impact Statement
EJ	Environmental Justice
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ERS	Environmental Resource Score
ESA	Endangered Species Act of 1973
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMEA	Failure Mode and Effects Analysis
FRA	Federal Railroad Administration
FRA ID	Federal Railroad Administration Identification Number
FTA	Federal Transit Administration
GIS	Geographic Information System
GPS	Global Positioning System
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HCM	The Transportation Research Board's *Highway Capacity Manual*
HMERP	Hazardous Materials Emergency Response Plan
HMIS	Hazardous Materials Information System
HUD	Department of Housing and Urban Development
ICC	Interstate Commerce Commission
ID	Identification
IHB	Indiana Harbor Belt Railroad Company
IR	Inconsistent and Responsive [application]
ISTEA	Intermodal Surface Transportation Efficiency Act
IT	Information Technology
LAL	Livonia, Avon, and Lakeville Railroad Corporation
L_{dn}	day-night equivalent sound level
$L_{eq(h)}$	hourly energy-averaged sound level
LOS	Level of Service
LUST	Leaking Underground Storage Tank

MARC	Maryland Rail Commuter (Maryland's Mass Transit Administration's Commuter Rail Service)
MBTA	Massachusetts Bay Transportation Authority
Metra	Northeast Illinois Regional Commuter Railroad Corporation
min./veh	minutes per vehicle
MNR	Metro-North Railroad (Metro-North Commuter Railroad Company)
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
mph	miles per hour
MRS	Multiple Resource Score
MRTA	Metro Regional Transit Authority of Akron, Ohio
MUTC	Manual of Uniform Traffic Control Devices
N/A	Not Applicable
NAAQS	National Ambient Air Quality Standards
NEC	Northeast Corridor
NEPA	National Environmental Policy Act of 1969
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act of 1966
NHTSA	National Highway Traffic Safety Administration
NJT	New Jersey Transit
NORAC	Northeast Operating Rules Advisory Committee
NO_x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NRC	Nuclear Regulatory Commission
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NS	Norfolk Southern Railway Company and Norfolk Southern Corporation
NWI	National Wetlands Inventory
NYCH	New York Cross Harbor
O_3	ozone
OAR	Office of Air and Radiation (within Environmental Protection Agency)
OHPO	Ohio Historic Preservation Office
OMS	Office of Mobile Sources (within Environmental Protection Agency)
OTR	Ozone Transport Region
PCB	polychlorinated biphenyl
PDEA	Preliminary Draft Environmental Assessment
PIH	Poison Inhalation Hazard
P.L.	Public Law
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in diameter
POR	Party of Record

PSD	Prevention of Significant Deterioration
P&W	Providence & Worcester
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act of 1976
RCRIS	Resource Conservation and Recovery Information System
RER	Responsive Environmental Report
RQ	Reportable Quantity
SACP	Safety Assurance and Compliance Program
SARA	Superfund Amendments and Reauthorization Act of 1986
SCS	Soil Conservation Service
SEA	Section of Environmental Analysis
sec/veh	seconds per vehicle
SEL	Sound Exposure Level
SEPTA	Southeastern Pennsylvania Transportation Authority
SHPO	State Historic Preservation Office
SIPG	Safety Implementation Plan Guidelines
SPCCP	Spill Prevention, Control, and Countermeasures Plan
Stat.	Statute
STB	Surface Transportation Board
SO_2	sulfur dioxide
TCS	Triple Crown Service
TLCPA	Toledo-Lucas County Port Authority
TMACOG	Toledo Metropolitan Area Council of Governments
Tri-Rail	Florida Tri-County Commuter Rail Authority
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VRE	Virginia Railway Express
WMATA	Washington Metropolitan Area Transit Authority

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