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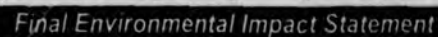
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TABLE N-31
RAIL LINE SEGMENTS IN FOUR CITY CONSORTIUM AREA

Site ID	Rail Line Segment	Passenger Trains Per Day	Pre-Acquisition Trains Per Day	Post-Acquisition Trains Per Day	Change in Trains Per Day
C-023	Pine Jct., IL to Barr Yard, IL	0	30.0	31.7	1.7
C-024	Clark Jct., IN to Tolleston, IN	0	0	5.0	5.0
C-026	Warsaw, IN to Tolleston, IN	0	1.0	5.0	4.0
C-027	Pine Jct., IN to Willow Creek, IN	2.0	20.1	34.6	14.5
C-066	Deshler, OH to Willow Creek, IN	2.0	21.4	47.7	26.3
C-692	Willow Creek, IN to Porter, IN	0	9.6	0	-9.6
C-693	Ivanhoe, IN to Willow Creek, IN	0	9.6	13.4	3.8
N-469	Hobart, IN to Hammond, IN	0	26.3	11.2	-15.1
N-308	Porter, IN to CP 501, IN	14.0	69.4	62.5	-6.9
N-311	Indiana Harbor, IN to Kankakee, IL	0	6.6	4.0	2.6
N-047	Indiana Harbor, IN to South Chicago, IL	16.0	43.1	48.2	5.1
N-042	CP 501, IN to Indiana Harbor, IN	14.0	45.4	63.3	17.9

Route No. 3: The third route is for CSX trains between Barr Yard and Hobart. These trains would use rail line segment C-023 between Barr Yard and Clarke Junction or Route No. 2 (described above) entering the corridor at Tolleston. CSX plans to rehabilitate and restore to service rail line segment C-024 between Clarke Junction and Tolleston and rail line segment C-026 between Tolleston and Hobart. These two rail line segments, which are currently out of service, are a part of the former Pennsylvania Railroad Fort Wayne rail line between Chicago and Fort Wayne. As part of the proposed Conrail Acquisition, NS would transfer ownership of rail line segment C-026 east of Hobart to CSX. Once the connection at Hobart is restored, CSX will have a third route to and from the Chicago area, serving Indianapolis and other locations in the southeast.

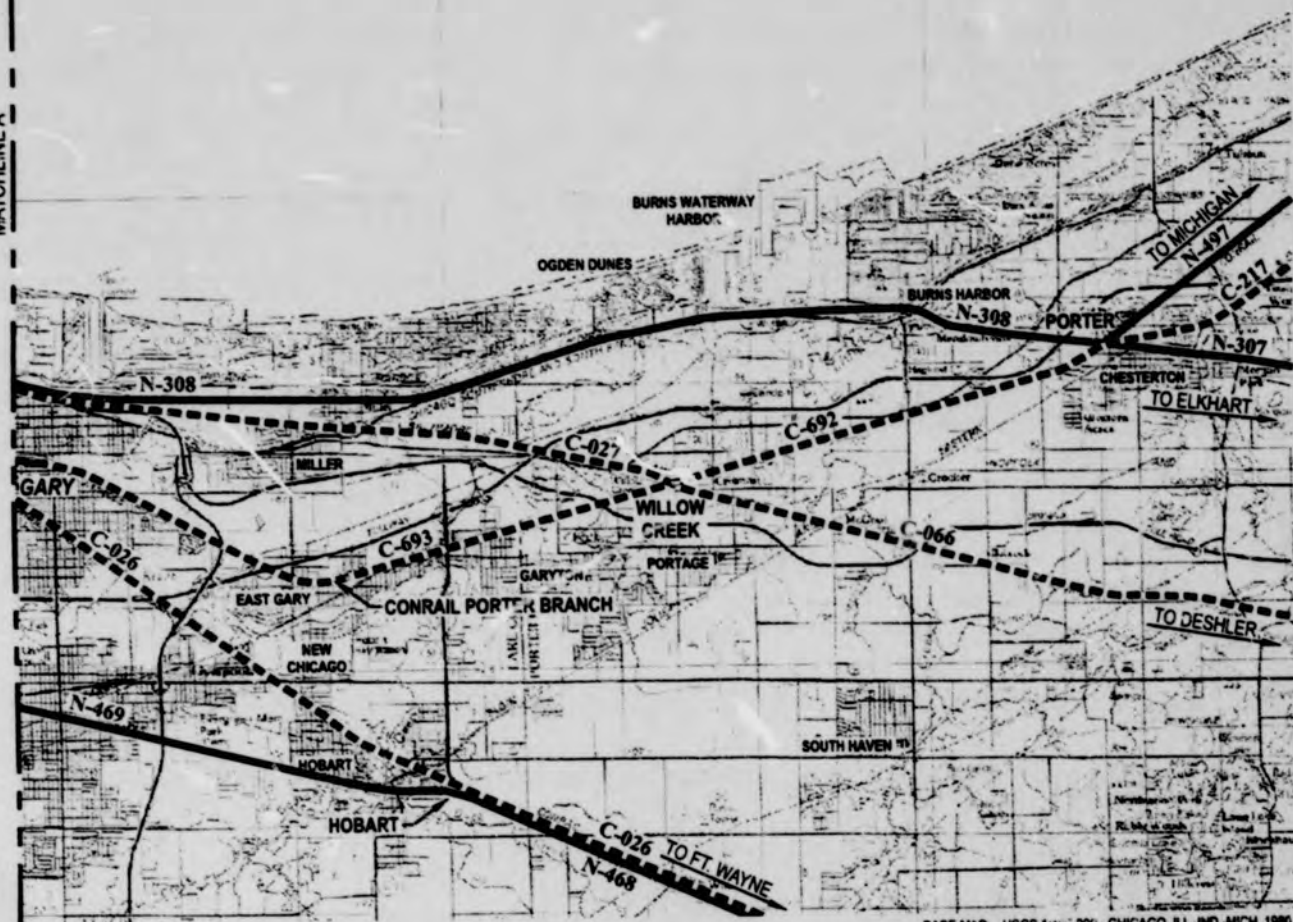


LEGEND

N-000 NORFOLK SOUTHERN RAIL SEGMENT AND SEGMENT ID
C-000 C S X RAIL SEGMENT AND SEGMENT ID

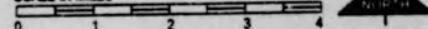


MATCHLINE A



BASE MAP: USGS 1:100,000 - CHICAGO, ILL.-IND.-MICH. 1980

SCALE IN MILES



Proposed Conrail Acquisition

Final Environmental Impact Statement

FIGURE N-9B
FOUR CITY CONSORTIUM AREA - INDIANA

N.2.2 The Four City Consortium Alternative Routing Plan

The Four City Consortium Alternative Routing Plan proposes to maximize the use of grade-separated rail line segments and minimize the use of at-grade rail line segments in the Four City region. The Alternative Routing Plan modifies the Applicants' proposed operating plans for northwestern Indiana in two important aspects. The first change involves CSX's east-west operations via Willow Creek. Under the Four City Consortium's plan, westbound CSX traffic would continue to move primarily between Willow Creek, Pine Junction, and Barr Yard using rail line segments C-023 and C-027 as described for Route No. 1 (See Section N.2.1.) All eastbound CSX traffic, however, would be rerouted from these two rail line segments, primarily to avoid the numerous heavily used highway/rail at-grade crossings on rail line segment C-023. Under the Four City Consortium's plan, CSX trains would depart from Barr Yard and travel through the proposed new CSX/IHB connection at Lincoln Avenue, then operate eastward over the IHB through Ivanhoe to approximately Virginia Street in Gary, just east of Tolleston. East of Ivanhoe, where there is an existing connection between the IHB and the Conrail Porter Branch, the IHB rail line segment is presently used only to serve local industries. This IHB rail line segment parallels the Porter Branch rail line segment and is presently out-of-service east of Chase Street in Gary. The out of service elevated IHB right-of-way, which includes several railroad bridges over highways, is still in place. Under the Four City Consortium's plan, approximately 2.1 miles of track would be restored on this IHB right-of-way between Chase Street and Virginia Street, just east of Tolleston. At Virginia Street, a new connection would be built between the IHB right-of-way and the parallel Conrail Porter Branch. The reason for using the IHB rail line segment east of Ivanhoe to Virginia Street is that this IHB track is grade-separated, whereas the Porter Branch rail line segment between Ivanhoe and Tolleston has nine highway/rail at-grade crossings. East of the new connection at Virginia Street, CSX trains would then operate over the Porter Branch rail line segment to Willow Creek and use the new connection proposed by CSX to connect to rail line segment C-066 for movement to Deshler and other eastern points.

The second change proposed by the Four City Consortium's plan involves CSX's proposed operation of the former Pennsylvania Railroad Fort Wayne rail line between Chicago and Fort Wayne. CSX plans to use this current NS route as a bulk train route and alternate routing for all of its trains. The Four City Consortium opposes the reopening of the out-of-service portion of this rail line between Clarke Junction and Hobart as described for Route No. 3. (See Section N.1.2.) This rail line segment has not been abandoned, although several portions of the track structure have been removed. Restoring this rail line segment to service would require reopening numerous highway/rail at-grade crossings. To avoid reopening these highway/rail at-grade crossings, the Four City Consortium's plan proposes not to restore this rail line segment between Clarke Junction and Hobart. Instead, the plan would route CSX traffic from Fort Wayne and points east between Hobart and Van Loon over rail line segment N-469, NS's Nickel Plate Line. At Van Loon, CSX trains would connect to the Elgin, Joliet, and Eastern (EJ&E) Railway via an existing NS/EJ&E connection after it is rehabilitated. CSX trains would then operate on EJ&E (rail line segment C-774) between Van Loon and Pine Junction via Ivanhoe. At Pine Junction, CSX trains would again connect with CSX rail line segment C-023 using either the existing CSX/EJ&E connection or a new connection.

N.2.3 Evaluation of the Alternative Routing Plan Proposed by the Four City Consortium and CSX Operating Plan

According to CSX, the CSX Operating Plan focuses heavily on improving traffic flows to, from, and through the Chicago terminal area by:

- Investing substantial sums to improve the track and yard facilities.
- Reconfiguring traffic patterns to make more efficient use of yards and mainline routes.
- Improving blocking patterns to overhead more traffic or move traffic into Chicago in larger blocks to reduce the number of cars switched and classified in the Chicago terminal area.
- Improving dispatching services.

CSX is also making capital improvements on major service routes into Chicago in order to improve service to the Chicago area. A \$220 million track and signal improvement project is underway to upgrade CSX's Garrett Subdivision, the former B&O main line, to a 70 mile-per-hour route for time-sensitive traffic. This rehabilitation includes rail line segments C-027 and C-066 east of Pine Junction. Additionally, CSX would upgrade and rehabilitate parts of NS's former Pennsylvania Railroad Fort Wayne rail line that CSX would operate if the Board approves the proposed Conrail Acquisition. The Pennsylvania Railroad Fort Wayne rail line would provide another 40 mile-per-hour route for bulk unit train traffic into and out of Chicago, as well as an alternate route for all types of traffic during peak periods. According to CSX, this proposed separation of time sensitive traffic and bulk traffic would greatly improve the efficient flow of traffic into and out of the Chicago area.

In addition, CSX has proposed improvements within the Chicago area to improve the flow of traffic through the Chicago area. CSX plans to upgrade the tracks and signal system on rail line segment C-023, the Barr Subdivision between Barr Yard and Pine Junction. CSX proposes highway/rail at-grade crossing signal circuit improvements, including the removal of insulated joints and installation of motion sensors, to allow increasing train speeds to 40 miles per hour between Pine Junction and Blue Island. CSX anticipates that the improvements on the portion of rail line segment C-023 between Pine Junction and Barr Yard, which is the main area of concern for the Four City Consortium, would decrease delays to vehicular traffic at the highway/rail at-grade crossings on this rail line segment. Improved train dispatching and coordination at IHB-controlled interlocking plants on this line would also serve to improve rail traffic flow and reduce highway/rail at-grade crossing delays.

To further ease train movements within Chicago, CSX proposes new or upgraded connections on the periphery of Chicago on rail line segments between local switching companies within Chicago. These connections include:

- A new crossover from CSX to IHB for eastbound trains at Lincoln Avenue.
- An upgraded connection between Conrail (NS after the proposed Conrail Acquisition) and the Belt Railway Company (BRC) of Chicago at Rock Island Junction to allow more direct movements between Bedford Park and the Lakeshore Line.
- A new connection at 75th Street between the CSX line at Forest Hill and the Belt Railway company of Chicago in the southwestern quadrant of the 75th Street interlocking.
- Rehabilitation of the connection at Tolleston in the southwestern quadrant between the Porter Branch and the reactivated Pennsylvania Railroad Fort Wayne Line. This would facilitate movement of trains from IHB's Blue Island Yard to CSX's reactivated Pennsylvania Railroad Fort Wayne Line.
- A new connection in the south quadrant at Willow Creek to allow east/west movements between CSX's Garrett Subdivision and the Porter Branch.

Alternative Routing of Trains From CSX to the Elevated IHB Line

CSX also made modifications to its Operating Plan for the proposed Conrail Acquisition to reduce the increase in freight trains on rail line segment C-023 (Pine Junction-to-Barr Yard). CSX would re-route two trains per day from this rail line segment to the Porter Branch. CSX also proposed to re-route one Canadian Pacific train per day from rail line segment C-023 to rail line segments N-042 and N-047, the NS-allocated Conrail Lakeshore Line. As a result of these routing changes, traffic on rail line segment C-023 would increase by 1.7 trains per day.

In conjunction with CSX's proposal to reroute traffic on rail line segment C-023 between Pine Junction and Barr Yard, the CSX Operating Plan includes other improvements that would further relieve train traffic congestion and move train traffic more quickly and efficiently through Chicago. New blocking strategies and coordinated use of yards within the Chicago area would reduce the number of cars classified at Barr Yard. This means that the traffic would move more quickly through the yard with less congestion and delay awaiting access to the yard.

Barr Yard currently switches about 1,200 cars per day, with 70 percent processed for interchange, 10 percent switched to or from local CSX-served industries, and 20 percent classified for industries located on CSX's New Rock Subdivision west of Joliet, Illinois. If the Board approves the proposed Conrail Acquisition, much of the traffic for interchange from western rail carriers would be blocked to move through Chicago. IHB's Blue Island Yard and Belt Railway of Chicago's (BRC's) Clearing Yard would handle classification for all eastbound and southbound interchange traffic that cannot move overhead in through trains from western carriers. In addition, as a result of the combined volumes of CSX and Conrail traffic that CSX would assume, CSX would be able to build larger blocks of traffic moving into Chicago. CSX would use IHB's Blue Island Yard and Barr Yard in tandem to move traffic more efficiently.

Much of the CSX and Conrail traffic that is currently routed through BRC's Clearing Yard would shift to Blue Island Yard or Barr Yard, or overhead directly to the western carriers. Blue Island Yard would continue to handle the Chicago-Northwest Indiana industrial traffic now handled by IHB and Conrail.

Barr Yard would handle local industrial traffic for CSX line-haul movements as well as direct interchange to other carriers. Because of its strategic location, Barr Yard would be well suited for block-swapping east/west and north/south traffic, as well as for handling unit train operations. In addition, CSX anticipates various track, signal, and hump improvements at IHB's Blue Island yard. According to CSX, the significant reduction in intermediate car handling and the proposed yard improvements would improve operations at the yards and the flow of traffic within and through Chicago. Based on the re-routings and the operational improvements, SEA concludes that traffic flow would improve on CSX rail line segment C-023 between Barr Yard and Pine Junction. In addition, the IHB/Porter Branch route between Lincoln Avenue and Willow Creek would be an important component of CSX's overall operating plans for the Chicago area.

The Four City Consortium proposal for reactivation of the IHB rail line between Ivanhoe and Virginia Street east of Tolleston is not a viable option for anticipated operations immediately following the proposed Conrail Acquisition. This project would require substantial planning, and the coordination and cooperation of the IHB. Reactivation of this rail line segment would require the track structure to be replaced for the entire 2.1-mile rail line segment from Virginia Street to Chase Street. From Chase Street to Ivanhoe, the existing track would have to be upgraded to allow train speeds to be increased from the current 25 miles per hour to 40 miles per hour.

Additionally, the existing deteriorated railroad/highway bridges on the elevated rail line segment would have to be replaced or rehabilitated, wooden trestles would need to be filled in, a signal system would need to be installed, and earth retention structures and track subgrade would need replacement as necessary. Such improvements would require substantial capital investments, as well as the time that would be needed for engineering design and construction of the proposed improvements.

SEA and CSX concur that the proposed reactivation of the IHB rail line segment between Ivanhoe and Virginia Street east of Tolleston may be a viable long-term option that warrants future consideration. CSX has stated that it is willing to work with the Four City area to seek funding and appropriate approval and cooperation to reactivate the 2.1-mile rail line segment. Reactivation of the double-track elevated IHB rail line would provide the additional capacity needed for CSX to reroute traffic off rail line segment C-023.

Alternative Routing to NS and EJ&E Lines Instead of Rehabilitating the Pennsylvania Railroad Fort Wayne Line

The CSX Operating Plan calls for a rehabilitation of a portion of the NS Pennsylvania Railroad Fort Wayne rail line between Hobart and Clarke Junction, which includes track improvements and reinstalling signals (primarily crossing warning devices). According to CSX, investment in this

rail line segment is an important part of the overall Chicago operating plan because it provides CSX with its own efficient route for bulk traffic that would also serve as an alternative route for other trains as needed to avoid congestion in the Chicago area. SEA concludes that the Four City Consortium plan to reroute CSX trains to NS rail line segment N-469 between Hobart and Van Loon and to EJ&E rail line segment C-774 between Van Loon and Pine Junction is not a viable option for the anticipated Day One operations after the proposed Conrail Acquisition or for future CSX operations for a number of reasons.

CSX's primary motive for acquiring the NS Pennsylvania Railroad Fort Wayne rail line is to promote efficient operations by diverting all types of slower moving bulk trains from CSX's high-speed former B&O rail line segment. The Pennsylvania Railroad Fort Wayne rail line would provide a 40 mile-per-hour route that would improve bulk commodity train service and function as a fully adequate alternate route for other trains as needed to maintain fluid train operations during peak traffic periods. The Four City Consortium's plan would require trains destined to customers and connecting carriers not on the lake shore to move several miles out of existing routes over competing rail carrier rail line segments. This rerouting would significantly add to the transit time and to the potential for delay and congestion for CSX trains. CSX trains would need to obtain permission to use foreign line tracks from two additional train dispatchers. The NS and EJ&E train dispatchers likely would prioritize their own railroads' train movements over CSX train movements. Rerouting these movements would also increase costs because of additional trackage rights fees and undetermined increases in fuel, locomotive, and possibly crew costs.

NS rail line segment N-469, the Nickel Plate Line between Hobart and Van Loon, is a single track corridor. Currently, this is NS's only major rail line segment into and out of the Chicago area. As a result of the proposed Conrail Acquisition, NS would acquire the Conrail Lakeshore Line (rail line segments N-047, N-042, and N-308). NS would reduce the congestion problems that it currently faces on the Nickel Plate Line segment by rerouting various trains to the Lakeshore Line. However, by adding CSX trains to the Nickel Plate Line, congestion problems would continue, potentially resulting in decreased efficiencies of both NS and CSX train movements. Capacity improvements in the form of an additional signalized main track on the NS Nickel Plate Line would involve extensive planning, major capital investment, and time for engineering and construction.

A large portion of the double-track EJ&E rail line is elevated to avoid interference with highway/rail at-grade crossings with the CSX and Conrail main lines along the shore of the lake. The existing NS/EJ&E connecting track at Van Loon would need to be rehabilitated. At Pine Junction, the EJ&E rail line segment uses bridges to cross over CSX rail line segments C-023 and C-024, Conrail's Lakeshore Line (NS rail line segment N-308), and an industrial spur owned and operated by NS. This arrangement complicates access to the CSX main line at Pine Junction from the EJ&E rail line. At the present time, such train movements would require CSX trains traveling on the EJ&E rail line to use an existing CSX/EJ&E connection south of the CSX main line. A CSX train traveling east on the EJ&E rail line would have to pull across the EJ&E bridge clear of the connecting track switch and travel downgrade into EJ&E's Kirk Yard. The CSX trains

would then reverse direction and make a backing move that would be simultaneously upgrade on the EJ&E line and downgrade on the connecting track into CSX's Curtis Yard. The CSX train would then negotiate Curtis Yard and pull onto CSX rail line segment C-027, then onto rail line segment C-023 for movement to Barr Yard. This complex and potentially dangerous shoving movement on an elevated rail line would present an unacceptable operational and safety risks. Constructing new direct connections from the EJ&E rail line to CSX rail line segment C-023 and to the CSX connection to rail line segment N-042 would involve considerable property acquisition and capital costs that could not occur by Day One operations after the proposed Conrail Acquisition.

The nature of the shoving movement described above would also require additional locomotives. As described above, a CSX train making this movement is stopped just beyond the connecting track switch at the top of the hill with all of the train facing downhill into EJ&E's Kirk Yard with all of its slack run-in. The entire train must then be reversed, started, and shoved uphill and around the curves through the connection to the lead track to Curtis Yard. CSX's Operating Plan is based on two unit locomotive operations, but this starting movement would require considerably more tractive effort than could reasonably be achieved by two locomotive units. CSX would be forced to assign more horsepower to these trains by using additional locomotives or helper locomotives. Either scenario would disrupt CSX's balance of locomotive resources and further undermine the efficiency of the proposed CSX movements.

This shoving movement would also be very time consuming and would block tracks and switches at both EJ&E's Kirk Yard and at CSX's Curtis Yard for the duration of the move, causing further congestion and delay.

N.2.4 Summary

In summary, the Four City Consortium plan would not recognize CSX's improved operational factors described in its proposed Operating Plan. The recent revision of the Operating Plan by CSX reduces the number of trains on rail line segment C-023, one of the routes about which the Four City Consortium is concerned. SEA concludes that the rerouting coupled with the improvements proposed by CSX to upgrade the track structure and signal systems to allow 40-mile per hour train operations on rail line segment C-023 (Pine Junction-to-Barr Yard) would mitigate the impacts associated with the proposed Conrail Acquisition along this rail line segment.

N.3 ERIE, PENNSYLVANIA

In Erie, Pennsylvania, NS operates on rail line segment N-070, which is an in-street segment along 19th Street. Due to its location, trains on this rail line segment are restricted to a speed of 15 miles per hour. This portion of the NS main line has caused the citizens of Erie considerable traffic delay and safety concerns at the numerous highway/rail at-grade road crossings within the city.

N.3.1 Description of Existing Environment

The City of Erie is located in Erie County in northwestern Pennsylvania. NS's main line runs down the center of 19th Street on an alignment that dates back to 1882. The line travels through a residential/commercial area and shares the same right-of-way with two-way vehicle traffic. No barriers exist to prevent vehicle or pedestrian access to the main line track.

The current NS main line runs through Erie in a general east-west direction, paralleling the Conrail Chicago Line located approximately a half mile to the north. Just east of Downing Avenue, on the east side of the City, the NS main line curves to the southwest and diverges from the Conrail line. The NS main line then becomes aligned with 19th Street, running westward through downtown Erie. The NS main line runs down the center of 19th Street for approximately 1.25 miles before departing from the in-street running section at Raspberry Street. West of Erie, the NS main line runs parallel to, and approximately one quarter mile south of, the Conrail main line.

Erie's 19th Street tracks have long been the cause of local vehicle traffic bottlenecks. The entire 6.25 mile segment has 20 highway/rail at-grade crossings, nine of which have ADT volumes greater than 5,000. Current train traffic averages 13 trains per day. There are also four highway/rail grade-separated crossings in addition to Interstate 79, located on the west side of Erie.

N.3.2 Changes Resulting from the Proposed Conrail Acquisition

The Applicants identified traffic changes anticipated by the proposed Conrail Acquisition. The Applicants expect rail line segment N-070 (Buffalo FW, New York to Ashtabula, Ohio) to experience an increase in traffic levels due to the proposed Conrail Acquisition. To minimize the effects of the proposed Conrail Acquisition from these increases, NS proposes to relocate the portion of rail line segment N-070 in Erie to the existing Conrail corridor (CSX will acquire this corridor under the proposed Conrail Acquisition). The relocated NS line would travel through Erie along this corridor on its own track and then return to its present alignment west of Pittsburgh Avenue. For the purposes of this analysis, the relocated NS rail line segment in the Conrail/CSX corridor has been labeled N-502. (See Figures N-10A and N-10B.) The connecting rail line segments have been labeled N-502a and N-502b (one at each end of the relocation).

Table N-32 shows the existing rail traffic and rail traffic that would occur as a result of the proposed Conrail Acquisition.

The relocated NS corridor would experience an increase from 13 to 25.1 trains per day after the proposed Conrail Acquisition. This increase of 12.1 trains per day exceeds the Board's threshold for environmental analysis. The Conrail/CSX rail line segment in the shared corridor would experience a minor decrease from 50.1 to 49.6 trains per day, which does not exceed the Board's threshold for environmental analysis.

TABLE N-32
INPUT VALUES USED TO ANALYZE TRAFFIC CHANGES FOR THE PROPOSED
CONRAIL ACQUISITION IN ERIE, PENNSYLVANIA

Site ID	Between	And	Trains Per Day				Million Gross Tons	
			Psgs	Pre-Acq.	Post-Acq.	Change	Pre-Acq.	Post-Acq.
N-070	Buffalo FW, NY	Ashtabula, OH	0.0	13.0	25.1	12.1	19.6	42.7
C-690	Buff Seneca, NY	Ashtabula, OH	2.0	50.1	49.6	-0.5	102.6	100.2
N-502	MP 85	MP 91	2.0	63.1	74.7	11.6	121.2	142.9
N-502a	West Connection		0.0	13.0	25.1	12.1	19.6	42.7
N-502b	East Connection		0.0	13.0	25.1	12.1	19.6	42.7

Note N-502 is the replacement, or bypass corridor for N-070, and is adjacent to C-690. For most analytical purposes, the volumes shown for N-502 reflect the combination of volumes for both N-070 and C-690. The two connections, N-502a and N-502b, have identical volumes to N-070.

N.3.3 Potential Environmental Impacts and Recommended Mitigation

N.3.3.1 Safety: Highway/Rail At-grade Crossings

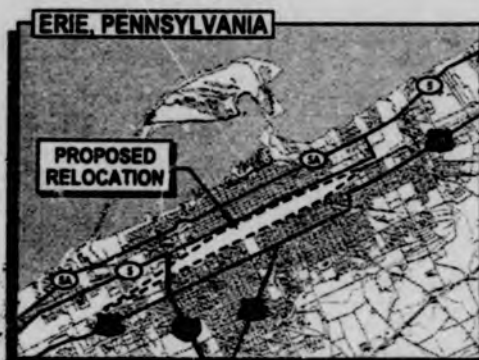
Analysis Methods and Criteria of Significance

SEA used train-vehicle accident databases and reviewed the Applicants' Environmental Reports to assess changes in rail line activity. (See Draft EIS, Chapter 3, "Analysis Methods and Potential Mitigation Strategies.") In the Draft EIS and Final EIS, SEA calculated the accident frequency for highway/rail at-grade crossings that would increase by eight or more trains per day as a result of the proposed Conrail Acquisition. As part of the alternatives analysis for this report, however, SEA evaluated every crossing on affected portions of rail line segments proposed for the Erie Bypass irrespective of the number of trains per day. SEA's analysis accounted for the type of warning device, the accident history at the highway/rail at-grade crossing, the daily number of trains, train speeds, and the roadway average daily traffic volumes. SEA has refined its analysis with updated data in the Final EIS.

SEA established two levels of increases in accident frequency likely to result in a significant environmental impact to identify possible candidates for site-specific mitigation measures. (See Draft EIS, Chapter 3, "Analysis Methods and Potential Mitigation Strategies.") First, based on historic Federal Railroad Administration (FRA) accident data, SEA considered mitigation for those highway/rail at-grade crossings that SEA estimated would have a potential increase in accident frequency of five additional accidents every 100 years. Second, for highway/rail at-grade

LEGEND

- N-000** NORFOLK SOUTHERN RAIL SEGMENT AND SEGMENT ID (TO BE RELOCATED)
- N-000** NORFOLK SOUTHERN RAIL SEGMENT AND SEGMENT ID (AFTER RELOCATION)
- C-000** CSX RAIL SEGMENT AND SEGMENT ID
- 19TH STREET RUNNING (1.25 MILES)**
- HIGHWAY/RAIL AT-GRADE CROSSING TO BE ELIMINATED
- HIGHWAY/RAIL AT-GRADE CROSSING TO BE EXPANDED WITH BYPASS
- ◇** HIGHWAY/RAIL AT-GRADE CROSSING TO REMAIN



BASE MAPS: USGS 7.5 TOPOGRAPHIC QUADRANGLES - SWANVILLE, PENNSYLVANIA 1957 (PHOTOREVISED 1990);
ERIE NORTH, PENNSYLVANIA 1996; ERIE SOUTH, PENNSYLVANIA 1996

SCALE IN FEET
0 1000 2000 3000 4000

Proposed Conrail Acquisition

Final Environmental Impact Statement

FIGURE N-10A
ERIE NS REALIGNMENT



Proposed Conrail Acquisition

Final Environmental Impact Statement

FIGURE N-10B
ERIE NS REALIGNMENT

crossings that SEA considers to already have a high accident frequency⁹ based on vehicle traffic and railroad operations after the proposed Conrail Acquisition, SEA considered mitigation if the accident frequency would increase by one additional accident every 100 years.

Analysis Results and Impacts

SEA evaluated the safety of highway/rail at-grade crossings in Erie that are listed in the FRA database, irrespective of the increase in the number of trains per day. SEA performed the analysis for all highway/rail at-grade crossings in the City of Erie between milepost B-85.10 and milepost B-91.25 on rail line segment N-070. The proposed relocation reroutes the NS line to the proposed rail line segment N-502, adjacent to the CSX (former Conrail) line, rail line segment C-690. Rail line segments N-502a and N-502b would be the transition from the existing alignment to the new alignment on the west and east ends of the Erie Relocation Project. Rail line segment N-502a would not have any highway/rail at-grade crossings. Rail line segment N-502b would have one highway/rail at-grade crossing (Downing Avenue)¹⁰. Rail line segment C-690 has four existing highway/rail at-grade crossings that would be expanded by the additional NS tracks for rail line segment N-502. SEA evaluated a total of 25 highway/rail at-grade crossings for this analysis of Erie. SEA assumed the same vertical grades (elevations) for the parallel location of rail line segment C-690 and the proposed relocated rail line segment N-502.

Attachment N-1 identifies all highway/rail at-grade crossings in Erie and shows the predicted accident frequency at each. The table shows current conditions and traffic characteristics as well as those projected characteristics that could result from the proposed Conrail Acquisition and the proposed relocation. For the proposed relocation, the number of trains per day on rail line segment N-070 is zero because those crossings would be eliminated if the relocation is implemented. NS plans to retain its tracks across Pittsburgh Street along its current alignment for use as an industrial spur, with perhaps one train per week. SEA did not evaluate delay associated with this reduced activity.

Table N-33 summarizes the total predicted number of accidents per year for all 25 highway/rail at-grade crossings. After the proposed Conrail Acquisition, the existing corridor without mitigation would result in an aggregate annual accident rate of 2.09 at the 25 intersections, compared to the 1.84 accidents per year predicted before the proposed Conrail Acquisition. However, the proposed relocation for Erie would significantly lower the predicted accident rate to one-third the level before the proposed Conrail Acquisition.

⁹ SEA considered a highway/rail at-grade crossing to have high predicted accident frequency if the crossing had an accident rate as a result of the proposed Conrail Acquisition at or above the fiftieth highest rate of all highway/rail at-grade crossings in the state, or would experience one accident every seven years as a result of the proposed Conrail Acquisition, whichever was the lower rate.

¹⁰ SEA notes that the agreement between NS and the City of Erie allows a new highway/rail at-grade crossing of East Avenue for the bypass. SEA assumed NS would meet the grade of the existing highway/rail grade-separated crossing at East Avenue.

TABLE N-33
AGGREGATE PREDICTED RATE OF ACCIDENTS PER YEAR AT
25 INTERSECTIONS IN ERIE, PENNSYLVANIA

Total Predicted Accidents per Year	Pre-Acquisition	Post-Acquisition Existing Corridors	Post-Acquisition with Mitigation	Post-Acquisition Relocation	Relocation with Mitigation
	1.84	2.09	2.07	0.57	0.57

Note: The DOT formula for predicting accidents does not contain an effectiveness coefficient for comparing gates to four-quadrant gates. Hence, any crossing with gates or four-quadrant gates appears as the same rate

Mitigation

SEA determined that the crossings listed in Table N-34 would warrant mitigation. Based upon the agreement reached between the City of Erie and the Applicants, SEA's only proposed mitigation for three of the crossings along the existing alignment is to remove train traffic by means of relocating the corridor from 19th Street.

TABLE N-34
PREDICTED ACCIDENTS PER YEAR AT HIGHWAY/RAIL AT-GRADE
CROSSINGS THAT WARRANT SAFETY MITIGATION IN
ERIE, PENNSYLVANIA

Street Name	Safety Device	Pre-Acquisition	Post-Acquisition Existing Corridor	Erie Relocation Project	Erie Relocation Project with Mitigation
Peach St.	Gate	0.1345	0.1552	0	NA
Cherry St.	Flasher	0.2738	0.3136	0	NA
Raspberry St.	Flasher	0.1826	0.2120	0	NA
Pittsburgh Rd.	Gate	0.1896	0.1892	0.2055	(a)

(a) Effectiveness of mitigation with four quadrant gates, median barriers, or corridor analysis is not quantifiable.

The agreement would remove the need to mitigate these three highway/rail at-grade crossing locations because the rail line segment would be removed from service.

If the proposed relocation is implemented, only one highway/rail at-grade crossing location, Pittsburgh Road, would warrant mitigation for safety. SEA recommends four-quadrant gates, median barriers, or corridor analysis to mitigate the increase in predicted accident frequency along the rail line segment N-502/C-690 corridor.

SEA proposes a condition that NS match the vertical grades of Conrail to provide identical at-grade or grade-separated crossings of roadways. SEA acknowledges that the agreement between the City of Erie and NS allows a highway/rail at-grade crossing of East Avenue; SEA would defer to the City this matter of introducing a new highway/rail at-grade crossing.

N.3.3.2 Safety: Hazardous Materials Transport

Analysis Methods and Criteria of Significance

SEA applied the same methodology for the analysis of the Erie relocation corridor for transport of hazardous materials by freight rail as detailed in Appendix B of the Draft EIS and summarized in Chapter 4, "Summary of Environmental Review," of this Final EIS.

SEA used data of the existing and proposed freight train traffic levels on rail line segment N-070 for rail line segments N-502a and N-502b. For analysis of hazardous materials, SEA also used those levels for rail line segment N-502. SEA determined that the operations of the two parallel rail lines would be independent and, therefore, did not combine them.

SEA applied two different criteria of significance for hazardous materials transport. The first was whether a rail line segment would become a "key route," (that is, handling in excess of 10,000 car loads of hazardous materials each year). The second was whether the projected increase in volume would double the number of hazardous materials carloads traveling on a key route and have 20,000 carloads or more per year.

Analysis Results and Impacts

Rail line segment C-690 is part of the Conrail main line between Buffalo and Chicago and currently carries 40,000 carloads of hazardous materials per year. CSX projects the volume to increase by 4,000 carloads as a result of the proposed Conrail Acquisition. Rail line segment N-070 currently carries 8,000 carloads of hazardous materials per year. NS projects the volume to increase by 18,000 carloads as a result of the proposed Conrail Acquisition. Table N-35 shows the percent increase in reportable mainline hazardous material releases anticipated under the proposed Conrail Acquisition.

Mitigation

Rail line segment C-690 already has key route status. CSX projects an increase of 4,000 carloads; this change, by itself, would not require mitigation. Rail line segment N-070 would become a key route, as would the relocated rail line segment N-502 and connections. If the relocation from 19th Street were not to occur, SEA would recommend that the Board require key route and major key route mitigation for the entire length of existing rail line segment N-070.

TABLE N-35
ACCIDENT PREDICTIONS FOR HAZARDOUS MATERIALS TRANSPORT ALONG
RAIL LINE SEGMENTS IN ERIE, PENNSYLVANIA

Rail Line Segment	Hazardous Materials		
	Percent Increase in Reportable Mainline Hazardous Materials Releases	Pre-Acquisition Interval between Mainline Hazardous Materials Releases (years)	Post-Acquisition Interval between Mainline Hazardous Materials Releases (years)
N-070	239.1%	14,480	4,270
C-690	4.0%	3,228	3,104
N-502	N/A	N/A	4,270

Note: Rail line segment N-502 is the replacement, or bypass, corridor for rail line segment N-070, and is adjacent to rail line segment C-690. For analytical purposes for hazardous materials transport, the volumes shown for rail line segment N-502 reflect rail line segment N-070. The two connections, rail line segments N-502a and N-502b, have identical volumes as rail line segment N-070.

Based upon the recent agreement between NS and the City of Erie for NS to relocate adjacent to the rail line segment C-690 corridor, SEA recommends that the Board require that NS meet the facility requirement of key routes. Additionally SEA recommends that both railroads coordinate the emergency response training for the common corridor as mitigation as if it were a major key route.

N.3.3.3 Safety: Freight Rail Operations

Analysis Methods and Criteria of Significance

SEA applied the same methodology for the analysis of the Erie relocation corridor for freight rail safety as detailed in Appendix B of the Draft EIS and summarized in Chapter 4, "Summary of Environmental Review," of this Final EIS.

SEA used data of the existing and proposed freight train traffic levels on rail line segment N-070 for rail line segments N-502a and N-502b, and similarly for rail line segment N-502. Although rail line segment N-502 would share a common corridor with rail line segment C-690, the CSX and NS tracks could be separated by a fence, and their trains would be dispatched independently. For this reason, SEA analyzed safety of freight operations as two separate and distinct operations that coincidentally share a common corridor. Therefore, SEA did not combine freight train volumes of the two rail lines for its analysis of freight safety.

SEA's criteria of significance for accidents related to the proposed Conrail Acquisition requires mitigation for an increase in derailment risk greater than 10 percent when the interval between accidents occurring after the proposed Conrail Acquisition is expected to be less than 100 years.

Analysis Results and Impacts

As shown in Table N-36, approval of the proposed Conrail Acquisition is estimated to result in an increase in reportable freight train accidents. For the existing corridor of rail line segment N-070, the expected interval between accidents (derailments) would decline from 349 years to 175 years as a result of the proposed Conrail Acquisition. The relocated corridor of rail line segment N-502 also would experience an accident frequency of 175 years.

TABLE N-36
ACCIDENT PREDICTIONS FOR RAIL LINE SEGMENTS
ERIE, PENNSYLVANIA

Rail Line Segment	Freight			Passenger		
	Percent Increase in Reportable Freight Train Accidents	Pre-Acquisition Interval between Train Accidents Per Mile (years)	Post-Acquisition Interval between Train Accidents Per Mile (years)	Post Acquisition Percent Increase in Passenger Train Accidents	Pre-Acquisition Interval between Passenger Collisions (years)	Post-Acquisition Interval between Passenger Collisions (years)
N-070	99%	349	175	--	--	--
C-690	-6%	97	103	-1%	339	342

Note: Rail line segment N-502 is the replacement, or bypass, corridor for rail line segment N-070, and is adjacent to rail line segment C-690. For analytical purposes for operating safety, the volumes used for rail line segment N-502 reflect those of rail line segment N-070. The two connections, rail line segments N-502a and N-502b, have identical volumes as rail line segment N-070.

Mitigation

The proposed relocation of the NS mainline in Erie from the 19th Street corridor of rail line segment N-070 to a location adjacent to the CSX corridor triggers SEA's risk category. Based upon the agreement reached between NS and the City of Erie to accommodate this proposed rerouting, SEA will recommend that the Board require that CSX and NS each implement the provisions of the FRA's proposed rule requiring ton-mile-based rail flaw inspections.

N.3.3.4 Transportation: Highway/Rail At-grade Crossing Delay

Analysis Methods and Criteria of Significance

For the Draft EIS and Final EIS, SEA performed analyses in accordance with 49 CFR Part 1105.7(e)(2) and the Board's thresholds for environmental analysis. Draft EIS Appendix C, "Traffic and Transportation," and the Supplemental Errata describe in detail the analysis methods used for highway/rail at-grade crossing traffic delay. After reviewing and verifying available data, SEA identified rail line segments that meet or exceed the Board's thresholds for environmental analysis of air quality impacts. On these highway/rail at-grade crossings, SEA evaluated potential changes in vehicle delay at crossings where daily traffic volumes are at least 5,000 vehicles. SEA

also evaluated potential changes in vehicle delay at highway/rail at-grade crossings on all proposed new constructions and abandoned rail line segments.

The group of highway/rail at-grade crossings evaluated for delay for this study was more inclusive than the group studied during the Draft EIS. For this study of Erie, SEA evaluated all of the same crossings as evaluated for highway/rail at-grade crossing safety.

SEA developed five measures to compare roadway traffic delays before and after the proposed Conrail Acquisition on the existing alignment and the relocation alternate:

- Highway/rail at-grade crossing delay time per stopped vehicle.
- Maximum number of vehicles in queue.
- Number of vehicles delayed per day.
- Average delay time for all vehicles (expressed as level of service).
- Traffic level of service.

SEA used two measures for determining impacts: delays due to a single-train event and the average delay. SEA considered the following vehicular traffic delay effects at highway/rail at-grade crossings to be significant:

- An increase of 30 seconds or more in average delay per stopped vehicle.
- An increase in average delay for all vehicles that either reduces the level of service from C or better to D, or results in a level of service E or F regardless of the condition before the proposed Conrail Acquisition.

Analysis Results and Impacts

Attachment N-2a presents the vehicle delay and queues for all highway/rail at-grade crossings evaluated in Erie. The table shows calculations for the existing alignment before and after the proposed Conrail Acquisition. Attachment N-2b shows the calculations for the relocation alignment after the proposed Conrail Acquisition.

Table N-37 illustrates two measures for comparing the overall aggregate delay at highway/rail at-grade crossings. SEA evaluated the same intersections for highway/rail at-grade crossing safety, as discussed above.

Table N-37 shows that the proposed relocation would reduce the level of delay compared to levels on the existing alignment before and after the proposed Conrail Acquisition. The average delay per vehicle would also be lowest with the proposed relocation. SEA assumed the same vertical grades for the parallel location of rail line segment C-690 and the proposed relocated rail line segment N-502. This assumption includes identical at-grade or grade-separated highway/rail crossings as along rail line segment C-690.

TABLE N-37
PREDICTED AGGREGATE MEASURES OF HIGHWAY/RAIL AT-GRADE
CROSSING DELAY AT 25 INTERSECTIONS IN ERIE, PENNSYLVANIA

Measurement	Pre-Acquisition	Post-Acquisition - Existing Corridor	Post-Acquisition - Relocation
Predicted Total Number Vehicles Delayed Per Day	5,012	8,009	3131
Predicted Average Delay per Vehicle for All Vehicles Traversing Highway/Rail At-Grade Crossing, (sec./day) ^a	8.75	15.62	3.43

^a This measurement has been weighted for each highway/rail at-grade crossing by its average daily traffic (ADT). The measurement also takes into account all vehicles passing through the highway/rail at-grade crossing, not only the ones that are stopped at the crossing.

Mitigation

The analysis performed for this study indicated that four highway/rail at-grade crossings (Peach Street, Sassafras Street, Cherry Street, and Liberty Street) studied met the criteria for significance for the existing location alternative after the proposed Conrail Acquisition. The Raspberry Street crossing did not meet the criteria of significance. However, SEA recommends mitigation at this crossing due to the unique setting in close proximity to the other four crossings.

NS signed a Negotiated Agreement to build a bypass and relocate all train traffic from 19th Street by April 1, 2000. The agreement would remove the need to mitigate these five highway/rail at-grade crossing locations because the rail line segment would be removed from service. As noted above in the results presented for highway/rail at-grade crossing safety, SEA proposes that NS match the vertical grades of Conrail to provide identical highway/rail at-grade or grade-separated crossings of roadways, or as otherwise accepted by the City of Erie.

N.3.3.5 Energy

SEA evaluated the energy effects of the proposed Conrail Acquisition on a system-wide basis. Changes in overall fuel consumption are predominantly attributable to anticipated truck-to-rail diversions. Appendix D, "Energy Methods," of the Draft EIS further describes the assumptions, methods, and formulas for estimating anticipated system-wide fuel consumption changes that would result from the proposed Conrail Acquisition.

SEA estimated that the proposed Conrail Acquisition would result in a system-wide decrease of approximately 80 million gallons of diesel fuel. SEA believes that the location-specific alternative for Erie would not change the overall system-wide energy effects of the proposed Conrail Acquisition.

N.3.3.6 Air Quality

Analysis Methods and Criteria of Significance

SEA evaluated emissions changes of possible rail traffic rerouting in Erie County using the same methods presented in Chapter 3, "Analysis Methods and Potential Mitigation Strategies," of the Draft EIS and Chapter 4, "Summary of Environmental Review," of the Final EIS. SEA provided a detailed analysis of NO_x emissions changes for Erie County, which includes the City of Erie, in the Draft EIS.

Analysis Results and Impacts

SEA's analysis showed that NO_x emissions in the county would increase by 2.19 percent due to the proposed Conrail Acquisition. SEA concluded in the Draft EIS that air quality in Erie County, which is currently designated as a marginal nonattainment area for ozone, would not be significantly affected by the slight increase in NO_x emissions.

SEA has reviewed the possible alternative routing of rail traffic in Erie as compared to the routing CSX and NS originally proposed. This rerouting would change the gross ton miles of freight hauled in the county by only a negligible amount compared to that estimated in the Draft EIS. Therefore, SEA concludes that the alternative routing of rail traffic in Erie would not significantly affect air quality in Erie County.

N.3.3.7 Noise

Analysis Methods and Criteria for Mitigation

SEA performed the same GIS methodology used in all other noise impact analyses in the Final EIS. See Chapter 4, "Summary of Environmental Review," and Appendix J, "Noise Analysis" of this Final EIS for the methodology applied. The analysis of Erie involved use of aerial photography and U.S. Geological Survey quadrangle mapping. SEA's noise mitigation criteria are as follows: where wayside noise would increase to 70 dBA L_{dn} and increase by at least 5 dBA L_{dn}, SEA considers noise mitigation (where reasonable and feasible).

Analysis Results and Impacts

To accurately evaluate the proposed relocation, SEA applied the existing and proposed traffic levels on rail line segment N-070 to model rail line segments N-502a and N-502b. Because model rail line segment N-502 would share a corridor with rail line segment C-690, SEA combined the predicted daily traffic from both rail line segments in this corridor to evaluate noise impacts from rail line segment N-502.

Predicted noise levels for rail line segment N-502 (which has been combined with rail line segment C-690) results in a 0.8 dBA increase, which SEA concludes is not significant.

Predicted noise levels from rail line segments N-502a and N-502b exceeded 2.0 dBA, and therefore SEA counted affected receptors for those two connecting segments. Although 33 receptors would exceed 2 dBA increases, the relocation causes a net reduction of 330 receptors in Erie. Attachment N-3 shows results of these analyses.

N.3.3.8 Cultural Resources

Analysis Methods and Criteria of Significance

SEA used the same methodology for assessing cultural resource impacts for Erie as all other construction and abandonment projects related to the proposed Conrail Acquisition. Chapter 3, "Analysis Methods and Potential Mitigation Strategies," of the Draft EIS provides details.

Analysis Results and Impacts

Four guard shanties remain at Cranberry, Cascade, Liberty, and Cherry Streets, each on the south side of the right-of-way. The shanties were constructed during the 1890s. Only the shanties at Cascade and Cherry Streets retain historical integrity and are considered NRHP-eligible. An iron pipe at the peak of the roof of each shanty is a remnant of the pot bellied stove that once warmed the crossing guards. SEA's evaluation of five early 20th Century bridges at the eastern end of the proposed bypass determined that the bridges are likely to be NRHP-eligible.

Vintage warning lights (c. 1930) exist at each cross street in Erie. Each consists of a single flashing red light and a flashing illuminated sign that reads "No Left Turn." They face down the 19th Street alignment and are intended to warn drivers from turning into oncoming trains. The warning lights likely are not NRHP-eligible. Plans for NS to remove the two guard shanties and the five bridges would result in adverse effects on these properties.

Mitigation

NS has voluntarily agreed to relocate one watchman's (crossing guard) shanty to the Lake Shore Railway Historical Museum in Erie, providing that the Ohio SHPO finds this action as fulfilling the SHPO's requests. Additionally, NS has agreed to provide black and white photographs of bridges that would be removed at the east end of the 19th Street line. No other historic preservation requirements relate to the Erie action.

N.3.3.9 Hazardous Waste Sites

Analysis Methods and Criteria of Significance

SEA reviewed the Erie connection locations to identify the potential for hazardous waste sites to be in close proximity (within 500 feet) to the proposed construction. SEA applied the same methodology developed for preparing the Draft EIS. Key points are:

- SEA only evaluated proposed abandonment of existing lines and construction of connections.
- SEA performed site inspections.
- SEA ordered EDR reports for each site. EDR provided a list of LUSTs, USTs, ASTs, CERCLIS sites, TSDs, and related sites within 1 mile of the connections. SEA reviewed this list, and a summary appears in the results section of this appendix.
- SEA contacted the local fire department and state regulatory agency for information on known incidents or spills in the area of the proposed connections.
- SEA reviewed USGS topographic maps for the sites.

Analysis Results and Impacts

The EDR (1998) report identified 16 hazardous waste sites within 500 feet of the proposed connection to the west (rail line segment N-502a). These sites were listed on the CERCLIS/NFRAP, FINDS, RCRIS, CORRACTS, TRIS, and registered UST and AST databases. Also, the Mill Creek Dump Superfund site is within a half mile of the site, but outside of the 500-foot study radius. Table N-38 lists the sites within 500 feet, reported databases, and any violations recorded in the EDR report. In addition, the EDR report identified 18 sites that could not be mapped due to inadequate address information. SEA found that 12 of these sites are outside of the study area. SEA located one site, Plastek Industries, Inc., at West 23rd Street and Pittsburgh Avenue, within the study area. The remaining five could not be located. SEA supplemented this information with a site visit on March 23, 1998.

TABLE N-38
SITES REPORTED BY EDR FOR WEST ERIE

Site	Databases	Reported Comments
Plastek Industry, Inc.	RCRIS-SQG FINDS	None
Lakeview Foraging Co.	Registered ASTs	None
Overnight Transportation Co.	Registered ASTs	None
Cross & Co. Contracting Co.	FINDS	Facility is monitored or permitted for air emissions under the Clean Air Act.
Litton Ind. Ricker and Shafer	RCRIS-SQG FINDS	1 Violation None
Lake Erie Mfg. Co.	RCRIS-SQG FINDS	1 Violation None

TABLE N-38
SITES REPORTED BY EDR FOR WEST ERIE

Site	Databases	Reported Comments
PENN-Erie Division Triangle Tool	RCRIS-SQG FINDS	No Violations None
Spectrum Molding & Decorating	RCRIS-SQG FINDS	1 Violation None
Hoover Group, Inc.	FINDS SQG	None Reported One Violation
Taylor Rental Company	LUST	No Further Action
Steris Corporation	CERCLIS-NFRAP CORRACTS FINDS RCRIS-LQG RCRIS-TSD TRIS	Discovery, Assessment Priority Low Active water discharge permit under PCS 1 Violation None None
Burns Mfg., Inc.	FINDS	None
Aeroseptics PA, Inc.	FINDS	None
Fulfillment Plus	FINDS	None
Parkers Garage	FINDS RCRIS-SQG	None No Violations
RNS Sales & Service, Inc.	FINDS RCRIS-SQG	None No Violations
Westside U-Haul Center	Registered USTs	None
Safety Kleen Corporation	CERCLIS-NFRAP CORRACTS RCRIS-LQG TSDF Haz. Waste Transporter FINDS Registered ASTs	Discovery, Preliminary Assessment Priority High RCRA Facility Assessment RFI Workplan Approved CMS Workplan Approved Corrective Measure Study Approved Stabilization Measures Implemented None None None Permitted for air emissions under the Clean Air Act, civil, judicial, and administrative enforcement case against facility None

The EDR (1998) report identified 17 hazardous waste sites within 500 feet of the proposed connection to the east (rail line segment N-502b). These sites were listed on the

CERCLIS/NFRAP, FINDS, RCRIS, CORRACTS, HMRIS, TRIS, and registered UST and AST databases. Table N-39 lists the sites, reported databases, and any violations recorded in the EDR database. In addition, the EDR report identified 24 sites that could not be mapped due to inadequate address information. SEA identified 17 of these outside the 500-foot study area. SEA could not locate the remaining seven sites. SEA supplemented this information with a site visit on March 23, 1998.

TABLE N-39
SITES REPORTED BY EDR FOR EAST ERIE

Site	Databases	Reported Comments
Select-Tron Industries, Inc.	FINDS RCRIS-SQG	None 1 Violation
BFI	FINDS RCRIS-SQG	None No Violations
Danser Collision	FINDS RCRIS-SQG	None No Violations
CA Curtze Co.	Registered USTs	None
Cohen, Gerald Property	FINDS CERCLIS	None Discovery, preliminary assessment alleged that foundry sands have been illegally disposed of on-site. Specific information is not known. Site is currently under investigation by government to assess extent of further action
Integra Financial Corporation	Registered USTs	None
McInnes Rolled Rings	FINDS TRIS RCRIS-SQG	None None No Violations
St. Johnsbury Trucking Co., Inc.	Registered USTs	None
Erie Hard Chrome, Inc.	FINDS RCRIS-SQG	Monitored or permitted for air emissions under the Clean Air Act 4 Violations
Coyne Industrial Laundry	FINDS RCRIS-SQG	None 1 Violation
Zurn Industries, Inc.	Registered USTs RCRIS-SQG FINDS	None No Violations Monitored or permitted for air emissions under the Clean Air Act.
Erie City Energy	FINDS	Monitored or permitted for air emissions under the Clean Air Act.

TABLE N-39
SITES REPORTED BY EDR FOR EAST ERIE

Site	Databases	Reported Comments
Liberty Iron & Metal Co., Inc.	Registered USTs	None
Weil McLain Co., Inc. [Note: World Resource Recovery System, Inc. has the same address as Weil McLain Co., Inc. - World Resources is a metal recycler.]	FINDS CERCLIS-NFRAP	None Discovery, Preliminary Assessment
Presque Isle Plating	RCRIS-SQG FINDS	2 Violations Civil judicial and administrative enforcement case against facility (under DOCKET)
1619 Ash Street	HMIRS	None
Liberty Iron & Metal Co.	FINDS RCRIS-LQG Registered USTs Registered ASTs	None No Violations None None

The Erie Fire Department does not keep records of hazardous or other waste incidents. Pennsylvania Department of Environmental Protection, Division of Remediation Services Hydrogeologist Patty Renwick reported that there are known hazardous or other waste concerns along the railroad right-of-way. She could not be specific on the type(s) of concerns.

Mitigation

If hazardous materials were encountered during construction, the railroad would follow appropriate regulations and procedures described in Chapter 3, "Analysis Methods and Potential Mitigation Strategies," and Appendix H, "Hazardous Materials and Waste Sites," of the Draft EIS. SEA recommends that the Board require no additional mitigation because other agencies' existing regulatory requirements and the railroad's standard construction practices adequately address potential disturbance of contaminated areas.

N.3.3.10 Natural Resources Analysis

Analysis Methods and Criteria of Significance

SEA applied the same methodology as discussed in the Draft EIS. Key points are:

- The study evaluated only proposed abandonment of existing lines and construction of connections.

- SEA coordinated with Federal, state, regional, and local regulatory agencies to determine potential impacts to resources under their jurisdiction.
- SEA reviewed databases and records to determine the presence of sensitive natural resources.
- SEA reviewed review various mapping to identify existing site conditions, including land features, surface water bodies, and land use components.
- SEA performed a site visit to confirm the presence of natural resource impacts.

In general, SEA considered impacts on natural resources to be potentially significant if there would be any alterations of habitat, especially for protected species, or effects on floodplains, wetlands, or drinking water sources.

Analytical Results and Impacts

The area of potential construction for the western crossover (rail line segment N-502a) between adjacent sets of tracks comprises a drainage ditch bounded by a constructed levee and ballast gravel. The ditch has a steep-sloped bank of about 4 feet and is vegetated with weedy, herbaceous species. Water flow through the ditch appears to be perennial; stream depth is approximately 4 inches and the width of the stream is approximately 3 feet. The stream bed of the ditch is mostly gravel and silt, and is poor aquatic habitat. The original natural conditions of the site have been strongly modified by past railroad and utility line construction. There are some small trees and shrubs in the vicinity of the potential construction, but no unique habitat features or good support potential for protected species. The woody species include sumac (*Rhus glabra*), trembling aspen (*Populus tremuloides*), northern prickly ash (*Zanthoxylum americanum*), sycamore (*Platanus occidentalis*), and red maple (*Acer rubrum*). No wetlands exist in the area.

SEA finds the area of potential construction for the eastern crossover (rail line segment N-502b) very similar in quality of the natural habitat to conditions found at the western crossover site. The nature of the ditched stream remains poor aquatic habitat. The mix of shrubs and trees in woody pockets between the tracks is similar in species composition to western crossover site. There are no indications of protected species or their habitats nearby, and there are no wetlands in the area.

Bridge or culvert construction would result in a temporary, minor disturbance to the water flow in the ditch along both rail line segments N-502a and N-502b, but should not be of any significant consequence. No wetlands would be affected by the construction. Some of the trees and shrubs in the vicinity would likely be cleared. There would be no impacts to protected species or their habitats resultant from this potential construction activity.

Mitigation

The Applicants should employ BMPs during construction of the ditch crossing to minimize downstream sedimentation loading. Because no wetlands, protected species, or special habitats would be affected, SEA does not recommend mitigation for those concerns.

N.3.3.11 Land Use and Socioeconomics

Analysis Methods and Criteria of Significance

SEA applied the same methodology for the analysis of land use as noted in the alternatives analysis for the Vermilion and Greater Cleveland Area construction projects. (See Section N.1.3.15, "Land Use and Socioeconomics.")

Analytical Results and Impacts

The proposed construction in Erie would have minimal impacts to surrounding land uses. The proposed project would construct an additional rail line and connection to an existing rail line, with all construction to occur within existing railroad right-of-way. The proposed construction would not displace any residences or businesses. Should any underground or overhead utilities require relocation as a result of construction, coordination with the local utility companies would occur to determine an appropriate location. SEA has not determined whether the proposed construction would be consistent with local land use plans, but adverse effects appear unlikely.

The project location is in an urban setting. Although soil survey maps for Erie County (1950) determine the soil to be Ottawa loamy fine sand, the soils in the urban areas are disturbed and are not being used for agricultural purposes. For this reason, the proposed construction would result in no impacts to prime farmland.

The construction activities at the site would not occur within a designated coastal zone.

There are no Federally or state-recognized Native American Indian Tribes within the state of Pennsylvania.

N.3.3.12 Environmental Justice

Analysis Methods and Criteria of Significance

SEA applied the same methodology for the analysis of environmental justice as detailed in Appendix M, "Environmental Justice Analysis" of this Final EIS. Specifically, SEA identified minority and low-income populations along the corridors of rail line segment N-070 and C-690 in Erie using block group data from the U.S. Census Bureau. SEA examined whether the high and adverse effects for Erie County would disproportionately affect minority and low-income

populations. SEA considered locations where high and adverse effects could result to these communities from four environmental issue areas:

- Safety: Hazardous Materials Transport.
- Safety: Highway/Rail At-grade Crossings.
- Transportation: Highway/Rail At-grade Crossing Delay.
- Noise.

SEA also conducted a site visit to the locale to verify by observation the general accuracy of the census data. As described in Appendix M, because rail line segment N-070 would meet SEA's hazardous materials transport criteria for significant impact, SEA identified the Area of Potential Effect.

Analytical Results and Impacts

SEA's environmental justice analysis identified 91 census block groups within the Area of Potential Effect. SEA evaluated these block groups for the existing alignment of rail line segment N-070. Of these block groups, 31 contain environmental justice populations. SEA identified no impacts for noise or for hazardous materials transport.

Absent mitigation, these environmental justice populations could suffer disproportionately high and adverse impacts for both highway/rail at-grade crossing safety and delay. Appendix M, "Environmental Justice Analysis," of this Final EIS presents the details of the statistical results for Erie.

SEA conducted an environmental justice analysis of the relocated corridor (rail line segments N-502a, N-502, and N-502b) and identified no disproportionate safety or other impacts.

Mitigation

The agreement reached between the City of Erie and NS to build the bypass and relocate all train traffic from the 19th Street corridor to the CSX corridor eliminates disproportionate impacts to environmental justice populations. Therefore, SEA does not recommend further mitigation.

N.4 LAFAYETTE, INDIANA

CSX, NS, and Amtrak operate through the City of Lafayette, which is located in Tippecanoe County, Indiana. The city has been seeking \$30 million in funding to complete its \$180 million Railroad Relocation Project. The city initially approved the Railroad Relocation Project in 1979 based on a Final EIS. To date, the city has implemented almost 80 percent of the improvements; for example, the CSX main line has already been relocated to a new corridor. Upon completion, both CSX and NS main lines will be relocated away from Lafayette's central business district, and 42 highway/rail at-grade crossings will be eliminated.

The U.S. House of Representatives version of the ISTEA reauthorization bill provides \$30 million in funding over 5 years for the remainder of the Lafayette project. SEA expects this or another appropriate funding source to complete the City's Railroad Relocation Project.

SEA evaluated the environmental effects of the proposed Conrail Acquisition in the Draft EIS as related to rail line segment operational freight traffic changes in Lafayette. Based upon comments received from the City of Lafayette, SEA performed subsequent analyses as if the Railroad Relocation Project were complete. SEA notes that the 1979 Final EIS provides suitable Federal environmental documentation and continuous and considerable progress has occurred to affect the recommended alternative. Therefore, SEA does not need to address the environmental impacts associated with direct construction activities. SEA's evaluation therefore focused exclusively on operational issues resulting from the proposed Conrail Acquisition.

N.4.1 Description of Existing Environment

Lafayette is located in north central Indiana. The city has engaged in two decades of intense community effort to relocate the railroads from the center of the city. CSX operates trackage along the riverfront, which passes adjacent to the central business district (rail line segments C-255 and C-256). NS rail line segments N-045 and N-046 pass through the Lafayette central business district. The city's Railroad Relocation Project intends that approximately 4.2 miles of the NS double-track main line would be relocated adjacent to the existing CSX corridor along the riverfront. This would place both NS and CSX railroad right-of-ways in one corridor through the city. The consolidation of rail corridors would allow separating major highway/rail at-grade crossings from railroad facilities. This combined corridor is referred to as the "bypass" in this Final EIS.

As noted above, SEA's evaluation of environmental issues for this Final EIS involved operational considerations. Therefore, only those technical areas identified in the scope of operational issues for this Final EIS have been addressed.

N.4.2 Changes Resulting from the Proposed Conrail Acquisition

The Applicants identified proposed rail traffic changes anticipated by the proposed Conrail Acquisition. (See Table N-40.) The freight train traffic levels on the CSX rail line segments would not change due to the proposed Conrail Acquisition.

Because both CSX and NS would share this bypass corridor, SEA's analysis combined the trains per day (TPD) count for both railroads (rail line segments C-255 and N-046) where the two railroads would run in parallel.

TABLE N-40
INPUT VALUES USED TO ANALYZE TRAFFIC CHANGES
FOR THE PROPOSED CONRAIL ACQUISITION IN LAFAYETTE, INDIANA

Site ID	Between	And	Trains Per Day				Million Gross Tons	
			Psg'r	Pre-Acq.	Post-Acq.	Change	Pre-Acq.	Post-Acq.
N-045	Lafayette Jct., IN	Tilton, IL	0.0	23.6	41.0	17.4	29.8	53.6
N-046	Peru, IN	Lafayette Jct., IN	0.0	18.4	40.2	21.8	23.9	50.8
C-255	Monon, IN	Lafayette, IN	1.4	3.0	3.0	0.0	3.8	4.7
C-256	Lafayette, IN	Crawfordsville, IN	1.4	7.6	7.6	0.0	8.9	9.5
N-500	Lafayette Jct, IN	CSX Shop Area	1.4	21.4	43.2	21.8	27.7	55.5
N-500a	CSX Shop Area	Peru, IN	0.0	18.4	40.2	21.8	23.9	50.8

Note: Rail line segment N-500 is the replacement, or bypass, corridor for rail line segment N-046 and is adjacent to rail line segment C-255. For most analyses, the volumes shown for rail line segment N-500 reflect the combination of volumes of rail line segments N-046 and C-255.

The bypass route has been designated rail line segment N-500 for the purposes of this study. Figure N-11 illustrates the location of the rail line segments. Rail line segment N-500 would run approximately 2.5 miles from Lafayette Junction, which is located in the Queen Street and Shamrock Park area, and extend to the north until the CSX and NS main lines diverge from each other in the CSX Shop area. The rail line segment from the CSX Shop area to the location where the bypass would rejoin the NS main line has been designated rail line segment N-500a and would extend for a distance of 1.4 miles. The traffic levels along rail line segments N-500a and N-046 are the same.

Under the proposed Conrail Acquisition, rail line segment N-500 is predicted to experience a traffic increase from 21.4 to 43.2 trains per day. This increase exceeds the Board's thresholds for noise analysis. Rail line segment N-500a is predicted to experience an increase from 18.4 to 40.2 trains per day. This increase also exceeds the Board's thresholds for noise analysis.

N.4.3 Environmental Analysis Methods

As noted in SEA's scope for this Final EIS, SEA considered only certain technical areas of analysis for operational changes resulting from the proposed Conrail Acquisition. SEA applied similar methodology as defined in Chapter 3, "Analysis Methods and Potential Mitigation Strategies," of the Draft EIS and in Chapter 4, "Summary of Environmental Review," of this Final EIS.

The areas considered for Lafayette included:

- Safety: Highway/Rail At-grade Crossings.
- Safety: Hazardous Materials Transport.

- Safety: Freight Rail Operations.
- Transportation: Highway/Rail At-grade Crossing Delay.
- Air Quality.
- Noise.
- Environmental Justice (if any of the above result in significant impacts).

N.4.3.1 Safety: Highway/Rail At-grade Crossings

Analysis Methods and Criteria of Significance

SEA used train-vehicle accident databases and reviewed the Applicants' Environmental Reports to assess changes in rail line activity. (See Draft EIS, Chapter 3, "Analysis Methods and Potential Mitigation Strategies.") In the Draft EIS and Final EIS, SEA calculated the accident frequency for highway/rail at-grade crossings that would increase by eight or more trains per day as a result of the proposed Conrail Acquisition. As part of the alternatives analysis for this report, however, SEA evaluated every highway/rail at-grade crossing on portions of rail line segments affected by the proposed Lafayette Bypass in Lafayette irrespective of the increase in the number of trains per day. Attachment N-4 lists specific highway/rail at-grade crossings. Figure N-11 identifies the locations in the City of Lafayette.

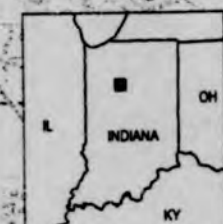
SEA's analysis accounted for the type of warning device, the accident history at the highway/rail at-grade crossing, the daily number of trains, train speeds, and the roadway ADT. SEA has refined its analysis with updated data in the Final EIS.

SEA established two levels of increases in accident frequency likely to result in a significant environmental impact to identify possible candidates for site-specific mitigation measures. (See Draft EIS, Chapter 3, "Analysis Methods and Potential Mitigation Strategies.") First, based on historic FRA accident data, SEA considered mitigation for those highway/rail at-grade crossings that SEA estimated would have a potential increase in accident frequency of five additional accidents every 100 years. Second, for highway/rail at-grade crossings that SEA considers to already have a high accident frequency¹¹ based on vehicle traffic and railroad operations after the proposed Conrail Acquisition, SEA considered mitigation if the accident frequency would increase by one additional accident every 100 years.

¹¹ SEA considered a highway/rail at-grade crossing to have high predicted accident frequency if the crossing had an accident rate as a result of the proposed Conrail Acquisition at or above the fiftieth highest rate of all highway/rail at-grade crossings in the state, or would experience one accident every 7 years as a result of the proposed Conrail Acquisition, whichever was the lower rate. These criteria of significance have not been revised for this Final EIS.

LEGEND

- N-000** NORFOLK SOUTHERN RAIL SEGMENT AND SEGMENT ID (TO BE RELOCATED)
- N-000** NORFOLK SOUTHERN RAIL SEGMENT AND SEGMENT ID
- C-000** C S X RAIL SEGMENT AND SEGMENT ID

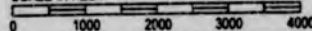


HIGHWAY/RAIL AT-GRADE CROSSING LOCATIONS

- 1 UNDERWOOD
- 2 GREENBUSH
- 3 18TH
- 4 17TH & SALEM
- 5 UNION
- 6 FERRY
- 7 MAIN
- 8 COLUMBIA
- 9 SOUTH, SR 26
- 10 9TH
- 11 8TH
- 12 7TH
- 13 ROMIG
- 14 5TH
- 15 4TH, US 231
- 16 SMITH

BASE MAPS: USGS 7.5' TOPOGRAPHIC QUADRANGLES - LAFAYETTE WEST, INDIANA 1961 (PHOTOREVISED 1966) AND LAFAYETTE EAST, INDIANA 1961 (PHOTOREVISED 1966)

SCALE IN FEET



Proposed Conrail Acquisition

Final Environmental Impact Statement

**FIGURE N-11
LAFAYETTE RAILROAD RELOCATION PROJECT**

Analysis Results and Impacts

SEA evaluated the safety of Lafayette highway/rail at-grade crossings for all highway/rail at-grade crossings on rail line segments N-045 (Lafayette Junction, Indiana, to Tilton, Illinois) and N-046 (Peru, Indiana, to Lafayette Junction). Rail line segments N-500 (Lafayette Junction to CSX Shop Area) and N-500a (CSX Shop Area to Connection with N-046) on the proposed Lafayette Bypass would not have any highway/rail at-grade crossings. CSX rail line segment C-255 (Monon, Indiana to Lafayette Junction), within the limits of the Lafayette Bypass corridor, does not have any highway/rail at-grade crossings. SEA evaluated a total of 39 highway/rail at-grade crossings for this report. Attachment N-4 lists the 39 highway/rail at-grade crossings that SEA analyzed and the resultant accident frequency.

Table N-41 shows the total predicted number of accidents per year across all 39 highway/rail at-grade crossings. Of these 39 highway/rail at-grade crossings, 22 would be eliminated by the Lafayette Bypass.

TABLE N-41
PREDICTED AGGREGATE RATE OF ACCIDENTS PER YEAR AT
39 INTERSECTIONS IN LAFAYETTE, INDIANA

Pre-Acquisition	Post Acquisition	Post Acquisition with Mitigation	Lafayette Bypass	Lafayette Bypass with Mitigation
2.98	3.57	3.10	1.27	0.96

Table N-41 shows that after the proposed Conrail Acquisition and with or without mitigation, the existing location would result in an aggregate increase in accident rates at the 39 intersections compared to the 2.98 accidents per year predicted before the proposed Conrail Acquisition. However, the Lafayette Bypass alternative would significantly lower the predicted train-automobile accident rate before the proposed Conrail Acquisition to 1.27 accidents per year after the proposed Conrail Acquisition.

SEA's criteria for determining significant impacts warranting mitigation were the same for this study as in the Draft EIS. SEA determined that the 15 highway/rail at-grade crossings listed in Table N-42 would warrant mitigation. Of these 15 highway/rail at-grade crossings, 10 would be eliminated by the Lafayette Bypass.

Mitigation

Table N-43 presents the mitigation strategies for the 15 highway/rail at-grade crossings that SEA determined warrant mitigation. SEA recognizes that while 10 of the highway/rail at-grade crossings would be eliminated by the Lafayette Bypass, upgraded warning devices should be installed in order to accommodate trains until after the Lafayette Bypass alternative is

implemented. The other five highway/rail at-grade crossings are on rail line segments that would not be affected by the Lafayette Bypass alternative.

TABLE N-42
PREDICTED ACCIDENTS PER YEAR AT 15 HIGHWAY/RAIL AT-GRADE
CROSSINGS THAT WARRANT SAFETY MITIGATION
IN LAFAYETTE, INDIANA

Street Name	Safety Device	Pre-Acquisition	Post Acquisition	Post Acquisition with Mitigation	Lafayette Bypass	Lafayette Bypass with Mitigation
Smith St.	Flasher	0.1554	0.1873	0.0307	0.0000	NA
4th St. (US 231)	Gate	0.1554	0.1837	See Note	0.0000	NA
5th St.	Passive	0.2076	0.2504	0.0263	0.0000	NA
Romig St.	Flasher	0.2145	0.2563	0.0309	0.0000	NA
7th St.	Flasher	0.2280	0.2717	0.0354	0.0000	NA
8th St.	Passive	0.2993	0.3567	0.0296	0.0000	NA
Union St.	Gate	0.2083	0.2445	See Note	0.0000	NA
17th & Salem Sts.	Flasher	0.5310	0.6127	0.0660	0.0000	NA
18th St.	Flasher	0.6712	0.7754	0.0620	0.0000	NA
Greenbush St.	Flasher	0.3094	0.3656	0.0413	0.0000	NA
CR 500 E	Passive	0.1629	0.1944	0.0414	0.1944	0.0414
CR 700 N	Passive	0.1473	0.1783	0.0333	0.1783	0.0333
CR 900 N	Passive	0.2941	0.3382	0.0603	0.3382	0.0603
CR 172	Passive	0.2215	0.2524	0.0268	0.2524	0.0268
CR 400 S	Passive	0.1598	0.1820	0.0351	0.1820	0.0351

Note Effectiveness of mitigation with four quadrant gates, median barriers, or corridor analyses is not quantifiable.

TABLE N-43
MITIGATION FOR HIGHWAY/RAIL AT-GRADE CROSSINGS
WARRANTING SAFETY MITIGATION IN LAFAYETTE, INDIANA

FRA ID	Street Name	Safety Device	Post Acquisition Mitigation	Lafayette Bypass Mitigation
484311M	Smith St.	Flasher	Gate	Gate ^a
484309L	4th St. (US 231)	Gate	Four-quadrant gates, median treatment or corridor analyses	4-Q Gate ^a
484308E	5th St.	Passive	Gate	Gate ^a
484306R	Romig St.	Flasher	Gate	Gate ^a
484303V	7th St.	Flasher	Gate	Gate ^a
484302N	8th St.	Passive	Gate	Gate ^a

TABLE N-43
MITIGATION FOR HIGHWAY/RAIL AT-GRADE CROSSINGS
WARRANTING SAFETY MITIGATION IN LAFAYETTE, INDIANA

FRA ID	Street Name	Safety Device	Post Acquisition Mitigation	Lafayette Bypass Mitigation
484294Y	Union St.	Gate	4-Q Gate	4-Q Gate ^a
484293S	17th & Salem St.'s	Flasher	Gate	Gate ^a
484292K	18th St.	Flasher	Gate	Gate ^a
484291D	Greenbush St.	Flasher	Gate	Gate ^a
484282E	CR 500 E	Passive	Gate	Gate
484269R	CR 700N	Passive	Gate	Gate
484267C	CR 900 N	Passive	Gate	Flasher
484323G	CR 172	Passive	Gate	Gate
484319S	CR 400 S	Passive	Gate	Gate

^a Indicates that mitigating device would be installed in order to accommodate post-Acquisition conditions.

N.4.3.2 Safety: Hazardous Materials Transport

Analysis Methods and Criteria of Significance

SEA applied the same methodology for the analysis of the Lafayette relocation corridor for transport of hazardous materials by freight rail as detailed in Appendix B of the Draft EIS and summarized in Chapter 4, "Summary of Environmental Review," of this Final EIS.

SEA applied two different criteria of significance for hazardous materials transport. The first was whether a rail line segment would become a "key route," (i.e., handling in excess of 10,000 carloads of hazardous materials each year). The second was whether the projected increase in volume would double the number of hazardous materials carloads traveling on a key route and have 20,000 carloads or more per year.

Analysis Results and Impacts

SEA determined that the Lafayette Railroad Relocation Project to create a common railroad corridor through Lafayette adjacent to rail line segment C-255 would result in an annual increase of hazardous materials carloads from 47,000 to 50,000. Rail line segment C-255 currently carries 1,000 carloads of hazardous materials per year, and would increase to 3,000 carloads per year as a result of the proposed Conrail Acquisition. Rail line segment N-046 would handle 47,000 carloads of hazardous materials per year, a 327 percent increase from current levels of 11,000 carloads per year. Table N-44 shows the percent increase in reportable mainline hazardous material releases anticipated if the proposed Conrail Acquisition is approved.

TABLE N-44
ACCIDENT PREDICTIONS FOR HAZARDOUS MATERIALS TRANSPORT ALONG
RAIL LINE SEGMENTS IN LAFAYETTE, INDIANA

Rail Line Segment	Hazardous Materials		
	Percent Increase in Reportable Mainline Hazardous Materials Releases	Pre-Acquisition Interval between Mainline Hazardous Materials Releases (years)	Post-Acquisition Interval between Mainline Hazardous Materials Releases (years)
N-046 and N-500	317.9%	9,896	2,368
C-255	152.7%	46,700	18,477

Mitigation

CSX projects an increase in hazardous materials transport on rail line segment C-255 to 5,000 carloads per year; this change, by itself, would not require mitigation. Conversely, rail line segment N-046 currently carries 11,000 carloads of hazardous materials which NS projects to increase to 47,000. If the relocation from the center of town were not to occur, SEA would recommend that the Board require major key route mitigation for the entire length of the segment.

Based upon the anticipated relocation of the NS rail line from the center of town to a common corridor common with rail line segment C-255, SEA recommends that the Board require that the proposed common corridor meet the facility requirement of key routes and that the emergency response training required as mitigation for major key route status be required for the common corridor. This recommendation applies to both NS and CSX.

N.4.3.3 Safety: Freight Rail Operations

Analysis Methods and Criteria of Significance

SEA applied the same methodology for the analysis of the Lafayette relocation corridor for freight rail safety as detailed in Appendix B of the Draft EIS and summarized in Chapter 4, "Summary of Environmental Review," of this Final EIS.

SEA's criteria of significance for accidents related to the proposed Conrail Acquisition requires mitigation for an increase in derailment risk greater than 10 percent when the interval between accidents occurring after the proposed Conrail Acquisition is expected to be less than 100 years.

Analysis Results and Impacts

SEA applied the existing and proposed freight train traffic levels on rail line segment N-046 to proposed rail line segment N-500a, the connection to the north of proposed rail line segment N-500. Although rail line segment N-500 would share a common corridor with existing rail line segment C-255, the proposed freight train traffic on these two rail line segments could be

separated by a fence and the CSX and NS trains dispatched independently. For this reason, SEA analyzed the safety of freight operations as two separate and distinct operations that coincidentally share a common corridor. Therefore, SEA did not combine freight train volumes for the rail lines in its analysis of freight rail operations safety. As shown in Table N-45, approval of the proposed Conrail Acquisition is estimated to result in a 128 percent increase in reportable freight train accidents along rail line segment N-046. The expected interval between accidents (derailments) along the relocated NS main line corridor would thus decline to one every 107 years as a result of the proposed Conrail Acquisition. SEA notes that rail line segment C-255 alone would have an estimated 640 years between train accidents.

**TABLE N-45
ACCIDENT PREDICTIONS FOR RAIL LINE SEGMENTS
LAFAYETTE, INDIANA**

Rail Line Segment	Freight			Passenger		
	Percent Increase in Reportable Freight Train Accidents	Pre-Acquisition Interval between Train Accidents Per Mile (years)	Post-Acquisition Interval between Train Accidents Per Mile (years)	Post Acquisition % Increase in Passenger Train Accidents	Pre-Acquisition Interval between Passenger Collisions (years)	Post-Acquisition Interval between Passenger Collisions (years)
N-046 and N-500	128%	244	107	--	--	--
C-255	1%	647	640	0%	6,708	6,708

None of the rail line segments, including the relocation project, meet the criteria of significance. Thus, SEA recommends no special action or mitigation with respect to freight rail safety.

N.4.3.4 Transportation: Highway/Rail At-grade Crossing Delay

For the Draft EIS and Final EIS, SEA performed analyses in accordance with 49 CFR Part 1105.7(e)(2) and the Board's thresholds for environmental analysis. The Draft EIS, Appendix C, "Traffic and Transportation," and the Supplemental Errata describe in detail the analysis methods used for highway/rail at-grade crossing traffic delay.

After reviewing and verifying available data, SEA identified rail line segments that meet or exceed the Board's thresholds for environmental analysis of air quality impacts. On these highway/rail at-grade crossings, SEA evaluated potential changes in vehicle delay at highway/rail at-grade crossings where daily traffic volumes are at least 5,000 vehicles. SEA also evaluated potential changes in vehicle delay at highway/rail at-grade crossings on all proposed new constructions and abandonment rail line segments.

The group of highway/rail at-grade crossings evaluated for this study was more inclusive than the group studied during the Draft EIS. For this study, SEA evaluated all of the highway/rail at-grade crossings that were evaluated for highway/rail at-grade crossing safety.

SEA developed five measures to compare roadway traffic delays before and after the proposed Conrail Acquisition:

- Highway/rail at-grade crossing delay time per stopped vehicle.
- Maximum number of vehicles in queue.
- Number of vehicles delayed per day.
- Average delay time for all vehicles (expressed as level of service).
- Traffic level of service.

Several comments on the Draft EIS identified the need for analyses of vehicle delay at multiple highway/rail at-grade crossings for specific roadway corridors and rail line segments. In response to these comments, SEA conducted analyses of vehicle delay at closely spaced highway/rail at-grade crossings along the rail line segments in the areas mentioned in the comment documents.

SEA used two measures for determining impacts: delays due to a single-train event and the average delay. SEA considered the following vehicular traffic delay effects at highway/rail at-grade crossings to be significant:

- An increase of 30 seconds or more in average delay per stopped vehicle.
- An increase in average delay for all vehicles that either reduces the level of service from C or better to D, or results in a level of service E or F regardless of the condition before the proposed Conrail Acquisition.

Analysis Results and Impacts

Table N-46 illustrates two measures for comparing the overall aggregate delay at highway/rail at-grade crossings for all of the routing alternatives studied in this report. Attachment N-5 summarizes the results of the highway/rail at-grade crossing delay analyses for the 39 highway/rail at-grade crossings in Lafayette, of which 22 crossings would be eliminated by the Lafayette Bypass. Attachments N-6a and N-6b present the details of the analysis. SEA evaluated the same intersections as for highway/rail at-grade crossing safety.

Table N-46 shows that the Lafayette Bypass alternative would reduce the delay compared to conditions before the proposed Conrail Acquisition, and alignment estimates for after the proposed Conrail Acquisition. The average delay per vehicle would be considerably lower with the Lafayette Bypass.

SEA's analysis indicated that none of the 39 highway/rail at-grade crossings met the criteria for significance after the Lafayette Bypass alternative or conditions after the proposed Conrail Acquisition.

TABLE N-46
PREDICTED AGGREGATE MEASURES OF HIGHWAY/RAIL AT-GRADE
CROSSING DELAY AT 39 INTERSECTIONS IN LAFAYETTE, INDIANA

Measurement	Pre-Acquisition	Post-Acquisition	
		Current Alignment	Lafayette Bypass
Predicted Total Number Vehicles Delayed Per Day	3,573	7,935	751
Predicted Average Delay per Vehicle for All Vehicles Traversing Highway/Rail At-Grade Crossing, (sec./day)*	7.1	16.13	1.28

* This measurement has been weighted for each highway/rail at-grade crossing by its average daily traffic (ADT). The measurement also takes into account all vehicles passing through the highway/rail at-grade crossing, not only the ones that are stopped at the crossing.

SEA identified areas in Lafayette where two or more highway/rail at-grade crossings are spaced within 800 feet of each other. SEA performed a delay analysis for each group of closely spaced highway/rail at-grade crossings using the same method of delay analysis presented in the Draft EIS, Chapter 3, "Analysis Methods and Potential Mitigation Strategies," except that SEA considered all crossings in the group of closely spaced highway/rail at-grade crossings, not just those with ADT of 5,000 vehicles or greater. SEA calculated the crossing delay per stopped vehicle, average delay for all vehicles, and level of service for closely spaced highway/rail at-grade crossings along NS rail line segment N-046 (Peru to Lafayette Junction). Appendix G, "Transportation: Highway/Rail At-grade Crossing Traffic Delay Analysis," Attachment G-11, presents the results of SEA's analysis of closely spaced highway/rail at-grade crossings in Lafayette. For the proposed relocation alternative, no crossing meets the SEA criteria of significance for delay.

N.4.3.5 Air Quality

SEA evaluated emissions changes of possible rail traffic rerouting in Tippecanoe County using the same methods presented in Chapter 3, "Analysis Methods and Potential Mitigation Strategies," of the Draft EIS.

SEA concluded in the Draft EIS that air quality in Tippecanoe County, which is currently designated as an attainment area for all air pollutants, would not be significantly affected by the slight increase in NO_x emissions related to the proposed Conrail Acquisition.

SEA has reviewed the possible alternative routing of rail traffic in Lafayette as compared to the routing originally proposed by the Applicants. This routing would change the gross ton miles of freight hauled in the county by only a small amount compared to that estimated in the Draft EIS. SEA estimates that the NO_x emissions increase in the county would still be only about 2.5 percent with the alternative routing. Therefore, SEA concludes that the alternative routing of rail traffic in Lafayette would not have a significant impact on air quality in Tippecanoe County.

N.4.3.6 Noise

SEA performed noise impact analyses similar to those presented in Chapter 3, "Analysis Methods and Potential Mitigation Strategies," of the Draft EIS. Chapter 4, "Summary of Environmental Review," and Appendix J, "Noise Analysis" of this Final EIS describe the methodology applied.

Under the proposed Conrail Acquisition, rail line segment N-500 is predicted to experience a traffic increase from 21.4 to 43.2 trains per day. This increase exceeds the Board's thresholds for noise impact analysis. NS predicts that train traffic along rail line segment N-500a would be 40.2 trains per day, compared to 18.4 trains per day that travel along the existing rail line segment. Predicted noise levels from rail line segment N-500 and N-500a both exceed 2.0 dBA, and therefore affected receptors have been counted. Although 2,301 receptors would experience increases exceeding 2.0 dBA, the relocation would cause a net reduction of 205 receptors in Lafayette. Attachment N-7 presents the results of these analyses.

N.4.3.7 Environmental Justice

Analysis Methods and Criteria of Significance

SEA conducted a special environmental justice analysis for Lafayette. 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 addressed¹². SEA considered locations where high and adverse effects could result to these communities from four environmental issue areas:

- Safety: Hazardous Materials Transport.
- Safety: Highway/Rail At-grade Crossings.
- Transportation: Highway/Rail At-grade Crossing Delay.
- Noise.

Analysis Results and Impacts

The regional analysis of 103 block group Areas of Potential Effect shows that disproportionately high and adverse hazardous materials transport effects would occur in minority or low-income populations, absent mitigation. SEA determined that no disproportionate noise or highway/rail at-grade crossing safety or delay impacts would occur in minority or low-income populations at the regional level.

¹²

SEA relied upon the regional analysis in cases where there were not enough block groups present in a given county to provide a statistically significant answer. SEA analyzed Tippecanoe County along with the counties of Porter and Fountain, Indiana, as well as Vermillion, Illinois, in the region of northwest Indiana and Illinois.

At a more localized level, SEA's environmental justice analysis identified 45 census block groups within the Area of Potential Effect in Tippecanoe County. These block groups are located 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 found no disproportionate impacts on environmental justice populations for highway/rail at-grade crossing safety or delay, or hazardous materials transport. However, absent mitigation, these populations could suffer disproportionately high and adverse impacts for noise. The disproportionate noise impacts at these locations primarily result from horn noise at highway/rail at-grade crossings. SEA's analysis of the Lafayette Bypass (rail line segments N-500 and N-500a) identified no disproportionate noise or other impacts to environmental justice populations. Appendix M, "Environmental Justice Analysis," Attachment M-17, presents these results.

Mitigation

The City of Lafayette is in the process of relocating the existing rail traffic via a bypass that would eliminate many highway/rail at-grade crossings. However, SEA recommends a tailored mitigation plan to mitigate the disproportionately high and adverse hazardous materials transport effects on rail line segment N-045. 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.

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, the Applicants have 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.

ATTACHMENT N-1

**Highway/Rail At-grade Crossing Accident Frequency
Erie, Pennsylvania**

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ATTACHMENT N-1 **HIGHWAY/RAIL AT-GRADE CROSSING ACCIDENT FREQUENCY** **ERIE, PENNSYLVANIA**

Rail Line Segment	Crossing Location	Safety Device	ADT	Number of Roadway Lanes	Maximum Speed	Freight Trains			Relevant Accident History	Predicted Accidents Per Year				
						Pre-Acquisition	Post-Acquisition	Erie Relocation Project		Pre-Acquisition	Post-Acquisition Existing Corridor	Post-Acquisition with Mitigation	Erie Relocation Project	Erie Relocation Project with Mitigation
N-070	DOWNING AVENUE	Gate	1,220	2	60	13.0	25.1	0.0	0	0.0182	0.0237		0.0000	
N-070	ASH STREET	Flasher	5,290	2	35	13.0	25.1	0.0	0	0.0486	0.0599		0.0000	
N-070	PARADE STREET	Gate	15,000	4	35	13.0	25.1	0.0	0	0.0408	0.0501		0.0000	
N-070	GERMAN STREET	Flasher	740	2	35	13.0	25.1	0.0	0	0.0269	0.0351		0.0000	
N-070	HOLLAND STREET	Flasher	4,299	2	35	13.0	25.1	0.0	0	0.0460	0.0570		0.0000	
N-070	PEACH STREET	Gate	11,110	2	15	13.0	25.1	0.0	2	0.1345	0.1552	(a)	0.0000	
N-070	SASSAFRAS STREET	Gate	11,110	2	15	13.0	25.1	0.0	1	0.0828	0.0971		0.0000	
N-070	MYRTLE STREET	Flasher	740	2	15	13.0	25.1	0.0	0	0.0269	0.0351		0.0000	
N-070	CHESTNUT STREET	Flasher	1,380	2	15	13.0	25.1	0.0	0	0.0329	0.0422		0.0000	
N-070	WALNUT STREET	Gate	320	2	15	13.0	25.1	0.0	0	0.0129	0.0169		0.0000	
N-070	CHERRY STREET	Flasher	9,220	2	15	13.0	25.1	0.0	3	0.2738	0.3136	(a)	0.0000	
N-070	POPLAR STREET	Flasher	370	2	15	13.0	25.1	0.0	1	0.0660	0.0785		0.0000	
N-070	LIBERTY STREET	Gate	18,284	4	15	13.0	25.1	0.0	0	0.0425	0.0519		0.0000	
N-070	PLUM STREET	Flasher	580	2	15	13.0	25.1	0.0	0	0.0248	0.0326		0.0000	
N-070	CASCADE STREET	Flasher	1,580	2	15	13.0	25.1	0.0	1	0.0895	0.1068		0.0000	
N-070	RASPBERRY STREET	Flasher	5,400	2	15	13.0	25.1	0.0	2	0.1826	0.2120	(a)	0.0000	
N-070	CRANBERRY STREET	Flasher	840	2	15	13.0	25.1	0.0	1	0.0782	0.0935		0.0000	
N-070	GREEN GARDEN ROAD	Gate	7,940	2	60	13.0	25.1	0.0	1	0.0787	0.0923		0.0000	
N-070	PITTSBURGH ROAD	Gate	7,004	2	60	13.0	25.1	0.0	0	0.0280	0.0354		0.0000	
C-690/N-502	CASCADE STREET	Gate	7,004	2	60	50.1	49.6	74.7	0	0.0497	0.0496		0.0557	
C-690/N-502	RASPBERRY STREET	Gate	7,940	2	60	50.1	49.6	74.7	1	0.1184	0.1181		0.1293	
C-690/N-502	GREEN GARDEN ROAD	Gate	5,730	2	60	50.1	49.6	74.7	1	0.1130	0.1128		0.1237	
C-690/N-502	PITTSBURGH ROAD	Gate	9,220	2	60	50.1	49.6	74.7	2	0.1896	0.1892		0.2055	(b)
C-690	DOWNING AVENUE	Gate	1,220	2	60	50.1	49.6	49.6	0	0.0349	0.0348		0.0348	
N-502b	DOWNING AVENUE	Gate	1,220	2	60	0.0	25.1	25.1	0	0.0000	0.0000		0.0237	
AVERAGE ACCIDENT RATE										0.0736	0.0837	0.0837	0.0229	0.0229
TOTAL ACCIDENT RATE										1.8403	2.0933	2.0933	0.5728	0.5728

(a) Relocate to CSX Corridor.

(b) Effectiveness of four quadrant gates, median barriers, or corridor analysis is not quantifiable.

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ATTACHMENT N-2a

**Highway/Rail At-grade Crossing Vehicle Delay and Queues
Erie, Pennsylvania**

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ATTACHMENT N-2a

HIGHWAY/RAIL AT-GRADE CROSSING VEHICLE DELAY AND QUEUES ERIE, PENNSYLVANIA

Rail Line Segment	Crossing Location	Number of Roadway Lanes	ADT	Pre-Acquisition							Post-Acquisition: Existing Alignment									
				Trains per day	Train Speed (miles/hr)	Train Length (feet)	Number of Vehicles Delayed Per Day	Max. Peak Hr. Queue (veh/in)	Average Delay per Stopped Vehicle (mins)	Avg. Delay per Vehicle (All vehicles) (sec/veh)	Level of Service	Trains per day	Train Speed (miles/hr)	Train Length (feet)	Number of Vehicles Delayed Per Day	Max. Peak Hr. Queue (veh/in)	Average Delay per Stopped Vehicle (mins)	Avg. Delay per Vehicle (All vehicles) (sec/veh)	Level of Service	Level of Service With Mitigation
N-070	DOWNING AVENUE	2	1,220	13.0	50	4,869	18	2	0.83	1.45	A	25.1	50	5,000	35	2	0.85	2.91	A	
N-070	ASH STREET	2	5,290	13.0	35	4,869	99	11	1.23	2.78	A	25.1	35	5,000	196	11	1.26	5.60	B	
N-070	PARADE STREET	4	15,000	13.0	35	4,869	282	16	1.34	3.02	A	25.1	35	5,000	555	16	1.37	6.07	B	
N-070	GERMAN STREET	2	740	13.0	35	4,869	14	2	1.06	2.40	A	25.1	35	5,000	27	2	1.09	4.82	A	
N-070	HOLLAND STREET	2	4,299	13.0	35	4,869	81	9	1.19	2.69	A	25.1	35	5,000	159	9	1.22	5.41	B	
N-070	PEACH STREET	2	11,110	13.0	15	4,869	420	47	3.13	14.20	B	25.1	15	5,000	830	48	3.20	28.73	D	(a)
N-070	SASSAFRAS STREET	2	11,110	13.0	15	4,869	420	47	3.13	14.20	B	25.1	15	5,000	830	48	3.20	28.73	D	(a)
N-070	MYRTLE STREET	2	740	13.0	15	4,869	28	3	2.14	9.72	B	25.1	15	5,000	55	3	2.19	19.66	C	
N-070	CHESTNUT STREET	2	1,380	13.0	15	4,869	52	6	2.18	9.91	B	25.1	15	5,000	103	6	2.24	20.05	C	
N-070	WALNUT STREET	2	320	13.0	15	4,869	12	1	2.11	9.59	B	25.1	15	5,000	24	1	2.16	19.41	C	
N-070	CHERRY STREET	2	9,220	13.0	15	4,869	346	39	2.89	13.10	B	25.1	15	5,000	689	40	2.95	26.50	D	(a)
N-070	POPLAR STREET	2	370	13.0	15	4,869	14	2	2.12	9.61	B	25.1	15	5,000	28	2	2.17	19.44	C	
N-070	LIBERTY STREET	4	18,284	13.0	15	4,869	691	38	2.88	13.06	B	25.1	15	5,000	1,367	39	2.95	25.42	D	(a)
N-070	PLUM STREET	2	580	13.0	15	4,869	22	2	2.13	9.67	B	25.1	15	5,000	43	2	2.18	19.57	C	
N-070	CASCADE STREET	2	1,580	13.0	15	4,869	60	7	2.20	9.97	B	25.1	15	5,000	118	7	2.25	20.18	C	
N-070	RASPBERRY STREET	2	5,400	13.0	15	4,869	204	23	2.50	11.32	B	25.1	15	5,000	404	23	2.55	22.91	C	(b)
N-070	CRANBERRY STREET	2	840	13.0	50	4,869	12	1	0.82	1.43	A	25.1	50	5,000	24	1	0.84	2.87	A	
N-070	GREEN GARDEN ROAD	2	7,940	13.0	50	4,869	115	13	1.05	1.83	A	25.1	50	5,000	226	13	1.07	3.67	A	
N-070	PITTSBURGH ROAD	2	7,004	13.0	50	4,869	102	11	1.01	1.77	A	25.1	50	5,000	200	11	1.03	3.54	A	
C-690	CASCADE STREET	2	7,940	50.1	50	6,000	454	13	1.18	9.16	B	49.6	50	6,200	461	13	1.21	9.52	B	
C-690	RASPBERRY STREET	2	7,940	50.1	50	6,000	515	15	1.22	9.49	B	49.6	50	6,200	522	15	1.25	9.86	B	
C-690	GREEN GARDEN ROAD	2	5,730	50.1	50	6,000	372	11	1.12	8.74	B	49.6	50	6,200	377	11	1.15	9.08	B	
C-690	PITTSBURGH ROAD	2	9,220	50.1	50	6,000	598	17	1.28	9.99	B	49.6	50	6,200	606	18	1.32	10.38	B	
C-690	DOWNING AVENUE	2	1,220	50.1	50	6,000	79	2	0.97	7.52	B	49.6	50	6,200	80	2	0.99	7.82	B	
N-502b	DOWNING AVENUE	2	1,220	0.0	50	6,000	0	2	0.97	0.00	A	0.0	50	6,200	0	2	0.99	0.00	A	

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ATTACHMENT N-2b

**Highway/Rail At-grade Crossing Vehicle Delay and Queues
Erie, Pennsylvania**

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ATTACHMENT N-2b

HIGHWAY/RAIL AT-GRADE CROSSING VEHICLE DELAY AND QUEUES ERIE, PENNSYLVANIA

Rail Line Segment	Crossing Location	Number of Roadway Lanes	ADT	Post-Acquisition: Erie Relocation								Level of Service	Level of Service With Mitigation
				Trains per day	Train Speed (miles/hr)	Train Length (feet)	Number of Vehicles Delayed Per Day	Max. Peak Hr. Queue (veh/ln)	Average Delay per Stopped Vehicle (mins)	Avg. Delay per Vehicle (All vehicles) (sec/veh)			
N-070	DOWNING AVENUE	2	1,220	0.0	50	5,000	0	2	0.85	0.00	A		
N-070	ASH STREET	2	5,290	0.0	50	5,000	0	9	0.97	0.00	A		
N-070	PARADE STREET	4	15,000	0.0	50	5,000	0	12	1.05	0.00	A		
N-070	GERMAN STREET	2	740	0.0	50	5,000	0	1	0.84	0.00	A		
N-070	HOLLAND STREET	2	4,292	0.0	50	5,000	0	7	0.94	0.00	A		
N-070	PEACH STREET	2	11,116	0.0	50	5,000	0	18	1.22	0.00	A		
N-070	SASSAFRAS STREET	2	11,110	0.0	50	5,000	0	18	1.22	0.00	A		
N-070	MYRTLE STREET	2	740	0.0	50	5,000	0	1	0.84	0.00	A		
N-070	CHESTNUT STREET	2	1,380	0.0	50	5,000	0	2	0.85	0.00	A		
N-070	WALNUT STREET	2	320	0.0	50	5,000	0	1	0.83	0.00	A		
N-070	CHERRY STREET	2	9,220	0.0	50	5,000	0	15	1.13	0.00	A		
N-070	POPLAR STREET	2	370	0.0	50	5,000	0	1	0.83	0.00	A		
N-070	LIBERTY STREET	4	18,284	0.0	50	5,000	0	15	1.12	0.00	A		
N-070	PLUM STREET	2	580	0.0	50	5,000	0	1	0.83	0.00	A		
N-070	CASCADE STREET	2	1,580	0.0	50	5,000	0	3	0.86	0.00	A		
N-070	RASPBERRY STREET	2	5,400	0.0	50	5,000	0	9	0.97	0.00	A		
N-070	CRANBERRY STREET	2	840	0.0	50	5,000	0	1	0.84	0.00	A		
N-070	GREEN GARDEN ROAD	2	7,940	0.0	50	5,000	0	13	1.07	0.00	A		
N-070	PITTSBURGH ROAD	2	7,004	0.0	50	5,000	0	11	1.03	0.00	A		
C-690/N-502	CASCADE STREET	2	7,004	74.7	50	6,200	694	13	1.21	14.33	B		
C-690/N-502	RASPBERRY STREET	2	7,940	74.7	50	6,200	786	15	1.25	14.85	B		
C-690/N-502	GREEN GARDEN ROAD	2	5,730	74.7	50	6,200	567	11	1.15	13.68	B		
C-690/N-502	PITTSBURGH ROAD	2	9,220	74.7	50	6,200	913	18	1.32	15.63	C		
C-690	DOWNING AVENUE	2	1,220	49.6	50	6,200	80	2	0.99	7.82	B		
N-502b	DOWNING AVENUE	2	1,220	25.1	50	6,200	41	2	0.99	3.96	A		

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ATTACHMENT N-3

**Sensitive Receptor Counts for Alternative Rail Line Segments
Erie, Pennsylvania**

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ATTACHMENT N-3

SENSITIVE RECEPTOR COUNTS FOR ALTERNATIVE RAIL LINE SEGMENTS ERIE, PENNSYLVANIA

Rail Line Segment			Train and Rail Data					Distance from Rail Track to 65 Ldn Noise Contour (in feet)				Receptors	
								Pre-Acquisition		Post-Acquisition			
Rail Line Segment	Between	And	Psgr. Trains	Pre- Acq. Frt. Trains	Post- Acq. Frt. Trains	Change in Trains	Change in Ldn (dBA)	Distance to 65 Ldn Wayside Noise Contour	Distance to 65 Ldn Train Horn Noise Contour	Distance to 65 Ldn Wayside Noise Contour	Distance to 65 Ldn Train Horn Noise Contour	Pre-Acq.	Post- Acq.
N-070*	Ashtabula	Buffalo, NY	0	13.0	25.18	12.2	2.9	157	381	238	589	1,138	2,136
N-070**	Ashtabula	Buffalo, NY	0	13.0	25.18	12.2	2.9	157	381	238	589	1,138	1,773
C-690	Buff Seneca, NY	Ashtabula, OH	2	50.1	49.6	-0.5	0.0	488	970	484	1,652	0	0
N-502	MP 85	MP91	2	63.1	75.9	12.8	0.8	422	1,082	474	1,223	0	0
N-502a	East Connection		0	13.0	25.1	12.1	2.9	157	381	237	588	0	0
N-502b	West Connection		0	13.0	25.1	12.1	2.9	157	381	237	588	0	33

* Application Base Case, Draft EIS

** Re-routed operations in Erie, Pennsylvania

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ATTACHMENT N-4

**Highway/Rail At-grade Crossing Accident Frequency
Lafayette, Indiana**

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**ATTACHMENT N-4
HIGHWAY/RAIL AT-GRADE CROSSING ACCIDENT FREQUENCY
LAFAYETTE, INDIANA**

Rail Line Segment	Crossing Location	Safety Device	ADT	Number of Roadway Lane	Maximum Speed	Freight Trains			Relevant Accident History	Predicted Accidents Per Year				
						Pre Acquisition	Post Acquisition	Lafayette Bypass		Pre Acquisition	Post Acquisition	Post Acquisition with Mitigation	Lafayette Bypass	Lafayette Bypass with Mitigation
N-046	FERRY ST	Gate	6,121	2	25	18.4	40.2	0.0	0	0.0338	0.0439		0.0000	
N-046	MAIN ST	Gate	7,654	2	25	18.4	40.2	0.0	0	0.0355	0.0459		0.0000	
N-046	11TH ST	Flasher	730	2	25	18.4	40.2	0.0	1	0.0913	0.1124		0.0000	
N-046	COLUMBIA ST	Gate	8,546	3	25	18.4	40.2	0.0	0	0.0402	0.0513		0.0000	
N-046	10TH ST	Flasher	2,622	2	25	18.4	40.2	0.0	1	0.1191	0.1437		0.0000	
N-046	SOUTH ST S R. 26	Gate	7,890	3	25	18.4	40.2	0.0	0	0.0396	0.0505		0.0000	
N-046	9TH ST	Gate	8,565	2	25	18.4	40.2	0.0	1	0.0923	0.1112		0.0000	
N-046	6TH ST	Passive	289	2	25	18.4	40.2	0.0	3	0.2993	0.3567	0.0296	0.0000	
N-046	7TH ST	Flasher	1,375	2	25	18.4	40.2	0.0	3	0.2280	0.2717	0.0354	0.0000	
N-046	NEW YORK ST	Flasher	252	2	25	18.4	40.2	0.0	0	0.0251	0.0346		0.0000	
N-046	ROMIG ST	Flasher	982	2	25	18.4	40.2	0.0	3	0.2145	0.2563	0.0309	0.0000	
N-046	LUNGE AVE	Flasher	1,471	2	25	18.4	40.2	0.0	1	0.1059	0.1292		0.0000	
N-046	5TH ST	Passive	209	2	25	18.4	40.2	0.0	2	0.2076	0.2504	0.0263	0.0000	
N-046	4TH ST U.S. 231	Gate	12,060	2	25	18.4	40.2	0.0	0	0.1554	0.1837	see Note	0.0000	
N-046	3RD ST	Flasher	3,823	2	25	18.4	40.2	0.0	0	0.0538	0.0698		0.0000	
N-046	SMITH ST	Flasher	966	2	25	18.4	40.2	0.0	2	0.1554	0.1873	0.0307	0.0000	
N-045	CR 500 W	Passive	108	2	50	23.6	41.0	41.0	0	0.0376	0.0471		0.0471	
N-045	CR 400 S	Passive	264	2	50	23.6	41.0	41.0	1	0.1598	0.1820	0.0351	0.1820	0.0351
N-045	CR 575 W	Passive	97	2	50	23.6	41.0	41.0	0	0.0561	0.0677		0.0677	
N-045	CR 700 W (MAIN ST)	Gate	1,433	2	50	23.6	41.0	41.0	0	0.0235	0.0290		0.0290	
N-045	CO 172	Passive	127	2	50	23.6	41.0	41.0	2	0.2215	0.2524	0.0268	0.2524	0.0268
N-045	CR 900W	Passive	50	2	50	23.6	41.0	41.0	1	0.0860	0.1015		0.1015	
N-046	CR 900 N	Passive	1,188	2	50	18.4	40.2	40.2	2	0.2941	0.3382	0.0603	0.3382	0.0603
N-046	CR 800 N	Passive	50	2	50	18.4	40.2	40.2	0	0.0268	0.0378		0.0378	
N-046	CR 700 N	Passive	237	2	50	18.4	40.2	40.2	1	0.1473	0.1783	0.0333	0.1783	0.0333
N-046	CR 1000 E	Passive	52	2	50	18.4	40.2	40.2	0	0.0271	0.0382		0.0382	
N-046	CR 600 N	Passive	61	2	50	18.4	40.2	40.2	1	0.0843	0.1049		0.1049	
N-046	CR 900 E	Flasher	486	2	50	18.4	40.2	40.2	0	0.0267	0.0366		0.0366	
N-046	MAIN ST CR 750 E	Flasher	523	2	50	18.4	40.2	40.2	0	0.0274	0.0374		0.0374	
N-046	CR 625 E	Passive	72	2	50	18.4	40.2	40.2	0	0.0300	0.0418		0.0418	
N-046	CR 400 N	Passive	80	2	50	18.4	40.2	40.2	0	0.0309	0.0431		0.0431	
N-046	CR 500 E	Passive	427	2	50	18.4	40.2	40.2	1	0.1629	0.1944	0.0414	0.1944	0.0414
N-046	HEATH RD CR 300N	Flasher	2,463	2	50	18.4	40.2	40.2	0	0.0440	0.0570		0.0570	

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ATTACHMENT N-4
HIGHWAY/RAIL AT-GRADE CROSSING ACCIDENT FREQUENCY
LAFAYETTE, INDIANA

Rail Line Segment	Crossing Location	Safety Device	ADT	Number of Roadway Lanes	Maximum Speed	Freight Trains			Relevant Accident History	Predicted Accidents Per Year				
						Pre Acquisition	Post Acquisition	Lafayette Bypass		Pre Acquisition	Post Acquisition	Post Acquisition with Mitigation	Lafayette Bypass	Lafayette Bypass with Mitigation
N-046	CR 400 E	Gate	1,939	2	50	18.4	40.2	40.2	0	0.0338	0.0485		0.0425	
N-046	UNDERWOOD ST	Flasher	5,557	2	25	18.4	40.2	0.0	0	0.0610	0.0751		0.0000	
N-046	GREENBUSH ST	Flasher	2,090	2	25	18.4	40.2	0.0	4	0.3094	0.1656	0.0413	0.0000	
N-046	18TH	Flasher	5,430	2	25	18.4	40.2	0.0	8	0.6712	0.1754	0.0620	0.0000	
N-046	17TH & SALEM ST	Flasher	6,323	2	25	18.4	40.2	0.0	6	0.5510	0.1727	0.0660	0.0000	
N-046	UNION ST	Gate	9,955	2	25	18.4	40.2	0.0	3	0.2083	0.2445	see Note	0.0000	
AVERAGE ACCIDENT RATE										0.1146	0.1373	0.1252	0.0489	0.0383
TOTAL ACCIDENT RATE										2.9797	3.5707	3.1003	1.2721	0.9564

NOTE: Effectiveness of four quadrant gates is not quantifiable.

N-180

ATTACHMENT N-5

**Highway/Rail At-grade Crossing Summary of Vehicle Delay
Lafayette, Indiana**

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ATTACHMENT N-5

HIGHWAY/RAIL AT-GRADE CROSSING SUMMARY OF VEHICLE DELAY LAFAYETTE, INDIANA

Rail Line Segment	Crossing Location	Number of Roadway Lanes	ADT	Number of Vehicles Delayed per day			Avg. Delay per Vehicle (All vehicles) (sec/veh)			Level of Service		
				Pre-Acquisition	Post-Acquisition: Existing Corridor	Lafayette Bypass	Pre-Acquisition	Post-Acquisition: Existing Corridor	Lafayette Bypass	Pre-Acquisition	Post-Acquisition: Existing Corridor	Lafayette Bypass
N-046	FERRY ST	2	6,121	212	474	0	6.90	15.75	0.00	B	C	A
N-046	MAIN ST	2	7,654	265	592	0	7.31	16.68	0.00	B	C	A
N-046	11TH ST	2	730	25	57	0	5.77	13.16	0.00	B	B	A
N-046	COLUMBIA ST	3	8,546	296	662	0	6.80	15.51	0.00	B	C	A
N-046	10TH ST	2	2,622	91	203	0	6.12	13.97	0.00	B	B	A
N-046	SOUTH ST S.R. 26	3	7,890	274	611	0	6.69	15.27	0.00	B	C	A
N-046	9TH ST	2	8,565	297	663	0	7.57	17.28	0.00	B	C	A
N-046	8TH ST	2	289	10	22	0	5.69	12.99	0.00	B	B	A
N-046	7TH ST	2	1,375	48	106	0	5.88	13.43	0.00	B	B	A
N-046	NEW YORK ST.	2	252	9	20	0	5.69	12.97	0.00	B	B	A
N-046	ROMIG ST	2	982	34	76	0	5.81	13.27	0.00	B	B	A
N-046	LINGLE AVE	2	1,471	51	114	0	5.90	13.47	0.00	B	B	A
N-046	5TH ST	2	209	7	16	0	5.68	12.96	0.00	B	B	A
N-046	4TH ST U.S. 231	2	12,060	418	934	0	8.80	20.09	0.00	B	C	A
N-046	3RD ST	2	3,823	133	296	0	6.37	14.53	0.00	B	B	A
N-046	SMITH ST	2	546	33	75	0	5.81	13.26	0.00	B	B	A
N-045	CR 500 W.	2	108	3	6	6	3.50	6.32	6.32	A	B	B
N-045	CR 400 S	2	264	8	14	14	3.52	6.35	6.35	A	B	B
N-045	CR 575 W.	2	97	3	5	5	3.50	6.32	6.32	A	B	B
N-045	CR 700 W (MAIN ST.)	2	1,433	44	78	78	3.64	6.58	6.58	A	B	B
N-045	CO 172	2	127	4	7	7	3.50	6.32	6.32	A	B	B
N-045	CR 900W	2	50	2	3	3	3.49	6.31	6.31	A	B	B
N-046	CR 900 N.	2	1,188	29	64	64	2.82	6.40	6.40	A	B	B
N-046	CR 800 N.	2	50	1	3	3	2.72	6.19	6.19	A	B	B
N-046	CR 700 N.	2	237	6	13	13	2.74	6.22	6.22	A	B	B
N-046	CR 1000 E.	2	52	1	3	3	2.72	6.19	6.19	A	B	B
N-046	CR 600 N	2	61	1	3	3	2.72	6.19	6.19	A	B	B
N-046	CR 900 E.	2	486	12	26	26	2.76	6.27	6.27	A	B	B

ATTACHMENT N-5

HIGHWAY/RAIL AT-GRADE CROSSING SUMMARY OF VEHICLE DELAY LAFAYETTE, INDIANA

Rail Line Segment	Crossing Location	Number of Roadway Lanes	ADT	Number of Vehicles Delayed per day			Avg. Delay per Vehicle (All vehicles) (sec/veh)			Level of Service		
				Pre-Acquisition	Post-Acquisition: Existing Corridor	Lafayette Bypass	Pre-Acquisition	Post-Acquisition: Existing Corridor	Lafayette Bypass	Pre-Acquisition	Post-Acquisition: Existing Corridor	Lafayette Bypass
N-046	MAIN ST CR 750 E.	2	523	13	28	28	2.76	6.28	6.28	A	B	B
N-046	CR 625 E	2	72	2	4	4	2.72	6.19	6.19	A	B	B
N-046	CR 400 N	2	80	2	4	4	2.73	6.19	6.19	A	B	B
N-046	CR 500 E	2	427	15	33	33	5.72	13.04	13.04	B	B	B
N-046	HEATH RD CR 300N.	2	2,463	85	191	191	6.09	13.90	13.90	B	B	B
N-046	CR 400 E	2	1,939	67	150	150	5.99	13.67	13.67	B	B	B
N-046	UNDERWOOD ST	2	5,557	193	430	0	6.76	15.43	0.00	B	C	A
N-046	GREENBUSH ST	2	2,000	69	155	0	6.00	13.69	0.00	B	B	A
N-046	18TH	2	5,430	188	420	0	6.73	15.36	0.00	B	C	A
N-046	17TH & SALEM ST.	2	6,323	219	489	0	6.95	15.86	0.00	B	C	A
N-046	UNION ST	2	9,255	345	771	0	8.02	18.30	0.00	B	C	A
N-500	NO CROSSINGS											
N-500a	NO CROSSINGS											
C-255	NO CROSSINGS WITHIN PROJECT LIMITS											
C-256	NO CROSSINGS WITHIN PROJECT LIMITS											

N-184

ATTACHMENT N-6a

**Highway/Rail At-grade Crossing Vehicle Delay and Queues
Lafayette, Indiana**

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ATTACHMENT N-6a

HIGHWAY/RAIL AT-GRADE CROSSING VEHICLE DELAY AND QUEUES LAFAYETTE, INDIANA

Rail Line Segment	Crossing Location	Number of Roadway Lanes	ADT	Pre-Acquisition							Post-Acquisition: Existing Corridor									
				Trains per day	Train Speed (miles/hr)	Train Length (feet)	Number of Vehicles Delayed Per Day	Max. Peak Hr. Queue (veh/in)	Average Delay per Stopped Vehicle (mins)	Avg. Delay per Vehicle (All vehicles) (sec/veh)	Level of Service	Trains per day	Train Speed (miles/hr)	Train Length (feet)	Number of Vehicles Delayed Per Day	Max. Peak Hr. Queue (veh/in)	Average Delay per Stopped Vehicle (mins)	Avg. Delay per Vehicle (All vehicles) (sec/veh)	Level of Service	Level of Service With Mitigation
N-046	FERRY ST	2	6,121	17	25	4,869	212	17	1.66	6.90	B	40.2	25	5,000	474	17	1.70	15.75	C	(c)
N-046	MAIN ST	2	7,654	18.4	25	4,869	265	21	1.76	7.31	B	40.2	25	5,000	592	21	1.80	14.68	C	(c)
N-046	11TH ST	2	730	18.4	25	4,869	25	2	1.39	5.77	B	40.2	25	5,000	57	2	1.42	13.16	B	(c)
N-046	COLUMBIA ST	3	8,546	18.4	25	4,869	296	13	1.63	6.80	B	40.2	25	5,000	662	13	1.67	15.51	C	(c)
N-046	10TH ST	2	2,622	18.4	25	4,869	91	7	1.47	6.12	B	40.2	25	5,000	203	7	1.50	13.97	B	(c)
N-046	SOUTH ST S R 26	3	7,890	18.4	25	4,869	274	12	1.61	6.69	B	40.2	25	5,000	611	12	1.64	15.27	C	(c)
N-046	9TH ST	2	8,565	18.4	25	4,869	297	23	1.82	7.57	B	40.2	25	5,000	663	24	1.86	17.28	C	(c)
N-046	8TH ST	2	289	18.4	25	4,869	10	1	1.37	5.69	B	40.2	25	5,000	22	1	1.40	12.99	B	(c)
N-046	7TH ST	2	1,375	18.4	25	4,869	48	4	1.41	5.88	B	40.2	25	5,000	106	4	1.45	13.43	B	(c)
N-046	NEW YORK ST	2	252	18.4	25	4,869	9	1	1.37	5.69	B	40.2	25	5,000	20	1	1.40	12.97	B	(c)
N-046	ROMIG ST	2	982	18.4	25	4,869	34	3	1.40	5.81	B	40.2	25	5,000	76	3	1.43	13.27	B	(c)
N-046	LINGLE AVE	2	1,471	18.4	25	4,869	51	4	1.42	5.90	B	40.2	25	5,000	114	4	1.45	13.47	B	(c)
N-046	5TH ST	2	209	18.4	25	4,869	7	1	1.37	5.68	B	40.2	25	5,000	16	1	1.40	12.96	B	(c)
N-046	4TH ST U.S. 231	2	12,060	18.4	25	4,869	418	33	2.12	8.90	B	40.2	25	5,000	934	33	2.16	20.09	C	(c)
N-046	3RD ST	2	3,823	18.4	25	4,869	133	10	1.51	6.37	B	40.2	25	5,000	296	11	1.56	14.53	B	(c)
N-046	SMITH ST	2	966	18.4	25	4,869	33	3	1.40	5.81	B	40.2	25	5,000	75	3	1.43	13.26	B	(c)
N-045	CR 500 W	2	108	23.6	40	4,869	3	0	0.94	3.50	A	41.0	40	5,000	6	0	0.96	6.32	B	(c)
N-045	CR 400 S	2	264	23.6	40	4,869	8	0	0.95	3.52	A	41.0	40	5,000	14	1	0.97	6.35	B	(c)
N-045	CR 575 W	2	17	23.6	40	4,869	3	0	0.94	3.50	A	41.0	40	5,000	5	0	0.96	6.32	B	(c)
N-045	CR 700 W (MAIN ST)	2	1,413	23.6	40	4,869	44	3	0.98	3.64	A	41.0	40	5,000	78	3	1.00	6.58	B	(c)
N-045	CO 172	2	127	23.6	40	4,869	4	0	0.95	3.50	A	41.0	40	5,000	7	0	0.96	6.32	B	(c)
N-045	CR 900 W	2	50	23.6	40	4,869	2	0	0.94	3.49	A	41.0	40	5,000	3	0	0.96	6.31	B	(c)
N-046	CR 900 N	2	1,188	18.4	40	4,869	29	2	0.98	2.82	A	40.2	40	5,000	64	2	1.00	6.40	B	(c)
N-046	CR 800 N	2	50	18.4	40	4,869	1	0	0.94	2.72	A	40.2	40	5,000	3	0	0.96	6.19	B	(c)
N-046	CR 700 N	2	237	18.4	40	4,869	6	0	0.95	2.74	A	40.2	40	5,000	13	0	0.97	6.22	B	(c)
N-046	CR 1000 E	2	52	18.4	40	4,869	1	0	0.94	2.72	A	40.2	40	5,000	3	0	0.96	6.19	B	(c)
N-046	CR 600 N	2	61	18.4	40	4,869	1	0	0.94	2.72	A	40.2	40	5,000	3	0	0.96	6.19	B	(c)
N-046	CR 900 E	2	486	18.4	40	4,869	12	1	0.96	2.76	A	40.2	40	5,000	26	1	0.97	6.27	B	(c)
N-046	MAIN ST CR 750 E	2	523	18.4	40	4,869	13	1	0.96	2.76	A	40.2	40	5,000	28	1	0.98	6.28	B	(c)
N-046	CR 625 E	2	72	18.4	40	4,869	2	0	0.94	2.72	A	40.2	40	5,000	4	0	0.96	6.19	B	(c)
N-046	CR 400 N	2	80	18.4	40	4,869	2	0	0.94	2.73	A	40.2	40	5,000	4	0	0.96	6.19	B	(c)
N-046	CR 500 E	2	427	18.4	25	4,869	15	1	1.37	5.72	B	40.2	25	5,000	33	1	1.40	13.04	B	(c)
N-046	HEATH RD CR 300N	2	2,463	18.4	25	4,869	85	7	1.46	6.09	B	40.2	25	5,000	191	7	1.50	13.90	B	(c)
N-046	CR 400 E	2	1,939	18.4	25	4,869	67	5	1.44	5.99	B	40.2	25	5,000	150	5	1.47	13.67	B	(c)
N-046	UNDERWOOD ST	2	5,557	18.4	25	4,869	193	15	1.63	6.76	B	40.2	25	5,000	430	15	1.66	15.43	C	(c)
N-046	GREENBUSH ST	2	2,000	18.4	25	4,869	69	5	1.44	6.00	B	40.2	25	5,000	155	6	1.47	13.69	B	(c)
N-046	18TH	2	5,430	18.4	25	4,869	188	15	1.62	6.73	B	40.2	25	5,000	420	15	1.65	15.36	C	(c)
N-046	17TH & SALEM ST	2	6,323	18.4	25	4,869	219	14	1.67	6.95	B	40.2	25	5,000	489	15	1.71	15.86	C	(c)
N-046	UNION ST	2	9,955	18.4	25	4,869	345	23	1.93	8.02	B	40.2	25	5,000	771	23	1.97	18.30	C	
N-500	NO CROSSINGS			0.0	25	4,869						0.0	25	5,000						
N-500a	NO CROSSINGS			0.0	25	4,869						0.0	25	5,000						
C-255	NO CROSSINGS WITHIN PROJECT LIMITS			4.4	25	6,000						4.4	25	6,200						
C-256	NO CROSSINGS WITHIN PROJECT LIMITS			9.0	25	6,000						9.0	25	6,200						

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ATTACHMENT N-6b

**Highway/Rail At-grade Crossing Vehicle Delay and Queues
Lafayette, Indiana**

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ATTACHMENT N-6b

HIGHWAY/RAIL AT-GRADE CROSSING VEHICLE DELAY AND QUEUES LAFAYETTE, INDIANA

Rail Line Segment	Crossing Location	Number of Roadway Lanes	ADT	Post-Acquisition With Lafayette Bypass								
				Trains per day	Train Speed (miles/hr)	Train Length (feet)	Number of Vehicles Delayed Per Day	Max. Peak Hr. Queue (veh/ln)	Average Delay per Stopped Vehicle (mins)	Avg. Delay per Vehicle (All vehicles) (sec/veh)	Level of Service	Level of Service With Mitigation
N-046	FERRY ST	2	6,121	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	MAIN ST	2	7,654	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	11TH ST	2	730	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	COLUMBIA ST	3	8,546	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	10TH ST	2	2,622	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	SOUTH ST S R 26	3	7,890	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	9TH ST	2	8,565	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	8TH ST	2	289	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	7TH ST	2	1,375	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	NEW YORK ST	2	252	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	ROMIG ST	2	982	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	LINGLE AVE	2	1,471	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	5TH ST	2	209	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	4TH ST U.S. 231	2	12,060	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	3RD ST	2	3,823	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	SMITH ST	2	966	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-045	CR 500 W	2	108	41.0	40	5,000	5.91	0.1	0.96	6.32	B	
N-045	CR 400 S	2	264	41.0	40	5,000	14.44	0.5	0.97	6.35	B	
N-045	CR 575 W	2	97	41.0	40	5,000	5.30	0.1	0.96	6.32	B	
N-045	CR 700 W (MAIN ST.)	2	1,433	41.0	40	5,000	78.36	2.7	1.00	6.58	B	
N-045	CO 172	2	127	41.0	40	5,000	6.94	0.24	0.96	6.32	B	
N-045	CR 900W	2	50	41.0	40	5,000	2.73	0.10	0.96	6.31	B	
N-046	CR 900 N	2	1,188	40.2	40	5,000	63.69	2.28	1.00	6.40	B	
N-046	CR 800 N	2	50	40.2	40	5,000	2.68	0.10	0.96	6.19	B	
N-046	CR 700 N	2	237	40.2	40	5,000	12.71	0.46	0.97	6.22	B	
N-046	CR 1000 E	2	52	40.2	40	5,000	2.79	0.10	0.96	6.19	B	
N-046	CR 600 N	2	61	40.2	40	5,000	3.27	0.12	0.96	6.19	B	
N-046	CR 900 E	2	486	40.2	40	5,000	26.06	0.93	0.97	6.27	B	
N-046	MAIN ST CR 750 E	2	523	40.2	40	5,000	28.04	1.00	0.98	6.28	B	
N-046	CR 625 E	2	72	40.2	40	5,000	3.86	0.14	0.96	6.19	B	
N-046	CR 400 N	2	80	40.2	40	5,000	4.29	0.15	0.96	6.19	B	
N-046	CR 500 E	2	427	40.2	25	5,000	33.05	1.18	1.40	13.04	B	
N-046	HEATH RD CR 300N	2	2,463	40.2	25	5,000	190.65	6.83	1.50	13.90	B	
N-046	CR 400 E	2	1,939	40.2	25	5,000	150.09	5.38	1.47	13.67	B	
N-046	UNDERWOOD ST	2	5,557	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	GREENBUSH ST	2	2,000	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	18TH	2	5,430	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	17TH & SALEM ST.	2	6,323	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-046	UNION ST	2	9,955	CROSSING CLOSED			0.00	0.00	0.00	0.00	A	
N-500	NO CROSSINGS			43.2	25	5,000						
N-500a	NO CROSSINGS			40.2	25	5,000						
C-255	NO CROSSINGS WITHIN PROJECT LIMITS			3.0	25	6,200						
C-256	NO CROSSINGS WITHIN PROJECT LIMITS			7.6	25	6,200						

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ATTACHMENT N-7

**Sensitive Receptor Counts for Alternative Rail Line Segments
Lafayette, Indiana**

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ATTACHMENT N-7

SENSITIVE RECEPTOR COUNTS FOR ALTERNATIVE RAIL LINE SEGMENTS LAFAYETTE, INDIANA

Rail Line Segment			Train and Rail Data					Distance from Rail Track to 65 Ldn Noise Contour (in feet)				Receptors	
								Pre-Acquisition		Post-Acquisition			
Rail Line Segment	Between	And	Psg. Trains	Pre-Acq. Frt. Trains	Post- Acq. Frt. Trains	Change in Trains	Change in Ldn (dBA)	Distance to 65 Ldn Wayside Noise Contour	Distance to 65 Ldn Train Horn Noise Contour	Distance to 65 Ldn Wayside Noise Contour	Distance to 65 Ldn Train Horn Noise Contour	Pre-Acq.	Post- Acq.
N-45*	Lafayette	Tilton, IL	0	23.6	41.0	17.4	2.4	228	564	323	814	559	859
N-46*	Peru	Lafayette Jct	0	18.4	40.2	21.8	3.4	195	479	319	803	825	1,647
N-45**	Lafayette	Tilton, IL	0	23.6	41.0	17.4	2.4	228	564	323	814	559	859
N-46**	Peru	Lafayette Jct	0	18.4	40.2	21.8	3.4	195	479	319	803	825	1,097
C-255	Monon,	Lafayette	1.4	3.0	3.0	0.0	0.0	84	257	84	257	0	0
C-256	Lafayette	Crawfordsville	1.4	7.6	7.6	0.0	0.0	150	476	150	476	0	0
N-500	Lafayette Jct	CSX Shop Area	1.4	21.4	43.2	21.8	2.9	215	529	333	842	176	333
N-500a	CSX Shop Area	Peru	0	18.4	40.2	21.8	3.4	195	479	319	803	3	12

* Application Base Case, Draft EIS

** Re-routed operations in Lafayette, Indiana

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**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 <i>track geometry inspection car</i> .
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 <i>et seq.</i> ; 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:	<i>See highway/rail at-grade crossing.</i>
grade separation:	<i>See separated grade crossing.</i>
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 <i>et seq.</i> ; 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:	<i>See noise-sensitive receptor.</i>
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 <i>et seq.</i> ; 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:	<i>See noise-sensitive receptor.</i>

- 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 <i>haulage right(s)</i> .
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 detector."

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 <i>Highway Capacity Manual</i>
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

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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	Northcast 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
O₃	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
PM₁₀	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
SO₂	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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