Decision I.D. #52079

Service Date: March 18, 2024

Comment Due Date: April 17, 2024

DRAFT ENVIRONMENTAL ASSESSMENT

DOCKET NO. FD 36727

CSX Transportation, Inc.—Acquisition and Operation—Rail Line of Meridian & Bigbee Railroad, L.L.C.

DOCKET NO. FD 36732

Canadian Pacific Kansas City Limited and the Kansas City Southern Railway Company, D/B/A CPKC – Acquisition and Operation – Certain Rail Line of Meridian & Bigbee Railroad, L.L.C.

in Montgomery, Lowndes, Dallas, Wilcox, Marengo and Choctaw Counties, Alabama and Lauderdale County, Mississippi.

Information Contacts:

Diana Wood & Elizabeth Webster

Surface Transportation Board
Office of Environmental Analysis
395 E St SW
Washington, D.C. 20423

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Washington, DC 20423

Office of Environmental Analysis

March 18, 2024

Re: **Docket No. FD 36727**, CSX Transportation, Inc.—Acquisition and Operation—Rail Line of Meridian & Bigbee Railroad, L.L.C.

Docket No. FD 36732, Canadian Pacific Kansas City Limited – Acquisition and Operation – Rail Line of Meridian & Bigbee Railroad, L.L.C; **Issuance of Draft Environmental Assessment and Notice of Public Comment Period**

Dear Reader:

The Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) is pleased to provide you with this Draft Environmental Assessment (Draft EA) assessing the potential environmental impacts of CSX Transportation Inc.'s (CSXT) request to acquire and operate the assets comprising the rail line of Meridian & Bigbee Railroad, L.L.C. (MNBR) that runs approximately 93.7 miles between Burkville, Alabama, and Myrtlewood, Alabama, in Lowndes, Dallas, Wilcox and Marengo Counties (Eastern Line) and Canadian Pacific Kansas City Limited's (CPKC) request to acquire from MNBR and to operate approximately 50.4 miles of rail line between Meridian, Mississippi, and Myrtlewood (Western Line) (collectively, Proposed Transactions). According to CSXT and CPKC, authorization and implementation of the Proposed Transactions would create a direct interchange between CSXT and CPKC at Myrtlewood that would expand shipping options for CSXT and CPKC for intermodal, automotive, and other traffic moving between the Southeastern United States and the Southwestern United States or Mexico.

OEA prepared one Draft EA under the National Environmental Policy Act (NEPA) (42 U.S.C. §§ 4321-4370m-11) and related environmental laws for both the CSXT and CPKC transactions and the CSXT-owned Burkville to Montgomery segment. This Draft EA analyzes the potential environmental impacts of the Proposed Transactions and the No-Action Alternative, which would occur if the Board were to deny authority for CSXT and CPKC to acquire and operate the Eastern and Western Lines.

WHERE TO FIND THE DRAFT EA

The Draft EA is available for viewing and downloading on the Board's website at www.stb.gov. All information that has been filed with the Board can be found on the Board's website for both the CSXT and the CPKC transactions (Docket Nos. FD 36727 and FD 36732).

HOW TO COMMENT ON THE DRAFT EA

OEA invites public comment on all aspects of this Draft EA. OEA is providing a 30-day comment period, which will begin on **March 18, 2024**, and end on **April 17, 2024**. During the comment period, members of the public may submit electronic comments through the Board's website at https://www.stb.gov. From the Board's home page, select "File an Environmental Comment" below the "Need Assistance?" button.

Alternatively, comments submitted by mail should be addressed to: Diana Wood or Elizabeth Webster, Surface Transportation Board, 395 E Street SW, Washington, DC 20423-0001, Attention: Environmental Filing, Docket No. FD 36727 or Docket No. 36732. If you have any questions, please contact Diana Wood by email at Diana.Wood@stb.gov or by phone at 202-934-0388 or Elizabeth Webster at Elizabeth.Webster@stb.gov or by phone at 202-360-0742.

WHAT HAPPENS AFTER THE COMMENT PERIOD CLOSES

Following the close of the comment period on the Draft EA, OEA will prepare a Final EA. The Final EA will address the comments received on the Draft EA, present OEA's final conclusions regarding the potential environmental impacts of the Proposed Transactions, and set forth OEA's final recommendations to the Board, including final recommended environmental mitigation measures. After the Final EA is issued, the Board will issue its final decisions on whether to authorize the Proposed Transactions. In making its final decisions, the Board will consider the entire record for each transaction, including the information presented on the transportation merits, the Draft EA, Final EA, and all public and agency comments received. If the Board decides to authorize the Proposed Transactions, the Board may impose conditions on CSXT and CPKC as part of those decisions, including environmental mitigation conditions.

OEA looks forward to receiving your comments on the Draft EA.

Sincerely,

Danielle Gosselin
Director
Office of Environmental Analysis

Summary

S.1 Introduction

Below is a summary of the analysis and major conclusions in this Draft Environmental Assessment (EA) assessing the potential environmental impacts of CSX Transportation's (CSXT) request to acquire and operate the assets comprising the rail line of Meridian & Bigbee Railroad, L.L.C. (MNBR) that runs approximately 93.7 miles between the cities of Burkville, Alabama, and Myrtlewood, Alabama, in Lowndes, Dallas, Wilcox and Marengo Counties (Eastern Line) and Canadian Pacific Kansas City Limited's (CPKC) request to acquire from MNBR and to operate approximately 50.4 miles of rail line between Meridian, Mississippi, and Myrtlewood (Western Line) (collectively, Proposed Transactions). CSXT and CPKC are collectively referred to as Applicants in this Draft EA.

S.2 Purpose and Need

According to CSXT and CPKC, the purpose of the Proposed Transactions is to create a new East-West Class I railroad connection at Myrtlewood that, along with the infrastructure upgrades planned by CSXT and CPKC, could provide a more efficient route for existing and future traffic moving between the eastern and southeastern United States and the southwestern United States and Mexico. Based on information in the two applications, and as the Surface Transportation Board (Board) noted in its decisions accepting the applications for consideration, a direct CPKC-CSXT route could offer faster transit times and more efficient and reliable service, and potentially create a new competitive alternative to existing interline routing and trucking options. For these reasons, such a route could provide both economic benefits for shippers and environmental benefits for the public. By facilitating the diversion of traffic away from congested gateways such as New Orleans, the Proposed Transactions could also improve the efficiency of operations at those existing gateways. Relatedly, the Proposed Transactions would provide redundancy in the national network and could potentially reduce the economic impact of future freight service interruptions in other areas. Shorter transit times resulting from the Proposed Transactions could also benefit shippers by lowering equipment costs and inventory carrying costs.

The proposed federal action is the Board's decision to authorize with appropriate conditions or deny the Proposed Transactions. The Proposed Transactions are not being proposed or sponsored by the federal government. Therefore, the purpose and need for the Proposed Transactions is informed by the goals of Applicants in conjunction with the Board's enabling statutes.

S.3 Proposed Transactions and Alternatives

This Draft EA analyzes two proposed federal actions, one of which is the request for the Board to authorize CSXT's acquisition and operation of the Eastern Line and the other is the

request for the Board to authorize CPKC's acquisition and operation of the Western Line. If the Board authorizes both Proposed Transactions, CSXT and CPKC would establish a direct interchange at Myrtlewood that would allow both railroads to expand shipping options for intermodal, automotive, and other traffic moving between the Southeastern United States and the Southwestern United States or Mexico. CPKC would provide overhead service on the Western Line for traffic moving between it and CSXT and would have the option to serve new local customers on the Western Line as well as provide certain other overhead service. MNBR would retain perpetual exclusive trackage rights on the Western line to continue to provide local service to existing customers at existing facilities on the Western Line as it does today, as well as to handle overhead traffic to and from AGR. MNBR would also retain non-exclusive trackage rights to handle CSXT-Norfolk Southern overhead traffic on the Western Line and, if requested by CPKC, to serve new local customers. CSXT would operate the Eastern Line, providing local and overhead operations in place of MNBR. MNBR would no longer act as an intermediary bridge carrier to move overhead traffic between CPKC in Meridian and CSXT in Montgomery.

CSXT and CPKC intend to make investments in the existing track, roadbed, bridges, safety devices, and wayside detectors on the respective lines they propose to separately acquire, which would improve safety and support higher operating speeds, double stack intermodal cars, and longer and heavier trains. However, no new rail line construction is contemplated.

The Board determined that its Office of Environmental Analysis (OEA) would prepare a single EA that covers both Proposed Transactions, as well as the CSXT-owned Burkville to Montgomery segment. According to CPKC, its acquisition of the Western Line is contingent on CSXT's acquisition of the Eastern Line, and the CPKC transaction would only proceed if CSXT's transaction is authorized by the Board. If CSXT's transaction is authorized but CPKC's transaction is not, an environmental review by OEA would not be required because projected traffic over the Eastern Line would not change and would not trip the Board's environmental thresholds.

The alternative to the Proposed Transactions is the No-Action Alternative. Under the No-Action Alternative, the Board would not authorize either of the Proposed Transactions and MNBR would continue to operate both the Eastern and Western Lines as it does today. The projected changes in rail operations that would occur under both Proposed Transactions would not take place. Rail traffic on the Eastern and Western Lines and activities at rail yards could change to support regular railroad operations or as a result of changing market conditions, such as general economic growth, but would not change as a result of the Proposed Transactions.

S.4 Draft EA and Final EA Process

The Board is the lead agency for this environmental review. OEA is responsible for conducting the environmental review process, independently analyzing environmental data, and making environmental recommendations to the Board. OEA is issuing this Draft EA for public review and comment for 30 days. Comments are due by **April 17, 2024**. OEA will consider all comments received on this Draft EA and will respond to comments in the Final EA, which will include OEA's final recommended environmental mitigation. The Board

will consider the entire record, including the Draft EA and Final EA, all comments received, OEA's recommendations, and the transportation merits in making its final decision on whether to authorize the Proposed Transactions.

S.5 Summary of Impacts

S.5.1 No Action Alternative

As noted above, under the No-Action Alternative, the Board would not authorize either of the Proposed Transactions and MNBR would continue to operate both the Eastern and Western Lines as it does today. Rail traffic on the Eastern and Western Lines and activities at rail yards could change to support regular railroad operations or as a result of changing market conditions, such as general economic growth.

S.5.2 Proposed Transactions

Because the Proposed Transactions do not contemplate the construction of new rail lines or facilities outside the existing rail right-of-way there would be fewer environmental and historic impacts than would be the case with construction on an entirely new right-of-way. As measured in gross ton miles (GTM), the increase in train traffic would exceed 100 percent on all segments if both transactions are authorized, therefore exceeding the Board's thresholds for environmental analysis. Although the number of trains-per-day would increase, neither the 8-trains-per-day nor 3-trains per-day thresholds for environmental review would be exceeded as a result of either transaction. As demonstrated in this Draft EA and **Table S-1**, the impacts of the Proposed Transactions range from no impacts to some impacts, which can be minimized with mitigation. The resources for which the Proposed Transactions would have no or *de minimis* impacts are:

- Grade Crossing Delay
- Energy
- Air Quality and Climate Change
- Vibration
- Environmental Justice
- Cumulative Impacts

The only resource area for which the Proposed Transactions would have some impacts, which can be minimized with mitigation is:

- Noise

S.6 Mitigation

OEA is recommending four mitigation measures to minimize project-related noise impacts. OEA is recommending that the Board impose all of this mitigation on any decision authorizing both Proposed Transactions. OEA will make its final recommendations on

mitigation to the Board in the Final EA after considering all public comments on this Draft EA.

S.7 Conclusion

The only environmental resource area that has the potential to be impacted is noise, and OEA concludes that the severe noise impacts identified can be minimized with the noise mitigation recommended in this Draft EA. See **Table S-1** below. OEA further concludes that the Proposed Transactions would have minimal or no impacts on all other environmental resource areas analyzed in the Draft EA, including Grade Crossing Delay, Energy, Air Quality and Climate Change, Vibration, Environmental Justice, and Cumulative Impacts.

S.8 Request for Comments

This Draft EA is available for viewing and downloading on the Board's website (www.stb.gov) by clicking "Search STB Records" near the top of the home page and then searching for "Decisions" using Docket Number "FD 36727" and/or "FD 36732." In addition, a hard copy of the Draft EA is available at the local libraries identified in **Table 1.6-1** of the Draft EA, which includes the address, telephone, website, and operating hours for each location.

OEA invites comments on all aspects of this Draft EA and will consider all timely comments received. All comments on this Draft EA must be submitted by the comment due date, within the comment period, which will close in 30 days on **April 17th, 2024**. When submitting comments on this Draft EA, OEA encourages commenters to be as specific as possible and to substantiate concerns and recommendations.

Comments on this Draft EA may be submitted electronically through the Board's website at http://www.stb.gov by clicking on the "File an Environmental Comment" link. Please refer to Docket No. FD 36727 and/or FD 36732 in all correspondence, including e-filings, addressed to the Board. Comments also may be submitted by mail, addressed to:

Diana Wood
Surface Transportation Board
Environmental Filing, Docket No. FD 36727
395 E Street SW
Washington, DC 20423

Elizabeth Webster
Surface Transportation Board
Environmental Filing, Docket No. FD 36732
395 E Street SW
Washington, DC 20423

It is not necessary to mail written comments that have been filed electronically. Please refer to Docket No. FD 36727 and/or FD 36732 in all correspondence, including all comments submitted to OEA on the Draft EA.

Table S-1 Potential Impacts and Recommended Mitigation Summary

Resource and Impact
Grade Crossing Delay
Impact Conclusion: Based on the results of OEA's analysis, delays resulting from the Proposed Transactions would be barely measurable. Level of service (LOS) would not decrease at any crossing, remaining at LOS A. While the Proposed Transactions would increase the average length of trains, train speeds are also expected to increase at most grade crossings as a result of the Proposed Transactions, which would help offset the increased train length. In these circumstances, across all 20 grade crossings in the study area with an average annual daily traffic (AADT) of 2,500 or more vehicles per day, the Proposed Transactions would result in an average increase in delay of approximately 0.3 seconds per vehicle, including emergency vehicles.
Impact Conclusion for Emergency Vehicle Delay: The Proposed Transactions would increase the chance that emergency vehicles could be delayed by trains stopped at a grade crossing. However, this represents an existing condition that would exist regardless of whether the Board authorizes the Proposed Transactions. Moreover, the delay of an emergency vehicle in a blocked crossing represents a rare and unpredictable occurrence, and Emergency Notification System signs are located at many grade crossings on the Eastern and Western Lines, which can aid law enforcement and first responders in this unlikely circumstance.
Energy
Impact Conclusion: The Proposed Transactions would beneficially impact overall energy efficiency due to the increased fuel efficiency of CSXT and CPKC locomotives compared to MNBR locomotives currently operating.
Air Quality and Climate Change
Air Quality Impact Conclusion: The Proposed Transactions may result in an overall net decrease in emissions of some air pollutants (NOX, VOC, PM10, and PM2.5) across the Eastern and Western Lines. Other pollutants (SO2, CO and GHG) are expected to see a small increase in emissions. This net decrease in emissions would be due to the improved fuel efficiency of CSXT and CPKC compared to MNBR as well as the cleaner locomotive fleets of CSXT and CPKC. Combined, these two factors result in decreased emissions on most segments when compared to the existing MNBR fleet, despite the anticipated increase in GTM on the segments.
Climate Change Impact Conclusion: OEA anticipates that climate change would affect rail operations under the Proposed Transactions. However, CSXT and CPKC have developed robust plans for responding to the potential effects of climate change on all of their lines. Moreover, greenhouse gas emissions from the Proposed Transactions would be below de minimis thresholds.

Noise and Vibration	**No-Action Alternative**	**Proposed Transactions**
Number of receptors severely affected by noise	N/A	12
Number of receptors moderately affected by noise	N/A	21

Noise Conclusion: OEA anticipates that noise from Proposed Transactions-related operations would severely impact a total of 12 noise receptors (5 on the Eastern Line and 7 on the Western Line). OEA concludes that noise impacts to these receptors would be minimized with OEA's recommended mitigation requiring building sound insulation and the other noise mitigation recommended in the Draft EA.

Vibration Conclusion: Two residences already fall within the vibration annoyance contour under the No-Action Alternative and would continue to experience similar annoyance if both Proposed Transactions are authorized.

Environmental Justice	**No-Action Alternative**	**Proposed Transactions**
Disproportionately adverse impact on minority population	No	No
Disproportionately adverse impact on low-income population	No	No

Table S-1 Potential Impacts and Recommended Mitigation Summary

Resource and Impact		
Percentage of adversely affected receptors in EJ populations census block groups	N/A	36%
Percentage of adversely affected receptors in non-EJ populations census block groups	N/A	64%

Environmental Justice Conclusion: Impacts would not be borne disproportionally by potential low-income or minority EJ populations. Based on OEA's analysis, greater than half of the block groups in which adverse noise impacts would occur were not identified as potential EJ populations (60 percent), and more than half of the receptors that would experience adverse noise impacts are not in EJ block groups (approximately 64 percent).

Cumulative Impacts

Cumulative Noise Impact Conclusion: While the Proposed Transactions could result in severe and moderate noise impacts along the Eastern and Western Lines, none of the 19 projects identified in the cumulative effects study area would substantially increase noise because the projects would only contribute short-term and temporary noise that would have no lasting effect on the noise environment or negate noise from an operating train. Therefore, noise impacts from the Proposed Transactions when added to the noise impacts of other projects in the study area would not result in cumulative impacts. The Proposed Transactions would have no or *de minimis* impacts on Grade Crossing Delay, Energy Resources, Air Quality and Climate Change, Vibration, and Environmental Justice. Therefore, the incremental effects of the Proposed Transactions when added to any past, present, or reasonably foreseeable actions would result in no measurable cumulative effects on these resources.

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Appendices

Acronyms

AADT	Annual average daily traffic
ACS	American Community Survey
AGR	Alabama & Gulf Coast Railway
Amtrak	National Passenger Railroad Corporation
ANR	Average noise reduction
APE	Area of potential effects
AQRVs	Air quality related values
AREMA	American Railway Engineering and Maintenance-of-Way Association
Board	Surface Transportation Board of the United States
BTS	Bureau of Transportation Statistics
Btu	British thermal units
CAA	Clean Air Act
CASTNET	Clean Air Status and Trends Network
CCSP	U.S. Climate Change Science Program
CEQ	Council on Environmental Quality
C.F.R.	Code of Federal Regulations
CH4	Methane
CO	Carbon monoxide
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent
Corps	U.S. Army Corps of Engineering
CPKC	Canadian Pacific Kansas City
CRCs	Comments and requests for conditions
CST	Central Standard Time
CSXT	CSX Transportation
CWA	Clean Water Act
dB	Decibel
dBA	A-weighted decibel

DOT	Department of transportation
EDR	Environmental Data Resources, Inc.
EA	Environmental Assessment
EIS	Environmental Impact Assessment
EJ	Environmental Justice
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FAQs	Frequently asked questions
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GIS	Geographic information systems
GHG	Greenhouse gas
GPS	Global positioning system
GTM	Gross ton-miles
ha	Hectare
HAPs	Hazardous air pollutants
Hazmat	Hazardous materials
HCM	Highway Capacity Manual
HPMS	Highway Performance Monitoring System
HUD	U.S. Department of Housing and Urban Development
Hz	Hertz
ICC	Interstate Commerce Commission
ICCTA	Interstate Commerce Commission Termination Act
IMPROVE	Interagency Monitoring of Protected Visual Environments
in/s	Inches per second
IPCC	Intergovernmental Panel on Climate Change
IR	Inconsistent and Responsive Applications
K-factor	Design hourly volume factors

KCS	Kansas City Southern
kg	Kilogram
Ldn	Day-night average noise levels
Leq	Energy-average noise level
L_{eq}	Level equivalent
Lmax	Maximum instantaneous A-weighted noise level
LNG	Liquid natural gas
LOS	Level of Service
omGTs	Million gross tons
MM	Mitigation measure
MMBtu	Metric million British thermal units
MNBR	Meridian & Bigbee Railroad
MOVES	Motor Vehicle Emissions Simulator
MP	Milepost
mph	Miles per hour
NAAQS	National Ambient Air Quality Standards
NCA5	Fourth National Climate Assessment
NCA5	Fifth National Climate Assessment
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
N2O	Nitrous oxide
NO2	Nitrogen dioxide
NOX	Nitrogen oxides
NOI	Notice of Intent
NRC	National Research Council
NRCS	Natural Resources Conservation Service
NS	Norfolk Southern Railway Company
NSRT	National Significant Risk Threshold
O3	Ozone
o/d	Origin/destination

OEA	Office of Environmental Analysis
OFCM	Office of the Federal Coordinator for Meteorological Services and Supporting Research
OSHA	Occupational Safety and Health Administration
PM	Particulate matter
PPV	Peak-particle velocity
PSD	Prevention of Significant Deterioration
PTC	Positive Train Control
kV	kilo-Volt
QZRI	Quiet Zone Risk Index
RA	Responsive Applications
RCP	Representative Concentration Pathway
RFP	Reasonable Further Progress
RMS	Root mean square
ROP	Rate of Progress
ROW	Right-of-way
RSIA	Rail Safety Improvement Act of 2008
RSIP	Residential Sound Insulation Program
SEL	Sound exposure level
SIP	Safety Integration Plan
SO2	Sulfur dioxide
SSM	Supplemental safety measure
SWPPP	Stormwater prevention pollution plan
TCFD	Task Force on Climate-related Financial Disclosures
TIP	Transportation improvement plan
USFWS	U.S. Fish and Wildlife Service
USDOT	U.S. Department of Transportation
v/c	Volume to capacity
VdB	Root mean square vibration velocity
VM	Voluntary measure
VMT	Vehicle miles traveled

Chapter 1
Purpose and Need

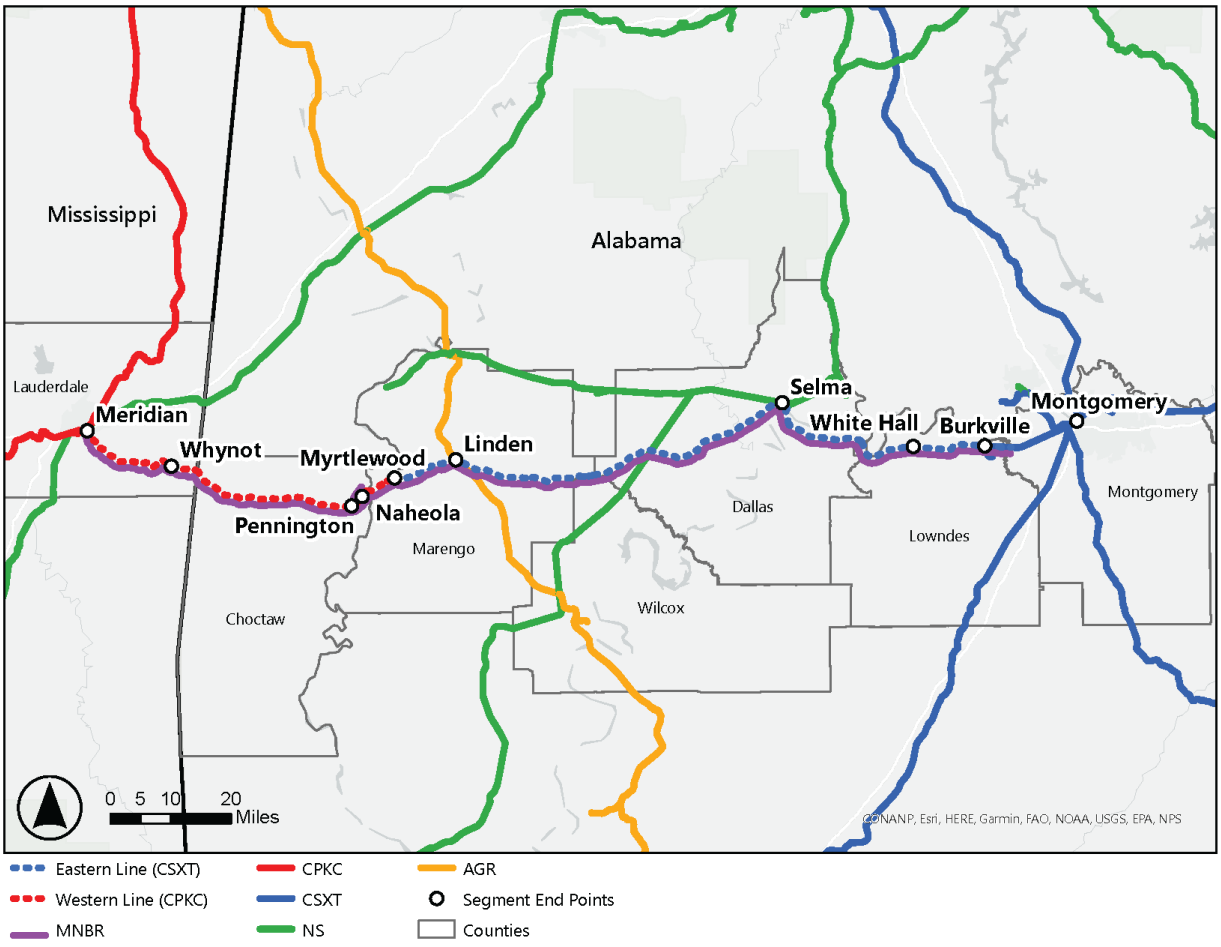
1.1 Introduction

In Docket No. FD 36727, CSX Transportation, Inc. (CSXT) filed an application under 49 U.S.C. § 11323 with the Board to acquire and operate the assets comprising the rail line of Meridian & Bigbee Railroad, L.L.C. (MNBR) that runs approximately 93.7 miles between the cities of Burkville, Alabama, and Myrtlewood, Alabama, in Lowndes, Dallas, Wilcox and Marengo Counties (Eastern Line). In Docket No. FD 36732, Canadian Pacific Kansas City Limited on behalf of itself and its wholly owned subsidiary, The Kansas City Southern Railway Company (KCS) d/b/a CPKC (CPKC) filed an application under 49 U.S.C. § 11323 with the Board on the same day to acquire from MNBR and to operate approximately 50.4 miles of rail line between Meridian, Mississippi, and Myrtlewood (Western Line) (collectively, Proposed Transactions) (See **Figure 1.1-1** Project Location Map). CSXT and CPKC are collectively referred to as Applicants in this Draft Environmental Assessment (EA).

On November 3, 2023, the Board accepted both applications for consideration in separate decisions.[1] In its decisions, the Board stated that each of the Proposed Transactions are "minor" transactions under 49 C.F.R. § 1180.2, (c). The Board stated that, for expediency and efficiency, its Office of Environmental Analysis (OEA) will prepare one EA under the National Environmental Policy Act (NEPA) (42 U.S.C. §§ 4321-4370m-11) and related environmental laws for both the CSXT and CPKC Transactions. The Board explained that these transactions involve contiguous sections of the same rail line, that CPKC and CSXT each provided volume forecasts showing exceedance of the Board's thresholds for environmental review based on the scenario in which both transactions are authorized and implemented, the environmental impacts from both transactions are otherwise expected to be very similar, and both applications were filed at the same time, allowing the environmental review of the two transactions to proceed simultaneously. Decision No. 1, FD 36727 et al., slip op. at 2-4,13; Decision No. 1, FD 36732 et al., slip op. at 2-4, 13.

[1] See CSX Transp., Inc.—Acquis. & Operation—Rail Line of Meridian & Bigbee R.R., (Decision No. 1), FD 36727 et al. (STB served Nov. 3, 2023) and Can. Pac. Kan. City Ltd.—Acquis. & Operation—Certain Rail Line of Meridian & Bigbee R.R. in Lauderdale Cnty., Miss. & Choctaw & Marengo Cntys., Ala., (Decision No. 1), FD 36732 et al. (STB served Nov. 3, 2023). The applications and decisions in these proceedings are available on the Board's website at www.stb.gov.

Figure 1.1-1. Project Location Map



Source: Alabama Open Data Portal, Mississippi GIS

Figure 1.1-1, provides a map of the Eastern and Western Lines. See *Chapter 2, Section 2.2 Proposed Transactions*, for a detailed description of the Proposed Transactions.

If the Board authorizes the Proposed Transactions, Applicants project an increase in rail traffic. On the Eastern Line, CSXT expects that existing eastbound and westbound through service (i.e., two trains, one moving in each direction) would increase from 5 days per week to 7 days per week. On the Western Line, CPKC anticipates adding one new roundtrip train per day, seven days per week (i.e., two new trains per day, one moving eastbound and the other westbound). In addition, on some segments the length of the trains would increase.[2] As measured in gross ton miles (GTM), the increase would exceed 100 percent on all segments if both transactions are authorized; therefore exceeding the Board's thresholds for environmental analysis.[3] For these reasons, OEA has prepared this Draft EA pursuant to the

[2] Rail line segments are the portions of rail lines that run between two terminals or interchange points.

[3] Gross ton miles are calculated by multiplying the total weight of loaded and empty freight cars by the number of miles moved by a train.

Board's procedures for implementing NEPA, 49 C.F.R. §§ 1105.7(e)(5)(i); 1105.10(b). This chapter describes the purpose and need for the Proposed Transactions, the Board's role in reviewing railroad acquisitions, and the Board's environmental review process.

1.2 Purpose and Need

The proposed federal actions involve two applications for Board authority under 49 U.S.C. § 11323. According to CSXT and CPKC, approval and implementation of the Proposed Transactions would create a direct interchange between CPKC and CSXT at Myrtlewood that would expand shipping options for CSXT and CPKC for intermodal, automotive, and other traffic moving between the Southeastern United States and the Southwestern United States or Mexico. The Proposed Transactions are not a federal government proposed or sponsored project. Thus, the purpose and need for the Proposed Transactions are informed by both Applicants' goals and the Board's enabling statute, the Interstate Commerce Act, as amended by the ICC Termination Act, Pub. L. No. 104-188, 109 Stat. 803 (1996). See Alaska Survival v. STB, 705 F.3d 1073, 1084-85 (9th Cir., 2013).

Based on information in the two applications, and as the Board noted in its decisions accepting the applications for consideration, the Proposed Transactions would create a new East-West Class I railroad connection at Myrtlewood that, along with the infrastructure upgrades planned by CSXT and CPKC, could provide a more efficient route for existing and future traffic moving between the eastern and southeastern United States and the southwestern United States and Mexico. A direct CPKC-CSXT route has the potential to offer faster transit times and more efficient and reliable service, and potentially create a new competitive alternative to existing interline routing and trucking options. For these reasons, such a route could provide both economic benefits for shippers and environmental benefits for the public. By facilitating the diversion of traffic away from congested gateways such as New Orleans, the Proposed Transactions could also improve the efficiency of operations at those existing gateways. Relatedly, the Proposed Transactions would provide redundancy in the national network and could potentially reduce the economic impact of future freight service interruptions in other areas. Shorter transit times resulting from the Proposed Transactions could also benefit shippers by lowering equipment costs and inventory carrying costs.

Under the Interstate Commerce Act, as amended, the Board shall approve and authorize transactions such as the Proposed Transactions unless it finds that: (1) as a result of the transactions, there is likely to be substantial lessening of competition, creation of a monopoly, or restraint of trade in freight surface transportation in any region of the United States; and (2) the anticompetitive effects of the transactions outweigh the public interest in meeting significant transportation needs. (49 U.S.C. § 11324(d)).

1.3 Role of the Board

The Board is a nonpartisan, independent federal regulatory agency, composed of five presidentially appointed members confirmed by the Senate. The Board has jurisdiction over certain rail transportation matters, including financial transactions such as railroad

acquisitions, mergers, and consolidations; new rail line construction; rail line rates and service issues; and line sales and the abandonment of rail service, as authorized by the Interstate Commerce Act, as amended by the ICC Termination Act.

The Board is reviewing the Proposed Transactions through two parallel but distinct processes: (1) the transportation-related process that examines the competitive, transportation, and economic implications of the Proposed Transactions on the national rail system, and (2) the environmental review process that is being conducted by OEA. The statute setting forth the procedures for Board review of acquisitions at 49 U.S.C. § 11325(d)(2) and the Board's implementing regulations at 49 C.F.R. § 1180.4(e) require that the Board complete both processes within 150 days after the primary applications are accepted for "minor" transactions such as these. The Board accepted Applicants' applications on November 3, 2023.

1.3.1 Review of Transportation Merits

In all its decisions, the Board is committed to advancing the national rail transportation policy goals established by Congress.

As noted above, when deciding whether to approve a transaction which does not involve the merger or control of at least two large railroads or impose conditions on such a transaction, statutory provisions at 49 U.S.C. § 11324(d) require the Board to approve such an application unless it finds that:

- As a result of the transaction, there is likely to be substantial lessening of competition, creation of a monopoly, or restraint of trade in freight surface transportation in any region of the United States; and
- The anticompetitive effects of the transaction outweigh the public interest in meeting significant transportation needs.

The Board licenses railroads as common carriers, requiring them to accept goods and materials for transport from all customers upon reasonable request (49 U.S.C. § 10101(a)). Railroads make decisions on an ongoing basis regarding which routes they will use to serve their customers in response to changes in multiple factors, including market conditions, the economy, and market demand. If a railroad simply wants to reroute its trains or update or otherwise improve a portion of its system in order to provide better service to shippers, it may do so without seeking the Board's permission; therefore, the Board does not regulate the number of trains operating over a specific section of rail line nor does it maintain control over general day-to-day railroad operations. In the case of railroad acquisitions, the Board typically does not require the railroads involved to run a specified number of trains or transport existing or new freight by any particular route. Rather, the Board typically allows railroads to expand their rail line systems by acquiring the facilities of other railroads in order to operate more efficiently and compete more effectively with trucks and other railroads.

1.3.2 Review of Environmental Impacts

NEPA requires federal agencies to assess the environmental effects of proposed actions prior to making final decisions. OEA is the office within the Board tasked with carrying out the Board's responsibilities under NEPA and related environmental laws.

Under the Board's environmental regulations, an acquisition under 49 U.S.C. § 11323 generally requires the preparation of an EA where certain thresholds would be exceeded. See 49 C.F.R. § 1105.6(b)(4). The thresholds for assessing environmental impacts from increased rail traffic on rail lines in acquisitions are an increase in rail traffic of at least 100 percent (measured in annual gross ton miles (GTM)) or an increase of at least eight trains per day (49 C.F.R. §1105.7(e)(5)).[4]

Following implementation of the Proposed Transactions, CPKC expects the addition of one new roundtrip train per day over the Western line (two trains, one in each direction) through 2029. The additional CPKC train would consist of approximately 70 cars, and would handle traffic moving between CPKC and CSXT, including diverted traffic and new traffic attracted to the Myrtlewood interchange. CPKC expects that the increase in rail traffic would exceed the GTM threshold over the Western Line. CSXT also forecasts an increase exceeding the GTM threshold over the Eastern Line should both Proposed Transactions be authorized and implemented (including over the CSXT-owned Burkville to Montgomery segment) and anticipates that eastbound and westbound through service would increase from 5 days a week to 7 days a week. CSXT states that its proposed transaction is not contingent on the CPKC proposed transaction, in that it could proceed without the CPKC proposed transaction. Should this occur, CSXT estimates that there would be no increases in rail traffic that would exceed the Board's environmental thresholds and that no environmental review of the Eastern Line would be required.

Based on Applicants' data, neither the 8-trains-per-day nor 3-trains per-day thresholds for environmental review would be exceeded as a result of either transaction. However, because there would be an increase in gross ton miles in excess of 100 percent if both transactions are authorized, the gross-ton mile threshold would be exceeded. Therefore, environmental review is required and OEA is preparing this EA assessing both Proposed Transactions, as well as the CSXT-owned Burkville to Montgomery segment, to ensure compliance with NEPA and related environmental laws in the event that the Board authorizes both transactions. See 49 C.F.R. §§ 1105.7(e)(5)(i); 1105.10(b).

1.4 NEPA Process

The environmental review process under NEPA is intended to assist the Board and the public in identifying and assessing the potential environmental consequences of a proposed action before a decision on that proposal is made. In conducting its environmental review,

[4] For rail lines located in areas that are nonattainment under the Clean Air Act (42 U.S.C. §§ 7401-7671q) (which is not the case for any segment at issue in the Proposed Transactions), the threshold for air quality analysis is an increase in rail traffic of at least 50 percent (measured in GTM annually) or an increase of at least three trains per day (49 C.F.R. § 1105.7(e)(5)(ii)).

OEA considers the NEPA requirements and the Council on Environmental Quality (CEQ) implementing regulations at 40 C.F.R. §§ 1500-1508; other related environmental laws and their implementing regulations; and the Board's environmental regulations at 49 C.F.R. § 1105. Based on the information provided by Applicants, the Board has determined that it is appropriate to prepare one EA to encompass both the CSXT and the CPKC Proposed Transactions because:

- These transactions involve contiguous segments of the same rail line;
- According to CPKC, its acquisition of the Western Line is contingent on CSXT's acquisition of the Eastern Line and its transaction would only proceed if CSXT's transaction is authorized by the Board;
- CSXT and CPKC each provided volume forecasts showing exceedance of the GTM thresholds based on the assumption that both transactions would be authorized and implemented;[5]
- The environmental impacts from both transactions are expected to be very similar; and
- Both applications were filed at the same time, allowing the environmental review of the two Proposed Transactions to proceed simultaneously.

As part of the environmental review process, OEA makes recommendations to the Board regarding measures for mitigating potential adverse environmental impacts that could occur as a result of a Board decision approving a proposed transaction. Environmental mitigation measures may include voluntary measures developed by railroad applicants and additional measures recommended by OEA. The Board encourages railroad applicants to propose voluntary mitigation. In some situations, voluntary mitigation can replace, supplement, or reach farther than mitigation measures the Board might otherwise impose. In making its final decision in a case, the Board considers OEA's conclusions regarding environmental impacts and OEA's final recommendations for mitigation as well as the transportation merits. In railroad acquisition cases, the Board can authorize the transaction as proposed; authorize the transaction with conditions, including environmental conditions to avoid or reduce potential adverse environmental impacts; or deny the transaction.

1.5 Agency and Tribal Consultation

In December 2023, OEA consulted with relevant federal, state, and local agencies, and tribes with jurisdiction or possible interest in potentially affected resources associated with the Proposed Transactions (see Agency Consultation List in Appendix A). OEA sent letters to 12 tribal contacts and 43 agency contacts, providing background information on the Proposed Transactions and explaining how to participate in the environmental review

[5] In the event that CPKC's proposed transaction is not authorized and/or implemented, but CSXT's proposed transaction is authorized and implemented, the Board's environmental thresholds would not be tripped and thus no environmental review of that stand alone transaction would be required. Under those circumstances, CSXT would still replace MNBR on the Eastern Line, and take over operations similar to MNBR's current operations, but there is no forecasted increase in rail traffic resulting from the CSXT transaction.

process. OEA provided a 30-day comment period for the agencies and tribes that were consulted to assist OEA by identifying any environmental issues and concerns, including any information on resources that may be affected by either of the Proposed Transactions. Additionally, OEA sought comments from 67 elected officials whose jurisdiction overlaps with the Proposed Transactions.

During the preparation of the Draft EA, OEA consulted with federally recognized Indian tribes, consistent with NEPA and Executive Order (EO) 13175, "Consultation and Coordination with Indian Tribal Governments." EO 13175 requires that federal agencies conduct government-to-government consultation with federally recognized Indian tribes in the development of federal policies (including regulations, legislative comments or proposed legislation, and other policy statements or actions) that have tribal implications.

OEA contacted twelve tribes that were listed in Department of Housing and Urban Development's Tribal Directory Assessment Tool for the Proposed Transactions:

- Mississippi Band of Choctaw Indians;
- Alabama-Coushatta Tribe of Texas;
- Alabama-Quassarte Tribal Town;
- Choctaw Nation of Oklahoma;
- Coushatta Tribe of Louisiana;
- Muscogee (Creek) Nation;
- Eastern Shawnee Tribe of Oklahoma;
- Cherokee Nation;
- Chickasaw Nation;
- Eastern Band of the Cherokee Indians;
- Miami Tribe of Oklahoma; and
- Quapaw Nation.

1.6 Requests for Comments and Next Steps

This Draft EA examines existing environmental conditions and potential environmental impacts associated with the Proposed Transactions and the No-Action Alternative, consistent with NEPA and other relevant environmental laws. This Draft EA will be available to the public for a 30-day comment period that ends on **April 17th**. Interested agencies, tribes, individuals, and other stakeholders are encouraged to submit detailed and substantive comments on this Draft EA during the 30-day comment period. A physical copy of the Draft EA is available for review at the local libraries and town halls identified in **Table 1.6-1** below.

Table 1.6-1. Draft EA Physical Copy Locations

Meridian-Lauderdale County Public Library 2517 7th St, Meridian, MS 39301 601-693-6771 https://meridianlauderdalecolibrary.com/ Monday through Friday: 8:30 a.m. to 5:30 p.m.; Saturday: 9:00 a.m. to 1:00 p.m.; Sunday: Closed
Town of Pennington 282 Pine Grove Rd, Pennington, AL 36916 205-654-4030 www.facebook.com/townofpenningtonalabama
Marengo County Public Library 210 Shiloh St, Linden, AL 36748 334-295-2246 Monday through Friday: 10:00 a.m. to 5:00 p.m.; Saturday and Sunday: Closed
Selma Dallas County Public Library 1103 Selma Ave, Selma, AL 36703 334-874-1725 https://www.selmalibrary.org/ Monday through Friday: 9:00 a.m. to 5:00 p.m.; Saturday: 9:00 a.m. to 1:00 p.m.; Sunday: Closed
White Hall Public Library 625 White Hall Rd, Hayneville, AL 36040 334-874-7323 https://www.facebook.com/whitehallpubliclibrayal36040/ Tuesday through Thursday: 9:30 a.m. to 3:30 p.m.; Friday through Monday: Closed
Bertha Pleasant Williams Library at Rosa L. Parks Avenue Branch 1276 Rosa L. Parks Ave, Montgomery, AL 36108 334-625-4979 https://www.mccpl.lib.al.us/Pages/Index/20306/bertha-pleasant-williams-library-rosa-parks-b Monday: 9:00 a.m. to 6:00 p.m.; Tuesday: 10 a.m. to 7 p.m.; Wednesday through Friday: 9:00 a.m. to 6:00 p.m.; Saturday and Sunday: Closed **Rufus A. Lewis Regional Branch Library** 3095 Mobile Hwy, Montgomery, AL 36108 334-625-4848 https://www.mccpl.lib.al.us/Pages/Index/20302/rufus-a-lewis-regional-library Monday: 10:00 a.m. to 7 p.m.; Tuesday through Friday: 9:00 a.m. to 6:00 p.m.; Saturday and Sunday: Closed

Interested parties are encouraged to file their written comments electronically through the Board's website, www.stb.gov, by clicking on the "File an Environmental Comment" link. Please refer to Docket No. FD 36727 and/or FD 36732 in all correspondence, including e-filings, addressed to the Board. Comments also may be submitted by mail, addressed to:

Diana Wood
Surface Transportation Board
Environmental Filing, Docket No. FD 36727
395 E Street SW
Washington, DC 20423

Elizabeth Webster
Surface Transportation Board
Environmental Filing, Docket No. FD 36732
395 E Street SW
Washington, DC 20423

It is not necessary to mail written comments that have been filed electronically. Please refer to Docket No. FD 36727 and/or FD 36732 in all correspondence, including all comments submitted to OEA on the Draft EA.

Comments on this Draft EA must be received or postmarked within the published comment period, which will close in 30 days on April 17, 2024. All comments received—mailed or e-filed—will carry equal weight in helping to complete the EA process and guide the Board in making a decision in this proceeding. If you require an accommodation under the Americans with Disabilities Act, please call (202) 245-0245.

Following the close of the comment period on the Draft EA, OEA will issue a Final EA that will consider and respond to all comments received on the Draft EA and make any modifications necessary to the existing environmental analysis. The Final EA will set forth OEA's final recommended environmental mitigation measures to the Board. The Board will then consider the entire record, including the record on the transportation merits, the Draft EA, the Final EA, all public comments received, and OEA's final recommended environmental mitigation measures (including Applicants' voluntary mitigation and OEA's final recommended mitigation) in making its final decisions in these proceedings. The Board then will determine whether to authorize the Proposed Transactions, and if so, what, if any, environmental mitigation conditions to impose.

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Chapter 2

Proposed Action and Alternatives

2.1 Overview of Existing CSXT, CPKC, and MNBR Rail Systems

2.1.1 Existing CSXT Rail System

CSXT spans approximately 20,000 miles of track and serves major population centers in 26 states east of the Mississippi River, the District of Columbia, and the Canadian provinces of Ontario and Quebec. It has access to over 70 ocean, river, and lake port terminals along the Atlantic and Gulf Coasts, the Mississippi River, the Great Lakes, and the St. Lawrence Seaway. CSXT also serves thousands of production and distribution facilities through track connections with other large Class I railroads and more than 240 short-line and regional railroads.

2.1.2 Existing CPKC Rail System

CPKC's family of operating railroads in the United States includes two Class I rail carriers, including the Kansas City Southern Railway Company (KCS), and four Class II rail carriers. CPKC operates in 22 states across the midwest, south, and northeast United States. The CPKC system also includes operations in Canada by the Canadian Pacific Railway Company (CPRC) and in Mexico by the Kansas City Southern de México, S.A. de C.V. (KCSM). Together, these railroad companies operate approximately 8,600 miles of track in the United States, which connects with approximately 7,700 miles of track that CPRC operates in Canada and approximately 3,800 miles of track that KCSM operates in Mexico.

2.1.3 Existing MNBR

MNBR is a Class III railroad subsidiary of Genesee & Wyoming Inc. (G&W) that currently operates approximately 168 miles of single track mainline with passing sidings between Meridian, Mississippi and Montgomery, Alabama, providing local and overhead services. [1]

Prior to 2003, CSXT and its predecessors owned and operated the assets comprising the Eastern Line that runs entirely in the State of Alabama between the cities of Burkville and Myrtlewood--a total of approximately 93.7 miles--in Lowndes, Dallas, Wilcox, and

[1] Overhead generally means traffic originating before and terminating beyond the line in question. See, e.g., CSX Transp.--Aban. Exemption--in Putnam & Owen Cntys., Ind., AB 55 (Sub-No. 479X) (ICC served June 5, 1995). By contrast, local traffic is traffic originating or terminating on the line.

Marengo Counties. In 2003, CSXT entered into a Land Lease Agreement with MNBR, then M&B Railroad, L.L.C., in which CSXT sold the tracks, rails, ties, ballast, other track materials, switches, crossings, bridges, culverts, crossing warning devices, and any and all improvements or fixtures affixed to the Eastern Line to MNBR. CSXT leased the real property underlying the Eastern Line to MNBR for a 20-year term and granted MNBR incidental overhead trackage rights over approximately 14 miles of CSXT trackage between the eastern end of the Eastern Line at Burkville and the City of Montgomery in Montgomery County, in order to effectuate interchange between MNBR and CSXT at CSXT's S and N Yard and Chester Yard at Montgomery. MNBR also owns approximately 50.4 route miles of track between Meridian and Myrtlewood, known as the Western Line.

MNBR provides local service to 11 customers on the Western Line between Myrtlewood and Meridian and serves local customers on the Eastern Line in Selma and White Hall up to five times per week. MNBR operates approximately one roundtrip (two trains) five days per week on the Eastern Line between Myrtlewood and Burkville and on the Western Line between Meridian and Naheola with a daily one roundtrip (two trains) yard shuttle connecting Naheola and Myrtlewood. MNBR currently interchanges traffic with its affiliate, Alabama & Gulf Coast Railway LLC (AGR), at Myrtlewood; with CPKC and Norfolk Southern Railway Company (NS) at Meridian; with NS at Selma; and with CSXT at Montgomery. AGR operates up to five roundtrips a week on the Eastern Line via trackage rights between its junction with MNBR at Linden and Myrtlewood Yard.[2] No passenger rail services operate on the Eastern and Western Lines today nor are any proposed to operate in the future.

2.2 Proposed Transactions

This Draft EA analyzes two proposed federal actions, one of which is the Board's decision as to whether to authorize CSXT's acquisition and operation of the Eastern Line and the other is whether to authorize CPKC's acquisition and operation of the Western Line. If the Board authorizes both Proposed Transactions, CSXT and CPKC would establish a direct interchange at Myrtlewood that would allow both railroads to expand shipping options for intermodal, automotive, and other traffic moving between the Southeastern United States and the Southwestern United States or Mexico. CPKC would provide overhead service on the Western Line for traffic moving between it and CSXT and would have the option to serve new local customers on the Eastern Line as well as provide certain other overhead service. MNBR would retain perpetual exclusive trackage rights on the Western line to continue to provide local service to existing customers at existing facilities on the Western Line as it does today, as well as to handle overhead traffic to and from AGR. MNBR would also retain non-exclusive trackage rights to handle CSXT-Norfolk Southern overhead traffic on the Western Line and, if requested by CPKC, to serve new local customers. CSXT

[2] AGR has concurrently filed a notice of exemption seeking Board authority to obtain trackage rights over a portion of the Eastern Line between Myrtlewood and Linden that would allow AGR to interchange with CSXT, CPKC and MNBR at Myrtlewood (FD 36724) and to obtain trackage rights over a portion of the Western Line at Myrtlewood that CPKC would obtain if the CPKC Transaction is authorized (FD 36731).

would operate the Eastern Line, providing local and overhead operations in place of MNBR.[3] MNBR would no longer act as an intermediary bridge carrier to move overhead traffic between CPKC in Meridian and CSXT in Montgomery.

CSXT and CPKC intend to make investments in the existing track, roadbed, bridges, safety devices, and wayside detectors on the respective lines they propose to separately acquire, which would improve safety and support higher operating speeds, double stack intermodal cars, and longer and heavier trains. However, no new rail line construction is contemplated.

As described in **Section 1.4** above, the Board determined that OEA would prepare a single EA that covers both Proposed Transactions, as well as the CSXT-owned Burkville to Montgomery segment. According to CPKC, its acquisition of the Western Line is contingent on CSXT's acquisition of the Eastern Line, and the CPKC transaction would only proceed if CSXT's transaction is authorized by the Board. If CSXT's transaction is authorized but CPKC's transaction is not, an environmental review by OEA would not be required because projected traffic over the Eastern Line would not change as a result of the CSXT transaction and would not trip the Board's environmental thresholds.

2.2.1 Changes in Rail Operations

Applicants filed their Operating Plans with the Board as part of their applications on October 6, 2023.[4] The Operating Plans describe how Applicants expect to operate the Eastern and Western Lines and discuss any relevant changes in patterns or types of service including projected future rail traffic, including organic growth in the No-Action Alternative. Increased rail traffic has the potential to result in environmental impacts related to noise and vibration, air quality and climate change, grade crossing delay, energy, and environmental justice. If the Board authorizes both Proposed Transactions, increases in trains per day on the Eastern and Western Lines would range from 0.57 to 2.0 additional trains per day, on average, which is below the Board's 3 or 8 train per day thresholds for environmental analysis. However, as shown in **Table 2.2-1** GTM would increase by over 100 percent on each transaction-related rail line segment (including the CSXT-owned Burkville to Montgomery segment), which exceeds the Board's thresholds for analysis (49 C.F.R. § 1105.7(e)).[5]

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[3] MNBR has filed a notice of exemption seeking Board authority for discontinuance of its incidental overhead trackage rights between Burkville and Montgomery because, if the CSXT Transaction is approved, MNBR would interchange with CSXT at Myrtlewood rather than at Montgomery (AB 1335X). No Board approval is required for MNBR's retention of trackage rights on the Western Line.

[4] The Operating Plans from both CPKC and CSXT are included as exhibits in the respective applications. On February 1, 2024, CSXT filed a letter clarifying MNBR's operations over the Eastern Line. On February 8, 2024, CPKC filed a letter clarifying MNBR's operations over the Western Line. The applications and filings in these proceedings are available on the Board's website at www.stb.gov.

[5] GTM are calculated by multiplying the total weight of loaded and empty freight cars by the number of miles moved by a train.

Trains per Day

CSXT anticipates that eastbound and westbound through service on the Eastern Line would increase from an average of 1.43 trains per day (one roundtrip (two trains) five days per week) to 2.0 trains per day (one roundtrip (two trains) seven days per week).[6] Additionally, CSXT would run an average of 1.43 local Montgomery trains per day (one roundtrip (two trains) five days per week) between Montgomery and White Hall if both Proposed Transactions are authorized. Burkville is the eastern end of the Proposed Transactions, but trains generally operate past it to Montgomery on track currently owned by CSXT. CSXT trains would replace MNBR service on the entirety of the Eastern Line. AGR would continue to operate 1.43 trains per day (one roundtrip (two trains) five days per week) on the segment between Myrtlewood and Linden to allow it to interchange with MNBR at Myrtlewood if both Proposed Transactions are authorized (**Figure 2.2-1**, **Table 2.2-1**).

CPKC expects the addition of one new roundtrip through train per day over the Western Line. MNBR would operate an average of 0.86 trains per day (one eastbound train three days per week, and one westbound train three days per week, operating on alternating days) on the Western Line between Meridian and Naheola down from an average of 1.43 trains per day (one eastbound train five days per week, and one westbound train five days per week) and 2.0 trains per day (a daily roundtrip) between Naheola and Myrtlewood.

[6] Through trains operate between principal terminals, usually with few, if any, stops to set out, pickup, or switch cars.

Figure 2.1-1. Changes in Trains per Day

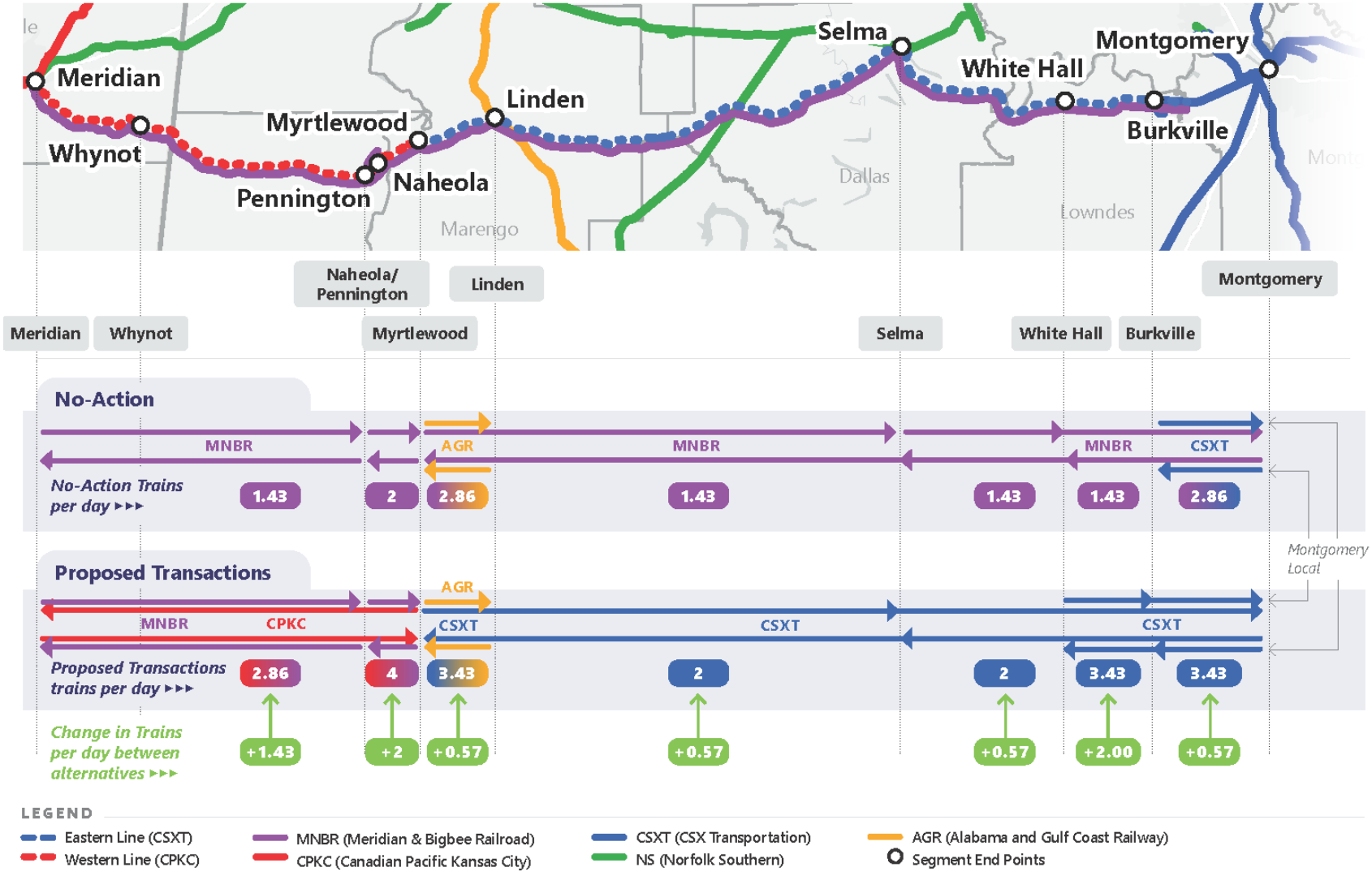


Table 2.2-1 Segments that Meet or Exceed Thresholds for Environmental Analysis

				Trains per Day			Gross Ton Miles			
Segment	**Current Owner**	**Post-Transaction Owner**	**Segment Length (Miles)**	**No-Action Trains per Day**	**2029 Post-Transaction**	**Transaction-Related Growth**	**No-Action**	**2029 Post-Transaction**	**Transaction-Related Change**	**Percent Change**
Montgomery, AL to Burkville, AL	CSXT	CSXT	14.1	2.86	3.43	0.57	55,041,268	113,234,731	58,193,463	106%
Burkville, AL to White Hall, AL	MNBR	CSXT	10.3	1.43	3.43	2	31,870,146	75,205,704	43,335,558	136%
White Hall, AL to Selma, AL	MNBR	CSXT	23.5	1.43	2.00	0.57	67,328,004	158,539,035	91,211,031	135%
Selma, AL to Linden, AL	MNBR	CSXT	50.6	1.43	2.00	0.57	121,834,051	332,733,766	210,899,715	173%
Linden, AL to Myrtlewood, AL	MNBR	CSXT	10.3	2.86	3.43	0.57	37,011,269	74,981,472	37,970,203	103%
Myrtlewood, AL to Naheola, AL	MNBR	CPKC	4.3	2	4	2	5,876,664	18,620,584	12,743,920	217%
Naheola, AL to Pennington, AL	MNBR	CPKC	2.4	1.43	2.86	1.43	4,871,539	10,603,208	5,731,669	118%
Pennington, AL to Whynot, MS	MNBR	CPKC	27.4	1.43	2.86	1.43	17,146,707	117,359,233	100,212,526	584%
Whynot, MS to Meridian, MS	MNBR	CPKC	15.5	1.43	2.86	1.43	11,146,722	64,487,885	53,341,163	479%

Gross Ton Miles

If the Board authorizes both Proposed Transactions, Applicants project that rail line traffic would increase on all eight rail line segments on the Eastern and Western Lines, as well as the CSXT-owned Burkville to Montgomery segment. CSXT forecasts an increase in GTM over its section of the MNBR line resulting from both Proposed Transactions of between 103 and 173 percent. CPKC forecasts a transaction-related increase in GTM over its section of the MNBR line of between 118 and 584 percent.

Train Length

The Proposed Transactions would result in changes to the length of trains operated on the Eastern and Western Lines if both Proposed Transactions are authorized. Existing MNBR trains that operate across the Eastern and Western Lines average approximately 5,400 feet and consist of 70 railcars and three locomotives. On the Eastern Line, CSXT anticipates that new through trains that would operate daily roundtrips would be longer and have an average length of 8,104 feet, consisting of approximately 114 cars with two locomotives. Local CSXT trains that would run between Montgomery and White Hall would be approximately 1,270 feet long consisting of 22 cars and two locomotives. There would be no change to the length (4,000 feet) and composition (60 cars and two locomotives) of AGR trains operating between Linden and Myrtlewood if both Proposed Transactions are authorized. On the Western Line, new CPKC through trains that would operate a daily roundtrip would have an average length of 5,200 feet and consist of approximately 70 railcars with two locomotives. MNBR trains that would continue to operate on the Western Line via retained trackage rights would have an average length of 2,000 feet with 30 cars and two locomotives per train. According to CPKC, because it will be handling traffic that MNBR handles on CPKC's behalf today, MNBR trains should be shorter in length as a result of the Proposed Transactions.

The train lengths shown in **Table 2.2-2** are weighted averages that reflect all pre- and-post Transactions train types operated by Applicants, MNBR, and AGR.

Train Speeds

As described previously, if both Proposed Transactions are authorized, Applicants would make improvements to the existing track and roadbed along the Eastern and Western Lines that would facilitate increased operating speeds. Currently, MNBR trains operate between 10 and 25 mph across all rail segments depending on track quality and areas with speed restrictions. If both Proposed Transactions are authorized, CSXT and CPKC through trains would operate at speeds of 25 mph across the Eastern and Western Lines (**Table 2.2-2**).

Table 2.2-2 Train Lengths and Track Speeds on MNBR Rail Line Segments

	Train Length (Average Number of Cars)		Average Number of Locomotives per Train		Train Length (Average Feet)		Train Speed (Average MPH)	
Segment	**No-Action**	**Post-Transaction**	**No-Action**	**Post-Transaction**	**No-Action**	**Post-Transaction**	**No-Action**	**Post-Transaction**
Montgomery, AL to Burkville, AL	85	79.8	2.4	2	2,500	5,505	25	25
Burkville, AL to White Hall, AL	85	79.8	3	2	5,400	5,505	21.7	25
White Hall, AL to Selma, AL	85	121	3	2	5,400	8,530	20.2	25
Selma, AL to Linden, AL	85	106	3	2	5,400	7,678	20.0	25
Linden, AL to Myrtlewood, AL	69.4	86.8	2.4	2	4,525	6,146	11.3	25
Myrtlewood, AL to Naheola, AL	85	50	3	2	5,400	3,600	8.8	22.1
Naheola, AL to Pennington, AL	85	58	3	2	5,400	4,240	10	25
Pennington, AL to Whynot, MS	85	58	3	2	5,400	4,240	24.5	25
Whynot, MS to Meridian, MS	85	58	3	2	5,400	4,240	17.3	22.1

2.2.2 Yard Operations

The Proposed Transactions would not result in a change in the number of cars handled at yards on the Eastern and Western Lines. CSXT and CPKC would interchange at Myrtlewood utilizing run-through power (the locomotives of one railroad "run through" another railroad's territory) that would not necessitate any new yard activity. Yard traffic would either experience no change or a decrease in activity at other yards including Meridian Yard and Naheola Yard on the Western Line and Selma Yard on the Eastern Line.

2.2.3 Impacts from Increased Rail Traffic

As noted above, the Board's regulations at 49 C.F.R. § 1105.7(e) establish thresholds for environmental review of Board actions that result in increased rail traffic, including acquisitions requiring Board authority. The threshold for assessing environmental impacts from increased rail traffic is generally an increase of at least eight trains per day or an increase in rail traffic of at least 100 percent (measured in GTM annually), as set forth at 49 C.F.R. § 1105.7(e)(5)(i)(a). Although the thresholds at 49 C.F.R. § 1105.7(e)(5) refer specifically to air quality and noise impacts, OEA has determined that these thresholds should also apply to grade crossing delay. In addition, 49 C.F.R. § 1105.7(e)(4) requires the

analysis of the impacts of the Proposed Transactions on transportation of energy resources, overall energy efficiency and on recyclable commodities.

OEA reviewed eight rail line segments that are part of the Proposed Transactions (**Figure 2.2-1** above) that are identified in a master segment table and figures in Appendix B. On all eight segments, the projected increase in rail traffic would exceed the Board's thresholds for environmental review based on growth in GTM (but not for the number of trains), between the Eastern Line, where CSXT proposes to acquire 93.7 miles of rail line, and the Western Line, where CPKC proposes to acquire approximately 50.4 miles of rail line. Therefore, this Draft EA includes analyses of environmental impacts along those eight rail lines. This Draft EA also includes analysis of the CSXT-owned Burkville to Montgomery segment.[7]

OEA understands that some CPKC and CSXT mainlines, including the Meridian Speedway, may also see an increase in rail traffic as result of the Proposed Transactions.[8] However, that increase would not exceed the Board's thresholds for environmental review given the low projected transaction-related increases in rail traffic and the high volume of existing rail traffic on those existing mainlines.

2.3 No-Action Alternative

In its evaluation of the Proposed Transactions in this Draft EA, OEA considered the Action Alternative -- Board approval of both Proposed Transactions (see *Section 2.2 Proposed Transactions*), and the No-Action Alternative.

Under the No-Action Alternative, the Board would not approve either of the Proposed Transactions and MNBR would continue to operate both the Eastern and Western Lines as it does today. The projected changes in rail operations that would occur under both Proposed Transactions would not take place. Rail traffic on the Eastern and Western Lines and activities at rail yards could change to support regular railroad operations or as a result of changing market conditions, such as general economic growth, but would not change as a result of the Proposed Transactions. In the master segment table and figures in **Appendix B**, the traffic levels for the No-Action Alternative are based on Applicants' forecasts for organic growth -- the growth that could occur in the absence of the Proposed Transactions.

[7] As previously noted, in the event that CPKC's proposed transaction is not authorized and/or implemented, but CSXT's proposed transaction is authorized and implemented, the Board's environmental thresholds would not be tripped, and thus no environmental review of that stand alone transaction would be required. Under those circumstances, CSXT would still replace MNBR on the Eastern Line, and take over operations similar to MNBR's current operations, but there would be no forecasted increase in rail traffic resulting from the CSXT transaction.

[8] The Meridian Speedway is a 320-mile rail line connecting Meridian, Mississippi and Shreveport, Louisiana that is a joint venture between CPKC and NS.

2.4 Comparison of Alternatives

The CEQ regulations for implementing NEPA require agencies to consider the potential environmental impacts of reasonable alternatives. To define the issues and provide a clear basis for choice among alternatives (40 C.F.R. § 1502.14), **Table 2.4-1** below compares the environmental impacts of the Proposed Transactions and the No-Action Alternative based on the information and analyses presented in **Chapter 3** of this Draft EA.

Table 2.4-1 Comparison of Alternatives

Resource and Impact
Grade Crossing Delay
Impact Conclusion: Based on the results of OEA's analysis, delays resulting from the Proposed Transactions would be barely measurable. Level of service (LOS) would not decrease at any crossing, remaining at LOS A. While the Proposed Transactions would increase the average length of trains, train speeds are also expected to increase at most grade crossings as a result of the Proposed Transactions, which would help offset the increased train length. In these circumstances, across all 20 grade crossings in the study area with an average annual daily traffic (AADT) of 2,500 or more vehicles per day, the Proposed Transactions would result in an average increase in delay of approximately 0.3 seconds per vehicle, including emergency vehicles.
Impact Conclusion for Emergency Vehicle Delay: The Proposed Transactions would increase the chance that emergency vehicles could be delayed by trains stopped at a grade crossing. However, this represents an existing condition that would exist regardless of whether the Board authorizes the Proposed Transactions. Moreover, the delay of an emergency vehicle in a blocked crossing represents a rare and unpredictable occurrence, and Emergency Notification System signs are located at many grade crossings on the Eastern and Western Lines, which can aid law enforcement and first responders in this unlikely circumstance.
Energy
Impact Conclusion: The Proposed Transactions would beneficially impact overall energy efficiency due to the increased fuel efficiency of CSXT and CPKC locomotives compared to MNBR locomotives currently operating.
Air Quality and Climate Change
Air Quality Impact Conclusion: The Proposed Transactions may result in an overall net decrease in emissions of some air pollutants (NOX, VOC, PM10, and PM2.5) across the Eastern and Western Lines. Other pollutants (SO2, CO and GHG) are expected to see a small increase in emissions. This net decrease in emissions would be due to the improved fuel efficiency of CSXT and CPKC compared to MNBR as well as the cleaner locomotive fleets of CSXT and CPKC. Combined, these two factors result in decreased emissions on most segments when compared to the existing MNBR fleet, despite the anticipated increase in GTM on the segments.
Climate Change Impact Conclusion: OEA anticipates that climate change would affect rail operations under the Proposed Transactions. However, CSXT and CPKC have developed robust plans for responding to the potential effects of climate change on all of their lines. Moreover, greenhouse gas emissions from the Proposed Transactions would be below de minimis thresholds.

Noise and Vibration	**No-Action Alternative**	**Proposed Transactions**
Number of receptors severely affected by noise	N/A	12
Number of receptors moderately affected by noise	N/A	21

Noise Conclusion: OEA anticipates that noise from Proposed Transactions-related operations would severely impact a total of 12 noise receptors (5 on the Eastern Line and 7 on the Western Line). OEA concludes that noise impacts to these receptors would be minimized with OEA's recommended mitigation requiring building sound insulation and the other noise mitigation recommended in the Draft EA.

Vibration Conclusion: Two residences already fall within the vibration annoyance contour under the No-Action Alternative and would continue to experience similar annoyance if both Proposed Transactions are authorized.

Environmental Justice	**No-Action Alternative**	**Proposed Transactions**
Disproportionately adverse impact on minority population	No	No
Disproportionately adverse impact on low-income population	No	No
Percentage of adversely affected receptors in EJ populations census block groups	N/A	36%

Table 2.4-1 Comparison of Alternatives

Resource and Impact		
Percentage of adversely affected receptors in non-EJ populations census block groups	N/A	64%

Environmental Justice Conclusion: Impacts would not be borne disproportionally by potential low-income or minority EJ populations. Based on OEA's analysis, greater than half of the block groups in which adverse noise impacts would occur were not identified as potential EJ populations (60 percent), and more than half of the receptors that would experience adverse noise impacts are not in EJ block groups (approximately 64 percent).

Cumulative Impacts

Cumulative Noise Impact Conclusion: While the Proposed Transactions could result in severe and moderate noise impacts along the Eastern and Western Lines, none of the 19 projects identified in the cumulative effects study area would substantially increase noise because the projects would only contribute short-term and temporary noise that would have no lasting effect on the noise environment or negate noise from an operating train. Therefore, noise impacts from the Proposed Transactions when added to the noise impacts of other projects in the study area would not result in cumulative impacts. The Proposed Transactions would have no or *de minimis* impacts on Grade Crossing Delay, Energy Resources, Air Quality and Climate Change, Vibration, and Environmental Justice. Therefore, the incremental effects of the Proposed Transactions when added to any past, present, or reasonably foreseeable actions would result in no measurable cumulative effects on these resources.

Chapter 3

Affected Environment and Environmental Consequences

This chapter describes the affected environment and analyzes the environmental consequences for each resource area that the Proposed Transactions (including the CSXT-owned Burkville to Montgomery segment) and No-Action Alternative could affect.[1] OEA determined the resources to analyze through thresholds set forth in the Board's environmental regulations at 49 C.F.R. § 1105.7(e) and agency and tribal consultation and comments.

OEA took the following steps to analyze each resource area:

1. Reviewed regulations and guidance relevant to each resource, which are described in applicable sections.
2. Defined a study area or study areas to analyze.
3. Developed analysis approaches.
4. Reviewed the current conditions of the resource in the relevant study area(s).
5. Analyzed the potential impacts that the Proposed Transactions and No-Action Alternative would or could have on the resource.
6. Identified mitigation that would minimize or compensate for impacts, if warranted.[2]
7. For cumulative impacts, analyzed the impacts of the Proposed Transactions when combined with impacts of other past, present, and reasonably foreseeable future projects and actions.

OEA will make its final environmental recommendations to the Board, including its final recommendations on mitigation, in the Final EA, after considering all agency and public comments on the Draft EA. The Board will consider OEA's final recommendations when deciding whether or not to authorize Applicants request for operation of the Proposed Transactions.

OEA compared all impacts of the Proposed Transactions and the No-Action Alternative. Under the No-Action Alternative, Applicants would not acquire and operate the MNBR Line and any potential beneficial or adverse impacts resulting from the Proposed Transactions would not occur. OEA identified adverse noise impacts resulting from the

[1] All references to the Proposed Transactions in this chapter include the CSXT-owned Burkville to Montgomery segment.

[2] **Chapter 4, Mitigation**, contains the complete list of mitigation measures. Each mitigation measure has a unique identifier that consists of a prefix and a number. OEA's recommended mitigation measures include the prefix MM.

Proposed Transactions, which could be minimized with the recommended noise mitigation in this Draft EA. For all other evaluated resources, OEA found that impacts would be barely measurable.

3.1 Grade Crossing Delay

This section describes the existing conditions and environmental consequences for vehicular delay at roadway/rail at-grade crossings (grade crossings) resulting from the Proposed Transactions. The subsections that follow describe the approach used to analyze the impacts, the affected environment, and the impacts of the Proposed Transactions on grade crossing delay. In assessing grade crossing delay impacts, OEA considered federal, state, and local regulatory frameworks for transportation, including the requirements of Federal Highway Administration (FHWA) and Federal Railroad Administration (FRA), which both have jurisdiction over aspects of grade crossing safety under federal law.

3.1.1 Approach

This subsection discusses OEA's approach to estimating the expected delay at grade crossings under the Proposed Transactions and the No-Action Alternative. Motorists traveling on roadways experience delay whenever passing trains temporarily block crossings. For roads with low levels of vehicular traffic, the delay that motorists experience is approximately equal to the amount of time it takes the passing train to clear the at-grade crossing, which depends on the length of the train and the speed at which it is moving. For busier roads with more vehicular traffic, delays at at-grade crossings can be made longer by the queue of vehicles waiting for the passing train to clear the crossing. The longest delays occur when a train passes through an at-grade crossing on a busy road during the hours of peak traffic. Long delays can also occur when a train stops unexpectedly due to a crash or breakdown while traversing an at-grade crossing, but such events are relatively rare.

Consistent with past practice in other acquisition proceedings and the thresholds set forth in the Board's environmental regulations at 49 C.F.R. § 1105.7(e)(5), OEA defined the study area for the grade crossing delay analysis to include all rail line segments where the Proposed Transactions would result in a projected 100 percent or greater increase in annual GTM.

To quantify changes in delay, OEA relied on rail traffic and vehicle traffic data estimates for 2024 and projected out to the analysis year 2029. A two percent annual growth rate was used to grow the Annual Average Daily Traffic (AADT) values to 2029, starting with 2024 AADT values (see **Appendix C – Grade Crossing Delay** for a more detailed approach description). OEA then compared the predicted delay at grade crossings under the Proposed Transactions to the predicted delay under the No-Action Alternative. OEA did not estimate delay at grade-separated crossings because those crossings have no potential for delay impacts. OEA did not estimate delay at private and pedestrian-only crossings because of very low traffic volumes.

Consistent with past practice, OEA quantified delay impacts for grade crossings on public roadways with an AADT of 2,500 or more vehicles per day. Most of the grade crossings in

the study area are on public roadways with an AADT of less than 2,500 vehicles per day. Because so few vehicles use those roadway crossings, the average total increase in delay at those crossings due to the increased rail traffic would be negligible. In characterizing the current and future conditions of highly trafficked grade crossings in the study area, OEA considered performance measures such as blocked crossing time per train; crossing delay per stopped vehicle; number of vehicles delayed per day; maximum vehicle queue length; average delay per vehicle in a 24-hour period; total vehicle delay per day; and level of service (LOS). LOS is a qualitative measure of motor vehicle traffic flow, indicated by letters from A to F, where A represents free flow conditions and F indicates extreme congestion. OEA calculated estimated delay time using the industry standard equations set forth in **Appendix C,** which include the following variables: AADT, train speed, train length, number of trains per day, number of railroad tracks, and number of roadway lanes.

OEA specifically considered the impact of increased delay on emergency vehicles. In doing so, OEA considered site-specific conditions, including the existing road network and the locations of nearby emergency service stations.

3.1.2 Affected Environment

OEA identified a total of 96 public grade crossings in the study area. Of these, OEA identified 20 grade crossings that have an AADT of 2,500 or more vehicles per day under future conditions in year 2029, ranging from 2,512 to 11,130 vehicles per day. That includes two crossings that do not exceed the 2,500 AADT threshold in 2024 but would do so when projected out to 2029 and therefore were included in OEA's analysis. Nine of these crossings are in Selma, Alabama; two crossings are in Selmont, Alabama; one crossing is in Linden, Alabama; five crossings are in Montgomery, Alabama; one crossing is in Pennington, Alabama; and two crossings are in Meridian, Mississippi. Sixteen of these grade crossings are in urban areas and the other four (State Route 114 in Pennington, Alabama; State Route 69 in Linden, Alabama; Mitchell Young Road in Montgomery, Alabama; and Old Selma Road in Montgomery, Alabama) are in rural areas as defined by the U.S. Census boundaries. The number of mainline tracks at the analyzed grade crossings ranged from one to two tracks and the number of highway lanes ranged from two to five lanes. The grade crossings included in the analysis were all paved roads and included crossings with passive warning devices (such as signs) and crossings with active warning devices like gates and flashing lights.

Under normal conditions, trains are moving. Railroads have operational procedures to minimize the frequency of trains stopped at crossings, including:

- Planning train schedules, inbound and outbound yard movements, and crew work schedules that minimize the time a train occupies a grade crossing.
- Modifying railcar-switching practices and operations such as stopping a train clear of a crossing to conduct legally required mechanical inspections.
- Extending sidings and constructing new ones where trains can be stationed, resulting in fewer blocked crossings.
- Holding trains outside of crossings where vehicular traffic is substantial.

- Seeking to park trains outside of crossings when the crews have worked the maximum hours permitted.
- Considering the potential for blocked crossings on sidings when trains are meeting.
- Training dispatchers to use sidings, meeting and passing opportunities, and stopping points, to reduce blocked crossings.
- Requiring Class I railroads to train crews to minimize the occurrence of blocked crossings and to cut crossings where appropriate.
- Requiring crews to alert dispatchers when crossings are blocked and giving the dispatchers the authority to address the blocked crossing.
- Using testing notification systems at crossings that notify dispatchers when crossings are blocked.

3.1.3 Environmental Consequences

Proposed Transactions

Table 3.1-1 and **Table 3.1-2** below (which are repeated as **Table C-4** and **Table C-5** in **Appendix C**) show the change in average delay per vehicle that would occur as a result of the Proposed Transactions for the 20 grade crossings on roadways with projected AADT of 2,500 vehicles per day or more. **Table C-2** in **Appendix C** shows information for all the grade crossings in the study area, including the projected increase or decrease in rail traffic, the estimated train speed and length, AADT, and the estimated time that a passing train would take to pass through the crossing under the Proposed Transactions and No-Action Alternative. It also shows the gate down time by train type, the results of the emergency vehicle alternative route analysis, and the Proposed Transactions-related increase in total vehicle delay and average delay per delayed vehicle.

Table 3.1-1. Grade Crossing Delay by State and City – 2029 No-Action Alternative

					2029 No-Action Alternative							
State/ City	**Street**	**Crossing ID**	**AADT**	**Number of Roadway Lanes**	**Trains Per Day**	**Train Speed (mph)**	**Train Length (feet)**	**Number of Stopped Vehicles Delayed Per Day**	**Average Delay per Vehicle in 24-hour Period (seconds)**	**Total Delay in 24-hour Period (minutes)**	**Level of Service**	**Maximum Queue (vehicles)**
Mississippi												
MERIDIAN	NORTH FRONTAGE RD	840837U	7949	2	1.43	17.3	5400	32.4	0.6	79.5	A	33
MERIDIAN	SOUTH FRONTAGE RD	840839H	3975	2	1.43	17.3	5400	16.2	0.6	39.8	A	16
Alabama												
LINDEN	SR 69 / US 43 / MAIN ST	350271V	5109	2	1.43	20.0	5400	18.8	0.4	34.1	A	19
MONTGOMERY	MITCHELL YOUNG RD	831350L	3107	2	2.86	25.0	2500	10.5	0.2	10.4	A	5
MONTGOMERY	OLD SELMA RD	831347D	4274	2	2.86	25.0	2500	14.4	0.2	14.2	A	7
MONTGOMERY	HUNTER LOOP RD	831346W	3674	2	2.86	25.0	2500	12.4	0.2	12.2	A	6
MONTGOMERY	WEST BLVD	831345P	10782	5	2.86	25.0	2500	36.4	0.2	35.9	A	7
MONTGOMERY	AIR BASE BLVD	831344H	9760	4	2.86	25.0	2500	33.0	0.2	32.5	A	8
PENNINGTON	SR 114	853240M	2512	2	1.43	10.0	5400	16.7	1.4	58.6	A	17
SELMA	BROAD STREET	727614W	11130	4	1.43	20.0	5400	40.9	0.5	92.8	A	21
SELMA	CHILSOM DR	350294C	3386	2	1.43	20.0	5400	12.4	0.4	22.6	A	13

Table 3.1-1. Grade Crossing Delay by State and City – 2029 No-Action Alternative

					2029 No-Action Alternative							
State/ City	**Street**	**Crossing ID**	**AADT**	**Number of Roadway Lanes**	**Trains Per Day**	**Train Speed (mph)**	**Train Length (feet)**	**Number of Stopped Vehicles Delayed Per Day**	**Average Delay per Vehicle in 24-hour Period (seconds)**	**Total Delay in 24-hour Period (minutes)**	**Level of Service**	**Maximum Queue (vehicles)**
SELMA	CHURCH STREET	727615D	7816	2	1.43	20.0	5400	28.7	0.5	65.1	A	29
SELMA	FRANKLIN STREET	727612H	4468	2	1.43	20.2	5400	16.0	0.4	29.8	A	16
SELMA	HOOPER DR	349110D	4330	2	1.43	20.0	5400	15.9	0.5	36.1	A	16
SELMA	JEFF DAVIS AVE	349105G	3897	2	1.43	20.2	5400	13.9	0.4	26.0	A	14
SELMA	LAPSLEY ST	349106N	5930	2	1.43	20.0	5400	21.8	0.5	49.4	A	22
SELMA	OLD CAHABA RD	349107V	6988	2	1.43	20.0	5400	25.7	0.5	58.2	A	26
SELMA	WATER ST	349100X	2642	2	1.43	20.2	5400	9.4	0.4	17.6	A	10
SELMONT	OLD MONTGOMERY HWY	831386U	2858	2	1.43	20.2	5400	10.2	0.4	19.1	A	10
SELMONT	SR 8 /US 80/SELMA BYPASS	903936U	8097	2	1.43	20.2	5400	28.9	0.4	54.0	A	29
Average (All 20 Grade Crossings)									0.4			

Table 3.1-2. Grade Crossing Delay by State and City – 2029 Proposed Transactions

					2029 Proposed Transactions								Change	
State/ City	Street	Crossing ID	AADT	Number of Roadway Lanes	Trains Per Day	Train Speed (mph)	Train Length (feet)	Number of Stopped Vehicles Delayed Per Day	Average Delay per Vehicle in 24-hour Period (seconds)	Total Delay in 24-hour Period (minutes)	Level of Service	Maximum Queue (vehicles)	Average Delay per Vehicle (seconds)	Level of Service
Mississippi														
MERIDIAN	NORTH FRONTAGE RD	840837U	7949	2	2.86	22.1	4240	44.2	0.6	79.5	A	22	0.0	A to A
MERIDIAN	SOUTH FRONTAGE RD	840839H	3975	2	2.86	22.1	4240	22.1	0.5	33.1	A	11	-0.1	A to A
Alabama														
LINDEN	SR 69 / US 43 / MAIN ST	350271V	5109	2	2.00	25.0	7678	29.1	0.8	68.1	A	21	0.4	A to A
MONTGOMERY	MITCHELL YOUNG RD	831350L	3107	2	3.43	25.0	5505	22.9	0.7	36.2	A	10	0.5	A to A
MONTGOMERY	OLD SELMA RD	831347D	4274	2	3.43	25.0	5505	31.6	0.7	49.9	A	13	0.5	A to A
MONTGOMERY	HUNTER LOOP RD	831346W	3674	2	3.43	25.0	5505	27.1	0.7	42.9	A	11	0.5	A to A
MONTGOMERY	WEST BLVD	831345P	10782	5	3.43	25.0	5505	79.6	0.7	125.8	A	13	0.5	A to A
MONTGOMERY	AIR BASE BLVD	831344H	9760	4	3.43	25.0	5505	72.1	0.7	113.9	A	15	0.5	A to A
PENNINGTON	SR 114	853240M	2512	2	2.86	25.0	4240	12.5	0.4	16.7	A	6	-1.0	A to A
SELMA	BROAD STREET	727614W	11130	4	2.00	25.0	7678	63.4	0.8	148.4	A	23	0.3	A to A

Table 3.1-2. Grade Crossing Delay by State and City – 2029 Proposed Transactions

					2029 Proposed Transactions								Change	
State/ City	Street	Crossing ID	AADT	Number of Roadway Lanes	Trains Per Day	Train Speed (mph)	Train Length (feet)	Number of Stopped Vehicles Delayed Per Day	Average Delay per Vehicle in 24-hour Period (seconds)	Total Delay in 24-hour Period (minutes)	Level of Service	Maximum Queue (vehicles)	Average Delay per Vehicle (seconds)	Level of Service
SELMA	CHILSOM DR	350294C	3386	2	2.00	25.0	7678	19.3	0.8	45.1	A	14	0.4	A to A
SELMA	CHURCH STREET	727615D	7816	2	2.00	25.0	7678	44.5	0.9	117.2	A	32	0.4	A to A
SELMA	FRANKLIN STREET	727612H	4468	2	2.00	25.0	8530	27.9	1.0	74.5	A	20	0.6	A to A
SELMA	HOOPER DR	349110D	4330	2	2.00	25.0	7678	24.7	0.8	57.7	A	18	0.3	A to A
SELMA	JEFF DAVIS AVE	349105G	3897	2	2.00	25.0	8530	24.4	0.9	58.5	A	18	0.5	A to A
SELMA	LAPSLEY ST	349106N	5930	2	2.00	25.0	7678	33.8	0.8	79.1	A	24	0.3	A to A
SELMA	OLD CAHABA RD	349107V	6988	2	2.00	25.0	7678	39.8	0.8	93.2	A	29	0.3	A to A
SELMA	WATER ST	349100X	2642	2	2.00	25.0	8530	16.5	0.9	39.6	A	12	0.5	A to A
SELMONT	OLD MONTGOMERY HWY	831386U	2858	2	2.00	25.0	8530	17.9	0.9	42.9	A	13	0.5	A to A
SELMONT	SR 8 /US 80/SELMA BYPASS	903936U	8097	2	2.00	25.0	8530	50.6	1.0	135.0	A	36	0.6	A to A
Average (All 20 Grade Crossings)									0.8				0.3	

Impacts to Grade Crossings

The projected 2029 motor vehicle traffic volume for the 20 grade crossings in the study area that exceed 2,500 vehicles per day under future conditions ranges from 2,512 to 11,130 vehicles per day with an average of 5,634 vehicles per day. The estimated delay per vehicle over a 24-hour period under the Proposed Transactions ranges from -1.0 to 0.6 seconds per grade crossing based on projected traffic volumes and organic train growth only. The estimated delay per vehicle under the No-Action Alternative ranges from 0.2 to 1.4 seconds per grade crossing based on projected traffic volumes only.

Across all 20 grade crossings in the study area with an AADT of 2,500 or more vehicles per day, the Proposed Transactions would result in an average increase in delay of approximately 0.3 seconds per vehicle. Average delay would be approximately 0.8 seconds per vehicle under the Proposed Transactions, compared to 0.4 seconds per vehicle under the No-Action Alternative. For two of the grade crossings (State Route 156 in Pennington, Alabama, and South Frontage Road in Meridian, Mississippi), average delay would decrease by 0.1 and 1.0 seconds per vehicle under the Proposed Transactions relative to the No-Action Alternative because of projected changes in train length and train speed. For the remaining 18 grade crossings, average delay would increase under the Proposed Transactions relative to the No-Action Alternative.

Appendix C presents the predicted number of stopped vehicles per day, average delay per delayed vehicle, average delay per vehicle in a 24-hour period, total delay in a 24-hour period, LOS, and maximum vehicle queue by grade crossing, along with the basic train, vehicle, and roadway characteristics used in the calculation of these performance measures.

Impacts to Emergency Vehicle Routes

Gate down time represents the time it would take a train to pass through a grade crossing and thus represents a reasonable estimate of the delay that emergency vehicles would experience at grade crossings. Note, many of the crossings in the study area do not have crossing gate infrastructure beyond signage. Gate down time therefore refers to time stopped, and not necessarily the time when a crossing gate would be closed. For 64 of the 96 grade crossings in the study area, average gate down time would increase as a result of the Proposed Transactions because the average length of trains would increase. **Appendix C** presents the estimated gate down time as a result of the Proposed Transactions and includes maps showing the locations of emergency service facilities, including hospitals, fire stations, and police stations, relation to grade crossings and grade separated crossings throughout the study area.

As shown in **Table 3.1-1** and **Table 3.1-2** above, the average gate down time is relatively short. As such, emergency vehicles would typically wait for the train to pass. Although a rare occurrence, a grade crossing can become blocked when a train comes to a stop before clearing the crossing. While also rare, it is possible that an emergency could occur at the same time that a stopped train blocks a grade crossing. These simultaneous events are rare but represent a potentially serious situation. Therefore, OEA analyzed 68 of the 96 grade crossings in greater detail for potential impacts of stopped trains on emergency response vehicles. These include all grade crossings in the study area with an AADT of 2,500

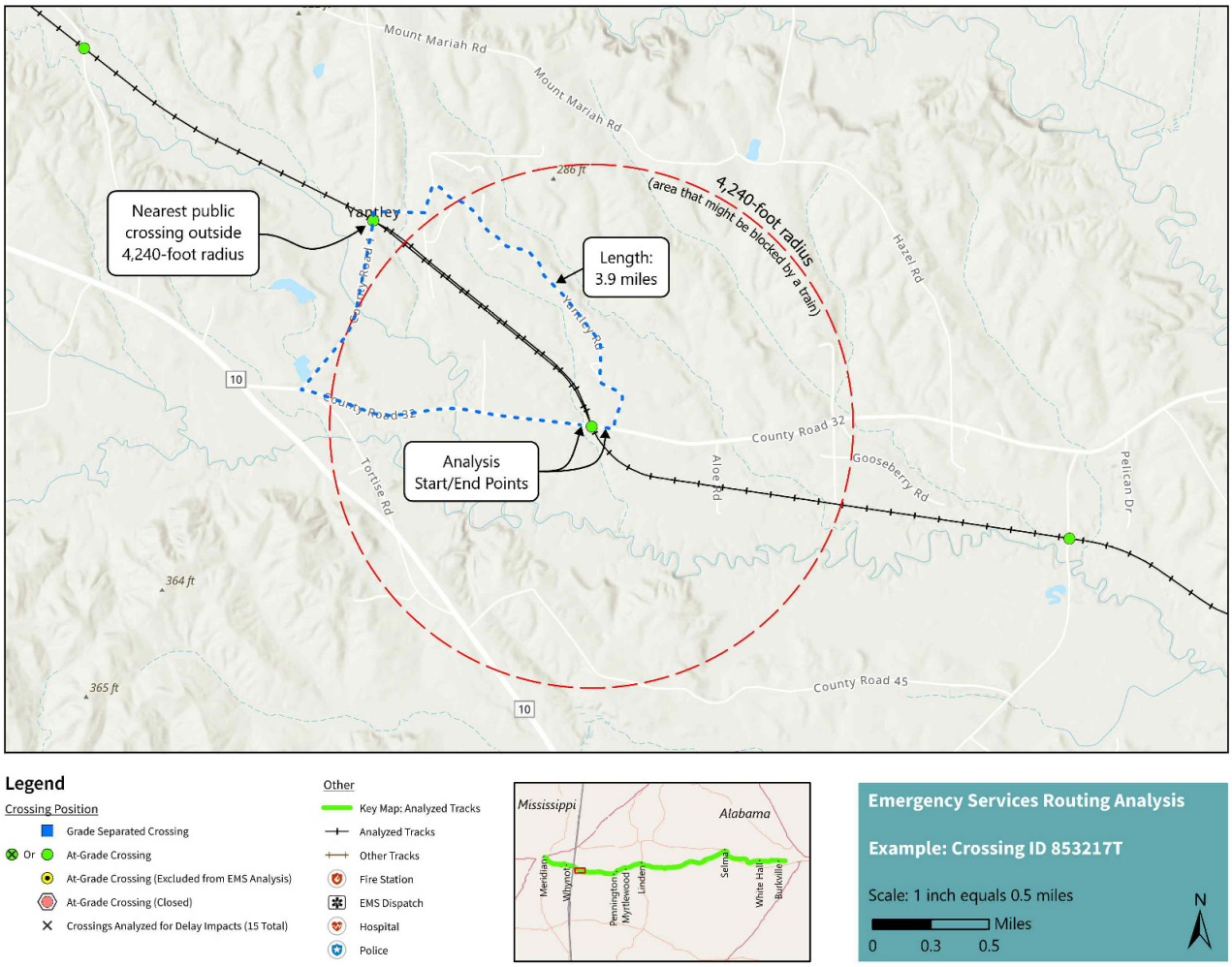
vehicles per day or greater, as well as grade crossings with an AADT less than 2,500 vehicles per day that are "isolated" because they are more than 2 miles from a grade separated crossing and more than 2 miles from a grade crossing with an AADT of 2,500 or higher. For the 68 grade crossings that met these criteria, **Appendix C** reports the length of the closest alternative route that an emergency vehicle could take in the unlikely event that a freight train were to block the grade crossing (length varies from 3,600 feet to 8,530 feet).

In identifying alternative routes, OEA made two conservative assumptions to estimate the length of the alternative route. First, vehicles arriving at the grade crossing do not know how far in each direction along the tracks the freight train extends, so this analysis assumes all adjacent crossings are blocked simultaneously within a distance equal to the maximum freight train length as measured along the tracks and extending in both directions away from the crossing. This represents approximately twice the distance a single freight train could block grade crossings. Alternative routes could be shorter for many grade crossings depending on where a train is stopped.

Second, OEA calculated the length of the alternative route as the distance from one side of the grade crossing to the opposite side of the tracks at the same grade crossing, using only grade separated crossings or crossings more than the length of a freight train away. The alternative route lengths reported in **Appendix C** represent the upper limit of the additional mileage that a vehicle would travel to go around a train blocking one or more adjacent grade crossings.

As an example, **Figure 3.1-1** depicts the alternative routes analysis procedure for Crossing ID 853217T, which crosses County Route 32 in Yantley, Alabama. The shortest alternative route to the opposite side of the tracks that could not be blocked simultaneously by the same freight train is 3.9 miles long and utilizes Crossing ID 853215E.

Figure 3.1-1. Grade Crossing Delay Analysis Procedure



Of the 68 grade crossings for which OEA conducted an alternative route analysis, 59 grade crossings have a viable alternative route and many of those alternative routes (69 percent) are less than 10 miles in length. OEA identified 18 grade crossings with alternative routes that are 10 miles or longer. Those grade crossings are located in the communities of Benton, Cromwell, Jachin, Linden, Lowndesboro, Orrville, Selma, Thomaston, and White Hall in Alabama. In the unlikely event that a train could become stopped in a position where it blocks those grade crossings, and all crossings within the length of the freight train extending either direction as measured along the tracks, for an extended period of time during an emergency, emergency services could be affected.

OEA also identified nine grade crossings under the No-Action Alternative that currently do not have a possible alternative route because they are located on or provide the only access to dead-end streets. The same nine crossings would be affected under the Proposed Transactions. Specifically, Orville, Selma, Linden, Benton, and Pennington have one such grade crossing and Thomaston and Choctaw have two each. In the unlikely event that a

train could become stopped in a position where it blocks those grade crossings for an extended period of time during an emergency situation under the Proposed Transactions, emergency vehicles could be delayed. However, it is impossible to predict where and when an emergency situation and a stopped train blocking a grade crossing might occur. Further, this represents an existing condition that would exist regardless of whether the Board authorizes the Proposed Transactions.

The presence of an alternative route and the length of any alternative route is an existing condition that would exist regardless of whether or not the Board authorizes the Proposed Transactions. Moreover, because Applicants expect that average train length would decrease at 28 percent of the grade crossings and train speeds would increase at 88 crossings and remain the same for 5 crossings as a result of the Proposed Transactions, the average amount of time that an emergency vehicle would have to wait for a train to pass would decrease at many grade crossings in the study area. However, because average rail traffic would increase, the chance that emergency vehicles could be delayed by trains would increase as a result of the Proposed Transactions. For the rare and unpredictable events that could stop a train and result in a blocked crossing, there are already Emergency Notification System signs at many of the grade crossings. The signs include a toll-free phone number to contact the railroad. FRA provides guidance and resources to law enforcement and first responders on what to do in the event of an emergency at a grade crossing, such as a stopped train. Examples include:

1. Contact the railroad responsible for the track,
2. Determine if the incident involves a trespasser or a motor vehicle, and
3. Determine if there are additional dangers such as motor vehicles on the track or hazardous cargo.

FRA recommends that law enforcement and emergency responders become familiar with the railroads operating in their jurisdiction, including the types of products regularly transported. Further, FRA recommends that emergency dispatchers develop a policy for handling railroad incidents and maintain a map of all railroads and crossings in the area.

No-Action Alternative

Under the No-Action Alternative, the Board would not authorize the Proposed Transactions. The projected increases in rail traffic on existing rail lines would not occur as a result of the Proposed Transactions. However, rail traffic could increase on rail lines and road traffic could increase at the crossings within the study area in the future due to changing market conditions, including general economic growth. Furthermore, the current track owners could also make capital improvements along their respective rail lines in the future without seeking Board authority if needed to support rail operations. Grade crossing delay could also increase under the No-Action Alternative as a result of increased road traffic if population growth occurs. Delay at grade crossings would increase under the No-Action Alternative as a result of increased rail and road traffic due to organic growth.

3.1.4 Conclusion

OEA expects, based on the results of its analysis, that delays resulting from the Proposed Transactions would be barely measurable. Under both the No-Action Alternative and the Proposed Transactions, OEA estimates an average delay of less than two seconds per vehicle per day at each of the 20 grade crossings in the study area with an AADT of 2,500 or more vehicles per day. While the Proposed Transactions would increase the average length of trains, train speeds are also expected to increase at most grade crossings as a result of the Proposed Transactions, which would help offset the impacts of the increased train length. Due to these circumstances, across all 20 grade crossings in the study area with an AADT of 2,500 or more vehicles per day, the Proposed Transactions would result in an average increase in delay of approximately 0.3 seconds per vehicle, including emergency vehicles. The Proposed Transactions could increase the chance that emergency vehicles could be delayed by trains stopped at a grade crossing. However, this represents an existing condition that would exist regardless of whether the Board authorizes the Proposed Transactions. Moreover, the delay of an emergency vehicle in a blocked crossing represents a rare and unpredictable occurrence, and as described above, Emergency Notification System signs are located at many grade crossings on the Eastern and Western Lines, which can aid law enforcement and first responders in this unlikely circumstance. Therefore, no mitigation is required.

3.2 Energy

This section describes the affected environment and potential environmental consequences for energy resources. The Board's environmental regulations at 49 C.F.R. § 1105.7(e)(4) require the analysis of impacts on the transportation of energy resources, the transportation of recyclable commodities, overall energy efficiency, and the diversion of freight traffic from rail to trucks.

3.2.1 Approach

This subsection summarizes the approach for the energy resources' analysis. OEA focused the analysis on the changes in overall energy efficiency because the Proposed Transactions would not affect the transportation of energy resources, the transportation of recyclable commodities, or the diversion of freight from rail to trucks.

The study area includes the Eastern and Western Lines on which rail traffic would increase due to the Proposed Transactions. In addition to assessing the impact on energy efficiency, OEA analyzed the effects of vehicle delay changes at roadway-rail at-grade crossings to determine impact on fuel consumption by cars and trucks waiting at grade crossings in *Section 3.3 Air Quality and Climate Change* and found it was barely measurable (i.e. results do not show within 2 decimal places).

3.2.2 Affected Environment

The affected environment encompasses the Eastern and Western Lines and the rail operations on those lines. OEA assessed both the fuel consumed by the locomotives and by the cars and trucks waiting at grade crossings.

3.2.3 Environmental Consequences

The following sections detail the impact of the Proposed Transactions and the No-Action Alternative on energy efficiency in the affected environment.

Proposed Transactions

OEA expects that the Proposed Transactions would beneficially impact overall energy efficiency. According to Applicants, the availability of single-line services from Meridian to Montgomery, where none currently exists, would lead to locomotive fuel savings. According to Applicants, compared with the No-Action Alternative, the Proposed Transactions would increase fuel efficiency from 1,027 GTM/gallon to 1,036 GTM/gallon for the Eastern Line and from 965 GTM/gallon to 1,004 GTM/gallon for the Western Lines according to information provided by Applicants in their responses to Information Request 1 (see environmental comments EI-33230 and EI-33231). These estimates are consistent with the fuel efficiency factors used in *Section 3.3, Air Quality and Climate Change*. OEA also assessed the effects of vehicle delay changes at roadway-rail at-grade crossings and found that the impact of vehicle delay changes on fuel consumption would be barely measurable.

No-Action Alternative

Under the No-Action Alternative, the Board would not authorize the Proposed Transactions, and no single-line service from Meridian to Montgomery would exist. Locomotive fuel efficiency would therefore not improve, and any change in energy efficiency would not be attributable to the Proposed Transactions.

3.2.4 Conclusion

OEA expects that the Proposed Transactions would beneficially impact overall energy efficiency and may result in an overall net decrease in emissions. Therefore, OEA does not anticipate any adverse impacts related to overall energy efficiency.

3.3 Air Quality and Climate Change

This section describes the existing conditions and environmental consequences for air quality and greenhouse gases (GHGs) under the Proposed Transactions and the No-Action Alternative. This section also describes the effects of climate change on the Proposed Transactions.

3.3.1 Air Quality

Air quality is an area of concern because air pollutants, such as emissions from locomotives, can affect human health and the environment. The Proposed Transactions would result in a projected increase in rail traffic on the Eastern and Western Lines. OEA expects that emission changes could be partially decreased in the region by truck-to-rail diversions under the Proposed Transactions.

Approach

In assessing the potential impacts of the Proposed Transactions on air quality, OEA considered the Clean Air Act (CAA), as amended; the U.S. Environmental Protection Agency (EPA) guidelines; and the Board's environmental regulations. The air quality study area includes the counties in which the projected increase in rail traffic on rail lines under the Proposed Transactions would exceed the thresholds for environmental analysis at 49 C.F.R. § 1105.7(e).

Table 3.3-1 summarizes the Board's thresholds for requiring an air quality analysis. To define the study area, OEA compared the projected levels of rail traffic on rail lines in the analysis year 2029 to these thresholds. OEA reviewed potential changes in activity levels at rail yards and found they did not meet the thresholds for analysis.

Table 3.3-1. Board Air Quality Analysis Thresholds

Activity	The Board's Threshold
Attainment Areas	
Rail line segment	An increase in rail traffic of at least 100 percent (measured in gross ton miles annually) or an increase of at least eight trains per day
Nonattainment and Class 1 Areas	
Rail line segment	An increase in rail traffic of at least 50 percent (measured in gross ton miles annually) or an increase of at least three trains per day

Source: 49 CFR 1105.7

The CAA amendments codify the approach for attainment of the National Ambient Air Quality Standards (NAAQS). The CAA requires EPA to set NAAQS (40 C.F.R. Part 50) for six criteria pollutants: carbon monoxide (CO), lead, nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and sulfur dioxide (SO_2). NAAQS standards are based on human health criteria to protect public health (primary standards), on environmental criteria to prevent environmental and property damage, and to protect public welfare (secondary standards). **Table D-1** in **Appendix D** presents the current NAAQS.

EPA classifies each county in the U.S. as being in "attainment" or "nonattainment" for each criteria pollutant. A county is in attainment for a specific pollutant when the pollutant concentration is below the NAAQs. A county is in nonattainment for a specific pollutant when the pollutant concentration exceeds the NAAQS. Some nonattainment pollutants (such as ozone, CO, and PM_{10}) are further classified by the degree to which they exceed the NAAQS. For ozone, these classifications are rank based on severity, in the order of "Marginal," "Moderate," "Serious," "Severe," and "Extreme." A county can be in

attainment for some pollutants and in nonattainment for other pollutants. A third category, "maintenance area," is an area that was formerly in nonattainment but has reduced pollutant concentrations to be in attainment of the NAAQS. EPA bases its attainment status designations on ongoing air monitoring studies and the number of times specific criteria pollutants exceed NAAQS. EPA uses a fourth category, "unclassifiable," for areas with insufficient data to make an attainment determination. EPA treats unclassifiable areas like attainment areas.

EPA uses the term de minimis across a variety of contexts to describe impacts that are too small or trivial for consideration by regulatory authorities. Under EPA's Transportation Conformity (40 C.F.R. Part 93, Subpart A) and General Conformity (40 C.F.R. Part 93, Subpart B) regulations, federal agencies compare the total estimated annual emissions from their projects to de minimis emissions thresholds to determine whether additional analysis and consultation are appropriate. The Transportation Conformity regulations pertain to highway and transit projects under the jurisdiction of the U.S. Department of Transportation and thus do not apply to Board actions. In consultation with EPA, OEA has determined that certain emissions from Board actions, such as emissions from construction activities related to the jurisdictional construction of a new line of railroad, are subject to the General Conformity regulations because those meet the definition of direct or indirect emissions set forth at 40 C.F.R. § 93.152. However, emissions related to projected increases in rail operations on rail lines resulting from Board decisions are not subject to General Conformity because the Board does not exercise continuing program responsibility over and cannot practically control rail operations on rail lines (STB 2023).[3] Accordingly, emissions from projected increases in rail traffic resulting from the Proposed Transactions are not subject to General Conformity. The Proposed Transactions are not expected to result in construction emissions and all study area counties are in attainment for all pollutants, so the de minimis thresholds were not used as part of OEA's analysis and expected changes in emissions are presented for informational purposes only.

The CAA establishes a list of federal lands with special air quality protections from major stationary sources (40 CFR Part 52 Subpart 21, 40 CFR Part 81). These areas primarily include national parks, national wilderness areas, and national monuments. The CAA divides the lands into Class I, II, or III, where restrictions on emissions are most severe in Class I areas and are progressively more lenient in Class II and III areas. Mandatory Class I areas include all national wilderness areas exceeding 5,000 acres and national parks exceeding 6,000 acres (NPS 2020). Although locomotives are a mobile source of emissions, not a major stationary source, OEA reviewed the potential for the Proposed Transactions to impact Class I areas. Specifically, OEA determined that there are no Class I areas within 100 kilometers (62 miles) of the air quality study area, and thus no effects on Class I areas are anticipated from the Proposed Transactions.

[3] Final Environmental Impact Statement (2023), Canadian Pac. Ry.–Control– Kansas City Southern, FD 36500.

Pollutant Descriptions and Effects

In the impact analysis, OEA identified pollutants to consider and summarized their effects on human health and the environment based on EPA regulations and EPA databases. **Appendix D** describes various pollutants OEA analyzed and their potential effects on human health or the environment. These descriptions include criteria pollutants, hazardous air pollutants (HAPs), and GHGs.

Emissions Inventory

OEA evaluated the environmental consequences of the Proposed Transactions by comparing predicted air emissions under the Proposed Transactions to the No-Action Alternative at the county and transaction-wide level. OEA estimated emissions for Nitrogen Oxides (NO_X), Volatile Organic Compounds (VOC), PM_{10}, $PM_{2.5}$, SO_2, CO, Carbon Dioxide Equivalent (CO_2e), Methane (CH_4), Nitrous Oxide (N_2O), and HAPs. OEA calculated CO_2e by deriving CO_2, CH_4, and N_2O emissions and applying global warming potentials (EPA 2021a).

Affected Environment

OEA characterized the affected environment in terms of the attainment status of the counties in the study area. All counties in the study area are in attainment for all NAAQS. **Table D-4** in **Appendix D** describes the counties analysis in the study area and the corresponding attainment status.

Environmental Consequences

The following subsections describe the environmental impacts of the Proposed Transactions and the No-Action Alternative.

Proposed Transactions

OEA expects that the Proposed Transactions may result in an overall net decrease in emissions of some air pollutants (NOX, VOC, PM10, and PM2.5) when measured at the transaction-wide scale. Other pollutants (SO_2, CO and GHG) are expected to see a small increase in emissions. This net decrease in emissions is due to the improved fuel efficiency of CSXT and CPKC relative to MNBR as well as the cleaner locomotive fleets of CSXT and CPKC. Combined, these two factors result in decreased emissions on most segments when compared to the existing MNBR fleet, despite the anticipated increase in gross ton mileage on the segments.

According to Applicants, emissions would decrease on the Eastern Line as MNBR would no longer operate on these segments. This would result in fuel efficiency increasing from 438 Gross Ton Miles (GTMs) per gallon to 1,036 GTMs per gallon as well as the replacement of MNBR uncontrolled and Tier 0 locomotives with the cleaner CSXT fleet largely comprised of Tier 1 and Tier 2 locomotives or better. These two factors would result in the decrease of NO_X, VOC, PM_{10}, and $PM_{2.5}$ along the segments to be acquired by CSXT.

Emissions of SO2, CO and GHG would increase on the Western Line as these segments would see slight growth in MNBR activity as well as additional activity from the CPKC fleet. The continued use of the relatively higher-emitting MNBR locomotives would reduce the benefits expected on the Eastern Line.

In all instances, SO_2, CO, and CO_2e would increase slightly on segments in which fuel usage is expected to increase. This is because the emissions of SO_2, CO, and CO_2e do not vary by EPA locomotive emissions tiers, meaning the benefit of a cleaner fleet is not recognized for these pollutants. On the segments from Selma to Montgomery, Alabama, fuel usage is expected to decrease due to the improved fuel efficiency of CSXT relative to MNBR and the more modest increases in GTMs on those segments. As such, emissions of SO_2, CO, and CO_2e would also decrease slightly on these segments.

Table 3.3-2 shows the total air emissions that would be associated with the Proposed Transactions, including locomotive emissions from increases in rail traffic as measured in gross ton miles (GTM) that exceed the Board's thresholds for analysis and emissions from increased vehicular delay at at-grade highway/rail crossings (grade crossings).

Table 3.3-2. Summary of Proposed Transactions-Wide Emissions Estimates

Pollutant	Locomotive Emissions	Grade Crossings[1]	Total Emissions[2]
Criteria Pollutants (tons/year)			
NO_X	-42.56	0.00	-42.56
VOC	-2.82	0.00	-2.82
PM_{10}	-1.82	0.00	-1.82
$PM_{2.5}$	-1.77	0.00	-1.77
SO_2	0.02	0.00	0.02
CO	6.74	0.00	6.74
Greenhouse Gases (tons/year)			
CO_2e[3]	2,592.51	0.08	2, 592.519
Hazardous Air Pollutants (tons/year)			
Acetaldehyde	-0.22	0.00	-0.22
Acrolein	-0.05	0.00	-0.05
Benzene	-0.06	0.00	-0.06
1,3-Butadiene	-0.01	0.00	-0.01
Ethyl Benzene	-0.01	0.00	-0.01
Formaldehyde	-0.63	0.00	-0.63
Napthalene	-0.01	0.00	-0.01
POM	-0.01	0.00	-0.01

Notes:

1. Grade crossing emissions results are barely measurable and do not show within 2 decimal places.
2. Numbers may not add exactly due to rounding.
3. CO_2e values were calculated using the 100-year potential global warming potential (GWP) values from the IPCC Fourth Assessment Report (IPCC 2007).

NO_X = Oxides of Nitrogen; VOC = Volatile Organic Compounds; PM_{10} = Particulate Matter 10 microns or less in diameter; $PM_{2.5}$ = Particulate Matter 2.5 microns or less in diameter; SO_2 = Sulfur Dioxide; CO = Carbon Monoxide; CO_2e = Carbon Dioxide Equivalent; POM = Polycyclic Organic Matter.

Table 3.3-3 presents the estimated county-level emissions of criteria pollutants for counties in the study area. As seen in the table, most counties are expected to see a reduction in most pollutant emissions due to improved fuel efficiency and the cleaner fleets of CSXT and CPKC. Emissions of most pollutants are expected to increase in the two counties where MNBR is expected to continue to operate. In all instances, these counties are in attainment of the NAAQS and therefore, the estimated increases of emissions would not be expected to bring them out of attainment.

Table D-7 in **Appendix D** presents the county-level HAPs emissions estimates by county. The largest increase in total HAPs emissions of 0.21 tons per year would occur in Choctaw, Alabama. This increase is primarily composed of a 0.14 tons per year increase of formaldehyde. These increases of HAPs are relatively small. By comparison, a stationary emissions source would need to either emit more than 10 tons per year of any single HAP or more than 25 tons per year of all combined HAPs to be required to obtain a Title V air quality permit (EPA 2021k).[4]

Table 3.3-3. Summary of County-Level Emissions Estimates

		Transaction-Related Emissions (tons/yr)					
State	**County**	**NO_X**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**CO**
Mississippi	Lauderdale	10.97	0.45	0.28	0.27	0.01	2.20
Alabama	Choctaw	15.00	0.61	0.38	0.37	0.01	3.04
Alabama	Marengo	-14.02	-0.84	-0.54	-0.52	0.00	0.96
Alabama	Dallas	-26.21	-1.49	-0.96	-0.93	0.00	0.73
Alabama	Lowndes	-18.01	-0.99	-0.63	-0.62	0.00	-0.07
Alabama	Wilcox	-0.57	-0.03	-0.02	-0.02	0.00	0.03
Alabama	Montgomery	-9.73	-0.53	-0.34	-0.33	0.00	-0.16

Notes:

NO_X = Nitrogen oxides; VOC = Volatile organic compounds; PM_{10} = Particulate matter 10 microns or less in diameter; $PM_{2.5}$ = Particulate Matter 2.5 microns or less in diameter; SO_2 = Sulfur dioxide; CO = Carbon monoxide; CO_2e = Carbon dioxide equivalent; O_3 = Ozone; - = De minimis threshold not applicable due to attainment status.

Truck to Rail Diversions

Applicants have indicated that the Proposed Transactions could result in some freight that is currently moved by truck to move by rail. This shift would result in a reduction in on-highway truck miles travelled, which would in turn result in a reduction of regional truck emissions. OEA notes that these reduced truck miles could occur on highways located in different counties than those in the study area. As such, any truck-to-rail diversions incurred by the Proposed Transactions could provide an additional regional reduction in emissions, but these reductions would not necessarily occur in the same locations as those presented in **Table 3.3-3**.

[4] Note that the criteria pollutant thresholds for Title V air quality permitting are generally similar to the *de minimis* thresholds.

No-Action Alternative

Under the No-Action Alternative, the Board would not authorize the Proposed Transactions. The projected increase in rail traffic on the Eastern and Western Lines would not occur as a result of the Proposed Transactions. Therefore, air emissions would not decrease along most of the rail lines in the study area as a result of the fleet and fuel efficiency improvements that would occur under the Proposed Transactions. However, rail traffic could increase in the future on rail lines in the study area under the No-Action Alternative due to changing market conditions, including general economic growth. Emissions quantifications under the No-Action Alternative are included in **Appendix D**.

Conclusion

OEA concludes that the Proposed Transactions would not significantly affect air quality and in some areas, could reduce regional emissions. The Proposed Transactions would result in increased average rail traffic on the Eastern and Western Lines. However, under the Proposed Transactions, emissions would decrease for most pollutants as a result of increased fuel efficiencies and cleaner locomotive fleets. would result in a, when compared to the No-Action Alternative.

3.3.2 Climate Change

Many factors can affect global climate change, including changes in atmospheric composition due to GHG emissions, as described in *Section 3.3.1, Air Quality*. This section describes the regional and local existing conditions, evaluates anticipated impacts of climate change in the study area, and analyzes how climate change could affect the Proposed Transactions.

Approach

OEA selected the project location region of analysis established by the *Fifth National Climate Assessment* (NCA5), which summarizes current and future impacts of climate change in the U.S. OEA defined the study area for climate change as the NCA5 Southeast region, which encompasses the Mississippi and Alabama counties where the Eastern and Western Lines are located. To assess existing climate change conditions, OEA reviewed key climate trends in the Southeast. OEA also reviewed state-level and county-level information, as well as tools such as the Climate Explorer, managed by the National Oceanic and Atmospheric Administration (NOAA).

To evaluate climate change impacts on the Proposed Transactions, OEA also reviewed the U.S. Geological Survey (USGS) National Climate Change Viewer. OEA based its analysis of predicted climate change outcomes on future scenarios often used in climate change research, called Representative Concentration Pathways (RCPs). RCPs estimate factors such as emissions, greenhouse gas concentrations, and particulate matter; various climate models use these data to predict future climate outcomes (USGCRP 2018). Specifically, OEA assessed outcomes under the RCP4.5 and RCP8.5 scenarios. The RCP4.5 is considered a lower scenario with less warming, in which lower population growth, more technological innovation, and lower carbon intensity occur (USGCRP 2018). The RCP8.5

is associated with more warming and higher population growth, less technological innovation, and higher carbon intensity (USGCRP 2018). OEA also applied the USDOT Climate Change Sensitivity Matrix (USDOT 2014) to evaluate climate change impacts on the Proposed Transactions. This tool presents the relationship between climate stressors (such as drought and extreme heat) and impacts on transportation systems, including railroads.

Finally, OEA reviewed each applicant's sustainability materials. This included CSXT's 2022 *Environmental, Social, and Governance Report*, as well as CPKC's *Climate Strategy and Corporate Sustainability Report*, and its recent commitment to develop a GHG emissions reduction target.

Affected Environment

This section summarizes recent and projected climate conditions (including temperature and precipitation trends and projections) in the NCA5 Southeast region, as well as the counties through which the Western Line and Eastern Line travel. In Mississippi, this includes Lauderdale County; in Alabama, this includes Choctaw, Marengo, Wilcox, Dallas, Lowndes, and Montgomery counties.

The Southeast has seen notable changes to temperature, precipitation, and drought in recent years (USGCRP 2023). Average and extreme high temperatures have increased, and winter temperatures have warmed (USGCRP 2023). Higher temperatures have consequently led to an increase in droughts in the region, which have worsened in severity, though not in frequency (USGCRP 2023). Relatedly, soils in both Mississippi and Alabama have become drier (EPA 2016a, 2016b). Increases have been noted, however, in heavy rain events. Furthermore, tropical storms and hurricanes are likely to strengthen wind speed and rainfall rates in coming years as the climate continues to warm (EPA 2016a, 2016b). Such changes threaten infrastructure, including railways, from flooding (EPA 2016a, 2016b). In all counties where the Eastern and Western Lines are located, the track passes through high-risk flood zones at various points (FEMA 2021). These zones are defined by the Federal Emergency Management Agency (FEMA) as "any place with a 1% chance or higher of experiencing a flood each year" (FEMA 2023). Tracks in Lauderdale County, Mississippi as well as Dallas County and Montgomery County, Alabama also pass through a regulatory floodway in addition to the 1% annual chance flood hazard zone[5].

Table 3.3-4 below includes information about projected temperature and precipitation changes in the seven counties through which the Eastern and Western Lines run.

[5] According to FEMA, "Regulatory Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

Table 3.3-4. Projected Temperature and Precipitation Changes in the Study Area under the RCP4.5 and RCP8.5 Scenarios

	Projected Temperature Change (degrees Fahrenheit)[1]	Projected Precipitation Change (inches per month)[2]
RCP4.5		
Lauderdale County (MS)	+2.51	+0.01
Choctaw County (AL)	+2.43	0.00
Marengo County (AL)	+2.42	0.00
Wilcox County (AL)	+2.36	-0.02
Dallas County (AL)	+2.38	-0.01
Lowndes County (AL)	+2.35	-0.02
Montgomery County (AL)	+2.36	-0.02
RCP8.5		
Lauderdale County (MS)	+2.73	+0.07
Choctaw County (AL)	+2.66	+0.06
Marengo County (AL)	+2.66	+0.07
Wilcox County (AL)	+2.61	+0.08
Dallas County (AL)	+2.64	+0.08
Lowndes County (AL)	+2.62	+0.10
Montgomery County (AL)	+2.63	+0.10

Source: Alder and Hostetler 2013a-g

[1] Change is the difference in mean annual temperature (measured in degrees Fahrenheit) between historical data (1981-2010) and the future climatology period from 2025-2049.

[2] Change is the difference in mean annual precipitation (measured in inches per month) between historical data (1981-2010) and the future climatology period from 2025-2049.

Industry and Applicants' Climate Change Response

CSXT's 2022 *Environmental, Social, and Governance Report* outlines its approach to address climate change in its operations and business planning processes. Specifically, CSXT has a goal of reducing GHG emissions by 37.3% by 2030, against a 2014 baseline year (CSXT 2022). To help achieve this, CSXT has improved the fuel efficiency of its locomotive fleet, making rail transportation four times more fuel efficient than trucks on average (CSXT 2022). In addition, CSXT incorporated climate-related risks into its multi-disciplinary company-wide risk management process and conducted a scenario analysis in 2020 to evaluate potential scenarios where climate change may impact operations and safety. This analysis allows CSXT to respond to and anticipate how current and future climate change effects could impact its rail infrastructure and operations.

The CPKC Climate Strategy outlines the railroad's approach to addressing climate change and incorporating adaptation measures into its business planning processes. Specifically, CPKC's goals to account for and report GHG emissions, identify and manage climate-related risks and opportunities, and evaluate emerging technologies (such as hydrogen-powered locomotives) guide its strategy to reduce its carbon footprint (Canadian Pacific 2021). CPKC's management processes, work practices, and use of innovative technology

help maintain the resiliency of its rail infrastructure and allow its network to operate safely and efficiently, according to the railroad's Corporate Sustainability Report (2020, p.32). Similar to CSXT, CPKC also uses a scenario analysis to evaluate how climate change could amplify network resiliency risks at critical points along its right-of-way. Further described below are efforts that CPKC has undertaken, specifically to address the physical risks posed by climate change. Given the increased likelihood and ongoing impacts of flooding across portions of its network, CPKC has worked to improve rail corridors, raise track, and add rip-rap stones to mitigate water erosion and flood damage in higher-risk areas. CPKC has made portions of its network more resilient to climate-related impacts through these and other infrastructure-hardening efforts. In 2020, CPKC invested over $1 billion (Canadian dollars) to renew track and roadway assets (namely rail, ties, ballast, signals, and bridges) to ensure system reliability and to respond to potential future flood events. For instance, CPKC's main rail corridor in Davenport, Iowa, experienced major flooding from the Mississippi River in 2019. As part of an emergency response, CPKC raised 3 miles of track by approximately 3 feet, successfully keeping trains operational during the highest and longest duration flood event recorded at this location. In addition, CPKC recently committed to develop a GHG emissions reduction target aligned with a 1.5 degree Celsius global warming scenario and to support the global economy in achieving net-zero emissions by 2050.

The American Railway Engineering and Maintenance-of-Way Association (AREMA), which sets industry standards and publishes recommended practices for railway infrastructure design, construction, and maintenance, also provides guidance for rail network resiliency in response to climate change. AREMA's *Climate Resilient Railroads: Vulnerability Assessment Methodologies and Solutions* (2021) recommends performance-based resilience solutions to supplement code-level design standards. The assessment recommends that railroads focus on site-specific elements (such as bridge geometries and aging infrastructure materials) that are vulnerable to climate change shocks and stresses by implementing physical improvements to mitigate future impacts to people, assets, operations, and revenue. Specifically, it recommends strategies such as flood-resistant backup power systems, flood walls and pressure slabs, and continuous waterproofing (AREMA 2021).

Environmental Consequences

This section presents the environmental consequences climate change would have on the Proposed Transactions when compared to the No-Action Alternative.

Proposed Transactions

Increased Precipitation and Flooding

OEA expects an increased risk of flooding as a result of climate change in the area where the Eastern and Western Lines are located. As described above, some portions of Eastern and Western Line track throughout all counties have a 1% annual chance of flooding. Flooding causes a serious risk to railroad infrastructure, and under the Proposed Transactions, there would potentially be impacts to bridges, tracks, ties, and ballast. Rail infrastructure in low-lying, flood-prone areas is at risk of damage from washout (USDOT 2014). Wood ties immersed in water from floodwater inundation can weaken the ties'

ability to support tracks because the water softens and expands the wood (USDOT 2014). This in turn can lead to derailments and dangerous accidents (Rossetti 2002). Flooded areas can also cause track segments to become misaligned (Palin et al. 2021). Electrical equipment is also prone to damage from flooding. Electrical shortages from flood inundation can cause rail sensor failure, as well as failures in switches, gates, and signals (Agarwal and Wickersham 2010; OFCM 2002; Rossetti 2002; FTA 2011). Floodwaters are also capable of inundating locomotive motors, causing damage that requires repair (USDOT 2014), and flash flooding can submerge track segments, making them impassable (Rossetti 2002).

Increased Heat and Extreme Drought

Alabama and Mississippi are expected to experience increased temperatures in the coming decades, which could potentially impact rail lines and supporting infrastructure in the study area. Although the number of days projected to exceed a maximum temperature of 105 degrees Fahrenheit in the 2030 decade are less than two (see **Table 3.3-5**), under extreme heat, buckling can occur (110 degrees Fahrenheit is typically the threshold), which is when the metal in the track expands beyond the capacity of its support infrastructure and kinks either vertically or horizontally (Agarwal and Wickersham 2010; OFCM 2002; Rossetti 2002, 2007; Peterson et al. 2008; U.S. CCSP 2008; Bipartisan Policy Center 2009; Zeman et al. 2009; EC 2012). This damage can increase the risk of derailment (OFCM 2002) and can require replacement of the affected track.

Table 3.3-5. Days Projected to Exceed 105 Degrees Fahrenheit in the 2030 Decade within the Study Area

County	RCP Scenario	Days Projected to Exceed Max Temp of 105 degrees Fahrenheit
Lauderdale County (MS)	RCP4.5	0.6
	RCP8.5	1.2
Choctaw County (AL)	RCP4.5	0.9
	RCP8.5	1.5
Marengo County (AL)	RCP4.5	0.9
	RCP8.5	1.6
Wilcox County (AL)	RCP4.5	1.8
	RCP8.5	1.1
Dallas County (AL)	RCP4.5	1.7
	RCP8.5	0.9
Lowndes County (AL)	RCP4.5	1.2
	RCP8.5	0.7
Montgomery County (AL)	RCP4.5	0.6
	RCP8.5	1.1

Source: NOAA 2024a-g

Extreme heat can also lead to electrical equipment (such as track sensors and signal sensors) overheating and malfunctioning; in some cases, extreme heat can lead to a temporary

disruption in cases where temperature thresholds result in an automatic shutdown (USDOT 2014). Buckled tracks and automatic shutdowns can temporarily remove rail lines from service, which reduces efficiency (USDOT 2014). High heat can also affect right-of-way maintenance workers and other staff working outdoors (FTA 2011; NJTC 2012). Heat indices above 105 degrees Fahrenheit increase health and safety risks for rail personnel, potentially leading to operational delays (OFCM 2002). Heat index values at or greater than 105 degrees Fahrenheit and ambient temperatures above 90 degrees Fahrenheit exacerbate the risk of rail expansion and increase the risk for derailment.

No-Action Alternative

Under the No-Action Alternative, the Board would not authorize the Proposed Transactions. Any changes to the affected environment of the study area resulting from climate change would occur regardless of whether or not the Board authorizes the Proposed Transactions.

Conclusion

OEA anticipates that climate change would affect rail operations under the Proposed Transactions. However, as described above under *Industry and Applicants' Climate Change Response*, Applicants have developed robust plans for responding to the potential effects of climate change on all of their rail lines. Moreover, greenhouse gas emissions from the Proposed Transactions would be below de minimis thresholds. Therefore, no mitigation is warranted for the Proposed Transactions' effect on climate change.

3.4 Noise and Vibration

This section describes the existing conditions and potential environmental consequences for noise and vibration under the Proposed Transactions and the No-Action Alternative. As detailed in this section, the Proposed Transactions would increase train traffic on the Eastern and Western Lines, which would increase noise from rail operations.

3.4.1 Approach

OEA used well-established noise and vibration methods to analyze noise and vibration impacts associated with the Proposed Transactions. **Appendix E** details these methods, as well as the applicable regulations, statutes, and guidelines that OEA followed.

OEA defined the study area for the noise and vibration analysis to be the area within approximately one-quarter mile to either side of the centerline of the Eastern and Western Lines. OEA determined that this study area distance, based on prior OEA experience of environmental reviews for rail mergers and acquisitions, is sufficient to identify potential noise and vibration impacts from the operation of the Proposed Transactions.

Noise

When describing noise conditions, OEA used the following definitions:

- **Day-night average noise level (DNL):** The energy average of A-weighted decibels (dBA) sound level over a 24-hour period; includes a 10-decibel adjustment factor for noise between 10 p.m. and 7 a.m. to account for the greater sensitivity of most people to noise during the night. The effect of nighttime adjustment is that one nighttime event, such as a train passing by between 10 p.m. and 7 a.m., is equivalent to 10 similar events during the daytime.
- **A-weighted decibels (dBA):** A measure of noise level used to compare noise levels from various sources. A-weighting approximates the frequency response of human hearing.
- **Ambient noise:** The sum of all noise (from human and naturally occurring sources) at a specific location over a specific time is called ambient noise.

The Board's regulations for noise analysis (49 C.F.R. §1105.7(e)(6)) include the following thresholds:

- An increase in noise exposure as measured by a day-night average noise level (DNL) of 3 A-weighted decibels (dBA) or more; or,
- An increase to a noise level of 65 DNL or greater.

If the estimated noise level increase at a location within the study area was either met or exceeded, OEA estimated the number of affected receptors (*e.g.*, schools, libraries, residences, retirement communities, nursing homes) and estimated the increase in noise levels. OEA evaluated the Board's two thresholds (3 dBA increase, 65 DNL) separately to determine an upper limit of potential noise impact. However, research indicates that both thresholds must be met to cause an adverse noise impact (Coate, 1999,[6] STB 1998b[7]). That is, noise levels would have to be greater than or equal to 65 DNL and increase by 3 dBA or more for an adverse noise impact to occur.[8] To further characterize the noise impacts, OEA followed FTA impact guidance, which labels noise impacts as either "severe" or "moderate." OEA further determined that the FTA impact guidance should be used to determine which receptors warrant noise mitigation. OEA has sometimes used other approaches to determine when to recommend noise mitigation. However, given the circumstances presented in this case and the fact that the FTA impact guidance is used by other federal rail-related agencies, OEA applied the FTA "severe" and "moderate" labels to determine which receptors warrant noise mitigation under the Proposed Transactions. This resulted in recommended mitigation for a total of 12 receptors (5 for CSXT and 7 for CPKC).

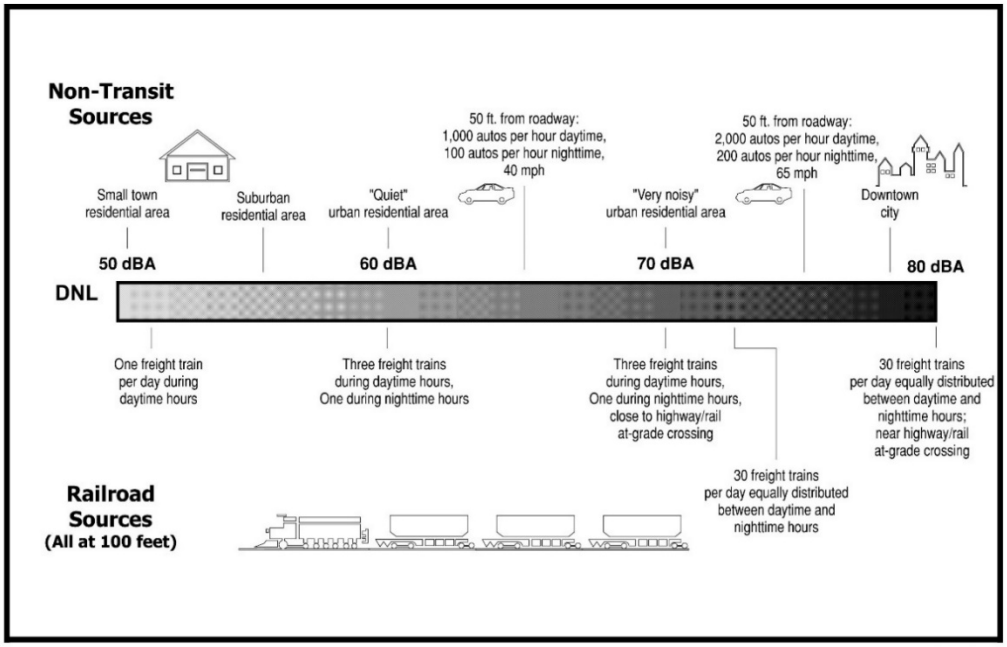
[6] Coate, D. 1999. *Annoyance Due to Locomotive Warning Horns.* Transportation Research Board Noise and Vibration Subcommittee A1FO4. August 1–4. San Diego, CA.

[7] Final Environmental Impact Statement No. 980194, (1998), CSX Corp.—Control & Operating Lease Agreements—Conrail Inc., FD 33388

[8] Although the Board's regulations at 49 C.F.R. § 1105.7(e)(6) indicate that either an increase of 3 dBA or an increase to 65 dBA Ldn would be an adverse impact, research indicates that both conditions must be met or exceeded for an adverse noise impact from rail operations to occur (Board 1998; Coate 1999).

"Noise" is considered unwanted sound. Human perception of and response to a new noise source is based in part on how loud it is compared to existing/ambient noise levels. **Figure 3.4-1** shows typical community noise levels expressed in terms of DNL.

Figure 3.4-1. Typical Noise Levels (DNL) for Residential Areas



Noise from train operations is typically comprised of two components, wayside noise and horn noise. Wayside noise is generated by the operation of the train including locomotive engine and wheel/rail sound. Horn noise is the sound of locomotive warning horns which are sounded at public grade crossings.

In accordance with 49 C.F.R. Parts 222 and 229, Use of Locomotive Horns at Highway-Rail Grade Crossings; Final Rule, FRA requires locomotive engineers to sound their train horns at public roadway/rail at-grade crossings. FRA regulations require train engineers to sound their horn for 15 to 20 seconds (not to exceed 25 seconds), using a long-long-short-long sounding pattern. Engineers may not sound the horn farther than a quarter of a mile from the crossing and must continue until the first locomotive has passed through the crossing. The horns must generate a sound level between 96 and 110 dBA (Lmax) at a distance of 100 feet in front of the locomotive.[9] Although train horns are sounded for a relatively short time compared to the time it takes for an entire freight train to pass by—often two minutes or more—horns generate substantially higher noise levels than either locomotive engine and wheel/rail noise and, consequently, generally DNL values are higher at grade crossings than at wayside locations.

Federal Transit Administration "Moderate" and "Severe" Impact Ranges

After applying the Board's noise thresholds for analysis (65 DNL and 3 dBA), OEA applied the FTA classifications of "Moderate" and "Severe" impacts. Moderate impacts serve as an

[9] Lmax is the highest sound level measured during a single noise event.

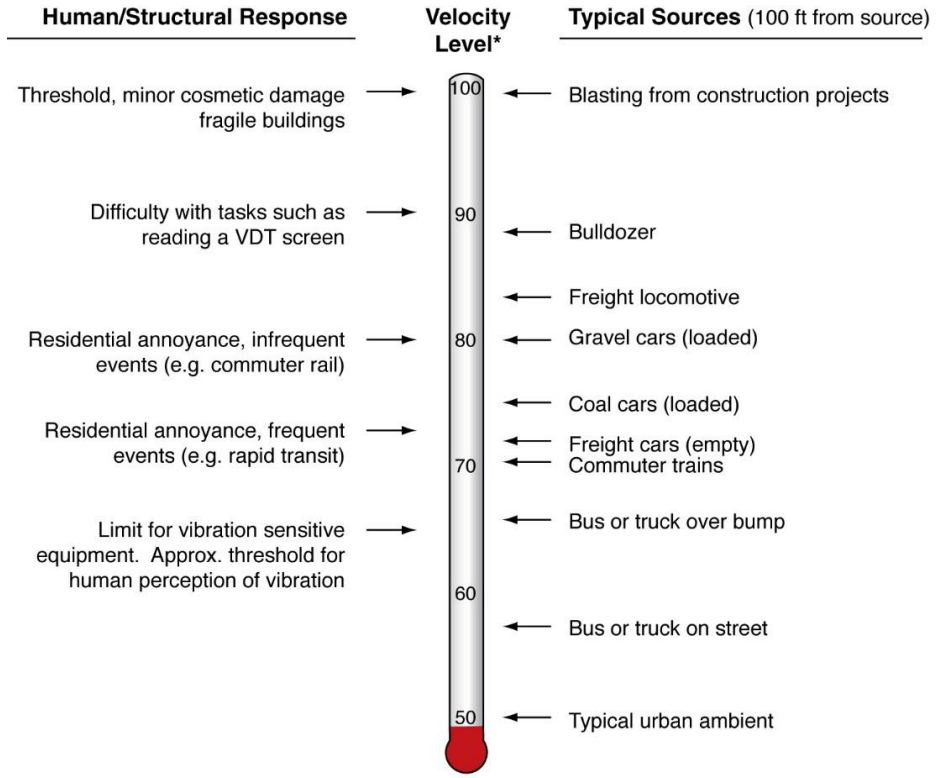
alert to project planners for potential adverse impacts and complaints from the community. Project-generated noise in the severe range is likely to cause a high level of community annoyance (FTA 2018).

FTA Category 2 land uses are those where people sleep, such as residences. Places of worship are receptors that fall into Category 3, institutional use. Because institutions like places of worship are used during the daytime, and people do not sleep there, Category 3 uses employ the daytime Leq (Level Equivalent) threshold, which is higher than the Category 2 DNL threshold. Consequently, institutional uses will have a lower noise impact compared to Category 2 land uses.

Vibration

Ground-borne vibration is the oscillatory motion of the ground around an equilibrium position. Vibration can be a concern because it can annoy people and, if it is strong enough, damage buildings and other structures. When evaluating annoyance, vibration is measured in terms of decibels with "VdB" used in place of dB to avoid confusing vibration decibels with sound decibels. With regard to annoyance, vibration as well as noise is generally evaluated for receptors because vibrations can annoy people inside buildings such as schools, residences, libraries, nursing homes, hospitals, and places of worship. When evaluating potential damage to structures, vibration is measured in terms of the peak-particle velocity (PPV) in inches per second. Building damage thresholds are much higher than human annoyance thresholds. **Figure 3.4-2** illustrates a range of vibration levels using typical sources as examples. It also includes typical human responses to thresholds and levels generated by common sources.

Figure 3.4-2. Typical Ground-Borne Vibration Levels



** RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second*

Although federal regulations do not set thresholds for ground-borne vibration from train operations, FTA's Transit Noise and Vibration Impact Assessment Manual (FTA 2018) provides guidance on evaluating and assessing potential adverse vibration effects. Consistent with past cases, OEA used this manual as a guide in its vibration analysis here.

3.4.2 Affected Environment

The Eastern and Western Lines extend from Meridian, Mississippi to Montgomery, Alabama. The affected environment along the entire MNBR rail line ranges from relatively unpopulated to densely populated such as in Selma, Alabama. Existing noise sources include existing rail traffic, vehicular traffic on local roads, and general human activity. Existing noise levels in the study area were computed (as described below) with the assumption that existing wayside and horn noise is the dominant noise source for receptors in close proximity to the rail line.

Depending on the proximity to the rail line within the study area, existing noise levels are in the "Quiet" to "Very Noisy" range of residential categories shown in **Figure 3.4-1** above.

3.4.3 Environmental Consequences

Proposed Transactions

To evaluate impacts from No-Action and Proposed Transactions-related rail operations, OEA used Computer Aided Noise Abatement (CADNA) software to model the 65 DNL noise contours within the study area for the No-Action Alternative and the Proposed Transactions.

Train operational assumptions from Applicants are shown in **Table 3.4-1** and include locomotive length, rail car length, and overall train consist length. Three 74 -foot-long locomotives for the No-Action Alternative and two 74 -foot-long locomotives for future conditions under both Proposed Transactions.[10] Rail car length is assumed to be 70 feet in both scenarios. The number of cars per train varies as described in the segment-level table below.

[10] Except for Myrtlewood to Linden and Burkville to Montgomery, which have an average of 2.4 locomotives.

Table 3.4-1. Train Operational Data, Noise Contour Distances, and Noise Level Increases

Segment	Trains Per Day Existing	Trains Per Day Future	Existing Number of Cars per Train	Future Number of Cars per Train	No-Action Speed (mph)	Proposed Transactions Speed (mph)	No-Action Wayside 65 DNL (ft)[2]	Proposed Transactions Wayside 65 DNL (ft)	Wayside Noise Delta (dB)	No-Action Horn 65 DNL (ft)	Proposed Transactions Horn 65 DNL (ft)	Horn Noise Delta (dB)
Montgomery, AL to Burkville, AL[1]	2.86	3.43	85	79.8	25.0	25	90	90	0.2	275	310	0.8
Burkville, AL to White Hall, AL	1.43	3.43	85	79.8	21.7	25	65	90	2.4	175	310	3.8
White Hall, AL to Selma, AL	1.43	2.00	85	121	20.2	25	65	70	0.4	175	215	1.5
Selma, AL to Linden, AL	1.43	2.00	85	106	20.0	25	65	70	0.4	175	215	1.5
Linden, AL to Myrtlewood, AL	2.86	3.43	69.4	86.8	11.3	25	115	95	-1.5	275	310	0.8
Myrtlewood, AL to Naheola, AL	2	4	85	50	8.8	22.1	125	95	-1.8	215	345	3.0
Naheola, AL to Pennington, AL	1.43	2.86	85	58	10.0	25	90	75	-1.3	175	275	3.0
Pennington, AL to Whynot, MS	1.43	2.86	85	58	24.5	25	60	75	1.3	175	275	3.0
Whynot, MS to Meridian, MS	1.43	2.86	85	58	17.3	22.1	70	80	0.8	175	275	3.0

[1] The Montgomery to Burkville segment is approximately 14 miles and owned by CSXT. The starting milepost is in CSXT territory, while the end is MNBR territory.
[2] Noise contour distances are rounded to the nearest 5-foot increment.

Horn noise level increases are predicted to be greater than or equal to 3 dBA for one segment on the Eastern Line and on three segments of the Western Line. The number of adversely affected receptors and their FTA classifications are provided in **Table 3.4-2** below. Overall, there are 33 receptors that would be adversely impacted by horn noise resulting from the Proposed Transactions of which 10 are on the Eastern Line and 23 are on the Western Line. Noise contour figures for all affected rail line segments are included in **Appendix E**.

Wayside noise levels would not be greater than or equal to 3 dBA on any of the Eastern and Western Line rail segments. Therefore, no adverse impacts are anticipated resulting from increases in wayside noise.

Table 3.4-2. Receptor Counts by Rail Segment for Proposed Transactions

Rail Segment	**Moderate Impact**	**Severe Impact**
Burkville, AL to White Hall, AL (Eastern Line)	Residence: 4 Place of Worship: 1	Residence: 5
Naheola, AL to Pennington, AL (Western Line)	Residence: 4	N/A
Pennington, AL to Whynot, MS (Western Line)	Residence: 6	Residence: 2
Whynot, MS to Meridian, MS (Western Line)	Residence: 6	Residence: 5
Totals	Residence: 20 Place of Worship: 1	Residence: 12

The data in **Table 3.4-2** shows that 33 receptors would be exposed to 65 DNL associated with the Proposed Transactions as well as with an increase of 3 dBA or greater. These receptors would be adversely impacted by the Proposed Transactions. Of those 33 receptors, 12 (5 for CSXT and 7 for CPKC) would experience severe noise impacts based on FTA classifications. Mitigation measure MM-Noise-01 addresses noise mitigation for receptors on the CXST and CPKC lines separately ('a' and 'b'). The other noise mitigation measures apply to both CSXT and CPKC.

To mitigate impacts to noise receptors in the "severe" category, OEA recommends the following detailed mitigation:

MM-Noise-01a. CSXT shall install appropriate building sound insulation (upgraded acoustical windows and doors) on the 5 receptors OEA identified that would experience severe noise impacts. See receptors 30 and 33-36 in Attachment 1 to **Appendix E**. CSXT shall begin implementing the required building sound insulation mitigation within one month of the Board's authorization of the CSXT transaction. Specifically, CSXT shall do the following:

- CSXT shall meet with and communicate with the residents and owners of the 5 receptors that would experience severe noise impacts to discuss implementation of the required building sound insulation.
- Using industry standard loudspeaker testing, the existing building sound insulation performance shall be determined in accordance with ASTM 966-90, *Standard Guide for Field Measurements of Airborne Sound Insulation of Building Facades and Façade Elements* by a qualified acoustics consultant. The qualifications for the acoustic consultant shall include at least 5 years of experience with major transportation noise projects, and board certification membership with the Institute of Noise Control Engineering or registration as a Professional Engineer in Mechanical Engineering or Civil Engineering.
- The design goal for the sound insulation shall be a 10 dBA noise reduction. The calculated Noise Level Reduction (NLR) improvement shall be at least 5 dBA. If the calculated NLR associated with acoustical replacement windows and doors is less than 5 dBA, no additional mitigation shall be required since the improvement would be minor and likely not noticeable. The overall goal of the required sound insulation analysis is to demonstrate that interior noise levels (under the CSXT Transaction) at severely impacted receptors would be 45 DNL or lower, and to implement sound insulation to result in an NLR improvement of 5 dBA or more, where feasible and reasonable based on the characteristics of each property. CSXT shall provide written documentation to OEA upon successful completion of the required building sound insulation to demonstrate compliance with this mitigation measure. CSXT shall also provide written documentation to OEA in the event that a homeowner declines mitigation.

MM-Noise-01b. CPKC shall install, appropriate building sound insulation (upgraded acoustical windows and doors) on the 7 receptors OEA identified that would experience severe noise impacts. See receptors 3, 6, 8, 9, 10, 14 and 19 in Attachment 1 to **Appendix E**. CPKC should begin implementing the required building sound insulation mitigation within one month of the Board's authorization of the CPKC transaction. Specifically, CPKC shall do the following:

- CPKC shall meet with and communicate with the residents and owners of the 7 receptors that would experience severe noise impacts to discuss implementation of the required building sound insulation.
- Using industry standard loudspeaker testing, the existing building sound insulation performance shall be determined in accordance with ASTM 966-90, *Standard Guide for Field Measurements of Airborne Sound Insulation of Building Facades and Façade Elements* by a qualified acoustics consultant. The qualifications for the acoustic consultant shall include at least 5 years of experience with major transportation noise projects, and board certification membership with the Institute of Noise Control Engineering or registration as a Professional Engineer in Mechanical Engineering or Civil Engineering.
- The design goal for the sound insulation shall be a 10 dBA noise reduction. The calculated Noise Level Reduction (NLR) improvement shall be at least 5 dBA. If the calculated NLR associated with acoustical replacement windows and doors is less than 5

dBA, no additional mitigation shall be required since the improvement would be minor and likely not noticeable. The overall goal of the required sound insulation analysis is to demonstrate that interior noise levels (under the CPKC Transaction) at severely impacted receptors would be 45 DNL or lower, and to implement sound insulation to result in an NLR improvement of 5 dBA or more, where feasible and reasonable based on the characteristics of each property. CPKC shall provide written documentation to OEA upon successful completion of the required building sound insulation to demonstrate compliance with this mitigation measure. CPKC shall also provide written documentation to OEA in the event that a homeowner declines mitigation.

OEA further recommends mitigation that would further reduce noise from train operations by requiring Applicants to maintain rail and rail beds, lubricate curved track where effective, and employ operating procedures— such as maintaining wheels in good working order, grinding rough rail surfaces, and regularly maintaining locomotives (**MM-Noise-02, -03, -04**).

Vibration

Vibrations caused by passing trains are generally not nearly high enough to cause damage to even the most susceptible buildings. In this case, the calculated distance to the building damage vibration level is five feet from the tracks, where no buildings are located (see **Appendix E**).

OEA also examined the potential for vibration annoyance impacts. The 80 VdB (human annoyance) vibration contour line would be 43 feet from the tracks. Two residences in the Selma area already fall within the vibration annoyance contour under the No-Action Alternative and would continue to experience similar annoyance if both Proposed Transactions are authorized. Therefore, no adverse vibration impacts as a result of the Proposed Transactions are anticipated.

No-Action Alternative

Under the No-Action Alternative, in which the Board does not authorize either of the Proposed Transactions, no receptors would be adversely impacted by either wayside or horn noise. The No-Action Alternative assumes that CSXT would renew MNBR's lease of the assets comprising the Eastern Line, and that MNBR would continue to operate as it did under the previous lease. The projected changes in rail operations that would occur under the Proposed Transactions would not take place under the No-Action Alternative. However, rail traffic on the Eastern and Western Lines and activities at rail yards could change to support regular railroad operations or because of changing market conditions, such as general economic growth, but would not change due to the Proposed Transactions. As noted above, two residences currently fall within the vibration annoyance contour under the No-Action Alternative, which is an existing condition. Therefore, no new adverse noise impacts are anticipated under the No-Action Alternative.

3.4.4 Conclusion

OEA anticipates that severe noise impacts from rail operations would be mitigated by the noise mitigation measures recommended by OEA. OEA anticipates that noise from Proposed Transactions-related operations would severely impact a total of 12 noise receptors (5 on the Eastern Line and 7 on the Western Line). OEA concludes that noise impacts to these receptors would be minimized with building sound insultation and the other noise mitigation recommended by OEA (**MM-Noise-01a & b, -02, -03, -04**). Two residences in the Selma area already fall within the vibration annoyance contour under the No-Action Alternative and would continue to experience similar annoyance if both Proposed Transactions are authorized. Therefore, no adverse vibration impacts are anticipated under the Proposed Transactions.

3.5 Environmental Justice

Executive Order (EO) 14096, "Revitalizing Our Nation's Commitment to Environmental Justice for All," dated April 21, 2023 (88 FR 25251), defines Environmental Justice (EJ) as "the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment" (The White House 2023). This section describes the process that OEA used to identify potential EJ populations (that is, low-income populations and minority populations, including American Indians)[11] within the study area described in *Section 3.5.1* to document potential adverse human health and environmental effects from the Proposed Transactions, and evaluate whether any adverse effects would disproportionately impact EJ populations.

Prior to EO 14096, the primary policy governing the consideration of EJ effects in NEPA documents was EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (1994), which directed federal agencies to "identify and address the disproportionately high and adverse human health and environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law" (EPA 2023a). Per an accompanying Presidential Memorandum to EO 12898, NEPA reviews must include an analysis of effects on minority populations and low-income populations (The White House 1994b). In 1997, CEQ issued guidance for agencies on addressing EJ in the NEPA process (CEQ 1997). The consideration, prioritization, and advancement of EJ is also emphasized in EO 13985, "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government" (2021a), EO 13990, "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis" (2021b), and EO 14008, "Tackling the Climate Crisis at Home and Abroad" (2021c).

[11] The U.S. Census refers to American Indian as "A person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment."

EO 14096 further direct agencies to take a hard look at potential adverse human health and environmental effects to EJ communities by requiring the identification and analysis of these effects regardless of their degree of impact, i.e., the previous analysis threshold of "high" adverse impacts has been eliminated.

Furthermore, if it is determined that a project with adverse impacts would disproportionately affect EJ populations, NEPA reviews should also consider any pre-existing EJ concerns (i.e., "stressors" that can increase susceptibility to negative health effects from exposure) or disparities among the identified EJ populations subject to adverse impacts (CEQ 1997). Consistent with EPA's "Technical Guidance for Assessing Environmental Justice in Regulatory Analysis" (2016), the analysis should consider relevant data concerning the potential for multiple or cumulative exposure to human health or environmental hazards in the potentially affected EJ populations and any historical patterns of exposure to environmental hazards.

3.5.1 Approach

OEA applied the following steps to evaluate the potential for the Proposed Transactions to cause disproportionately adverse impacts on EJ populations:

- OEA identified all potentially adverse impacts of the Proposed Transactions.
- Based on the identified adverse impacts, OEA defined the study area within which the Proposed Transactions could adversely affect potential EJ populations (see **Appendix F** for an explanation of the term "potential EJ populations").
- OEA identified potential EJ populations (low-income and minority populations, including American Indians) in the study area using the best available demographic data managed by the U.S. Census Bureau and the U.S. Department of Housing and Urban Development (HUD), as well as through public outreach. OEA also used U.S. Census data to reach out to potential populations with high rates of limited English-speaking households.
- OEA engaged the potential EJ populations through outreach to their local elected officials. The purpose of this outreach was to make sure the elected officials were familiar with the Proposed Transactions, to inform them of the environmental review process, and to collect information on their concerns about the potential impacts of the Proposed Transactions. OEA also identified households that needed English-language assistance. Identifying potential populations in the study area with limited English proficiency allowed OEA to facilitate meaningful engagement and informed participation, and to determine where interpretation and translation services might be necessary.
- OEA evaluated whether the Proposed Transactions or No-Action Alternative would result in disproportionately adverse impacts on potential EJ populations.

Based on the assessment of the potential environmental impacts of the Proposed Transactions, OEA determined that noise from the projected increased rail traffic would be the only impact that could potentially result in adverse impacts on EJ populations. As discussed in *Section 3.4, Noise and Vibration*, OEA found that within the noise study area, 33 noise-sensitive receptors, including 32 residences and 1 place of worship, would

experience an adverse noise impact under the Proposed Transactions. As discussed in *Section 2.2, Proposed Transactions*, the Proposed Transactions do not include new rail line construction.

Other than noise from increased rail traffic, there would be no other resource area impacts that would warrant an evaluation of disproportionately adverse human health or environmental effects of the Proposed Transactions on EJ populations.

OEA defined an EJ study area to include the area in which OEA identified adverse noise impacts, as described in *Section 3.4, Noise and Vibration*. The analysis of noise impacts on EJ populations considered all potential adverse noise impacts, including whether the impact would be classified by FTA as "Moderate" or "Severe" as described in *Section 3.4*. To assess whether adverse noise impacts would disproportionately affect potential EJ populations, OEA conducted an analysis of U.S. Census Bureau data from the American Community Survey (ACS) 2022 Five-Year Estimates (2018-2022) to determine whether each intersecting Census block group had the potential to include an EJ population.[12]

OEA used ACS data on minority status to determine whether each block group in the study area could include minority populations. In this context, minority status means that an individual identified themselves on the U.S. Census as "Black or African American alone," "American Indian and Alaska Native alone," "Asian alone," "Native Hawaiian and Other Pacific Islander alone," "Some Other Race alone" (non-white), and/or "Hispanic or Latino." Consistent with EPA guidance and OEA's practice in past railroad acquisition proceedings, OEA identified a block group as potentially containing minority populations when one or both of the following conditions was met:

- At least 50 percent of the people in the block group self-identify as being of minority status; or
- The percentage of the population of minority status in the block group is at least 10 percentage points higher than for the entire county in which the population is located.

OEA used ACS data on income and poverty levels to determine whether each block group in the study area could include low-income populations. Consistent with EPA's definition of low income (EPA 2016), OEA defined low income to mean individuals with an income less than 200 percent of the federal poverty level (less than or equal to twice the federal poverty level). Consistent with EPA's guidance (EPA 2016) and past OEA practice, OEA identified a block group as potentially containing low-income populations when one or both of the following conditions was met:

- At least 50 percent of the population for whom poverty status is determined in the block group qualifies as low-income; or

[12] A block group is a geographical unit defined by the U.S. Census Bureau. Census block groups generally contain between 600 and 3,000 people and are the smallest geographical units for which the Census Bureau publishes sample household data, such as data on racial and ethnic identification and income level.

- The percentage of the population for whom poverty status is determined in the block group that qualifies as low-income is at least 10 percentage points higher than for the entire county in which the population is located.

Although it was not a threshold applied to identify potential EJ populations, OEA also identified households that needed English-language assistance as discussed above. Under the U.S. Census Bureau ACS definition, "[a] 'limited English-speaking household' is one in which no member 14 years old and over (1) speaks only English or (2) speaks a non-English language and speaks English 'very well'" (U.S. Census Bureau 2021). OEA applied similar thresholds to identify minority and low-income populations. OEA identified a census block group as limited English- speaking if one or both of the following conditions were met:

- At least 50 percent of households in the block group are limited English speaking; or
- The percentage of limited English-speaking households in the block group is at least 10 percentage points higher than for the entire country in which the block group is located.

3.5.2 Affected Environment

The study area for the EJ analysis includes block groups in three counties, including two in Alabama and one in Mississippi. In total, OEA collected and analyzed data for 10 different block groups, encompassing a total population of approximately 8,100 people.

Table 3.5-1 below summarizes the block group data by state, including details on block groups with potential EJ populations. Based on the thresholds established in *Section 3.5.1, Approach*, and as shown in **Table 3.5-1**:

- OEA identified potential EJ populations in 40 percent of the block groups in the study area. Collectively, the block groups containing potential EJ populations include approximately 2,900 people.
- OEA identified 40 percent of block groups as areas with potential minority populations.
- In all 4 of the block groups that OEA identified as potential minority populations, at least 50 percent of the people in the block group self-identified as "Black or African American alone" on the U.S. Census.
- No block groups were identified by OEA as potential "American Indian and Alaska Native alone," "Asian alone," "Native Hawaiian and Other Pacific Islander alone," or "Some Other Race alone" minority populations.
- No block groups were identified by OEA as potential "Hispanic or Latino" populations.
- OEA identified 3 of the 10 block groups (30 percent) as potential low-income populations. These 3 block groups were identified as both potential low-income and minority populations.

Appendix F provides the data for each block group in the study area and identifies which block groups met the thresholds established for identifying potential EJ populations. **Table F-1** in **Appendix F** lists the block groups that met the thresholds established for

identifying potential minority populations, and **Table F-2** in **Appendix F** lists the block groups that met the thresholds established for identifying potential low-income populations.

With respect to limited English-speaking households, no block groups potentially needing English-language assistance were identified in the study area based on the thresholds described above in *Section 3.5.1, Approach*.

Table 3.5-1. Summary of Potentially Affected Environmental Justice Populations by State

State	Block Groups in Study Area	Block Groups with Potential EJ Populations (% of Total Block Groups)	Minority Block Groups [1]	Low-Income Block Groups [2]	Minority & Low-Income (Both) Block	Potential EJ Populations
Alabama	4	3 (75%)	3 (75%)	2 (50%)	2 (50%)	From the Mississippi border to the Town of Pennington (Choctaw County).
Mississippi	6	1 (17%)	1 (17%)	1 (17%)	1 (17%)	In the City of Meridian (Lauderdale County) near Interstate 20 at the west end of the study area.
TOTAL	***10***	***4 (40%)***	***4 (40%)***	***3 (30%)***	***3 (30%)***	

Source: U.S. Census Bureau, American Community Survey, 5-Year Estimates Data Profiles (2018-2022).

1 OEA assumed minority populations exist when either a) at least 50 percent of the people in a block group self-identify as being of minority status; or b) the percentage of the population of minority status in the block group is at least 10 percentage points higher than for the entire county in which the population is located.

2 OEA assumed low-income populations exist when either a) at least 50 percent of the population for whom poverty status is determined in the block group qualifies as low-income; or b) the percentage of the population for whom poverty status is determined in the block group that qualifies as low-income is at least 10 percentage points higher than for the entire county in which the population is located.

Additional Investigation of Potential EJ Populations

In addition to identifying potential EJ populations through an analysis of ACS data, OEA also identified concentrations of these populations through direct outreach to elected officials and by reviewing public and subsidized housing data managed by HUD.

Subsidized and Public Housing

OEA reviewed HUD data to determine if any public and subsidized housing facilities exist outside of the block groups determined to meet the EJ thresholds identified under *Section 3.5.1, Approach*. According to HUD housing inventory data, no properties categorized as subsidized housing units or public housing units are located within the study area.

Additional Considerations

Natural Disaster of January 12, 2023

On January 12, 2023, a category EF2 tornado[13] and associated severe storms and straight-line winds cut across portions of the study area. A major disaster declaration under the Robert T. Stafford Disaster Relief and Emergency Assistance Act was made on January 15, 2023 (Federal Emergency Management Agency (FEMA) designated disaster DR-4684-AL). The designated disaster area included Dallas County, which a portion of the Eastern Line travels across, although no adverse noise impacts from the Proposed Transactions and therefore no EJ study area block groups are in Dallas County.

According to the *Selma Sun*, FEMA and Selma officials estimated that the tornado damaged roughly 3,200 total structures, affecting approximately 470 businesses and 1,800 families. FEMA's Preliminary Damage Assessment Report identified that 506 of the structures were residences impacted in Dallas and Autauga Counties,[14] including 65 that were designated by FEMA as "Destroyed" (total loss) and 58 that had "Major Damage" (substantial failure to structural elements). As the FEMA Preliminary Damage Assessment Report notes, low-income populations may require a greater need for disaster recovery assistance. Disaster recovery efforts continue more than one year later at the time of preparation of this EA.

Regional and Historical Demographic Context for EJ Analysis

EJ populations have over time suffered disproportionate and adverse human health and environmental effects and hazards related to the legacy of racism and other structural or systemic barriers, which is the context in which this EJ analysis was conducted. The study area for the EJ analysis is situated within a geologic region known as the "Black Belt" named after the dark, fertile soils present across a crescent-shaped land feature. The feature is roughly 25 miles wide and extends from eastern, south-central Alabama into northeastern Mississippi, ending in southwestern Tennessee (Mississippi Encyclopedia). Though originally the name of a geological region, the term Black Belt has been borrowed to denote areas of the American South where the plantation system, and the concentration of enslaved people, predominated before the Civil War. Political analysts have adopted the term to broadly define a larger area of Southern counties from Virginia to Texas that have a history of majority Black or African American populations. All three counties in the study area have traditionally been identified as part of the Black Belt (Katsinas 2024).

OEA recognizes that counties in and adjacent to the study area that the Eastern Line travels through are within an area known historically for its importance to the American civil rights movement. The Montgomery Bus Boycott took place in Montgomery County from 1955 to

[13] Based on estimated wind speeds and surveyed damage, the tornado was rated level two on the Enhanced Fujita Scale (EF Scale), which equates to a three second wind gust speed of 111 to 135 miles per hour.

[14] Autauga County, Alabama, borders Dallas County to its northeast and is situated north of Lowndes County, northeast of the City of Selma and northwest of the City of Montgomery.

1956. In the City of Selma (Dallas County), Black people advocating for voting rights were attacked as they marched across the Edmund Pettus Bridge on March 7, 1965. The Selma to Montgomery march for equal rights took place in 1965 along Highway 80 in Dallas, Lowndes, and Montgomery Counties. These and other important events in the civil rights movement led to the passage of the Voting Rights Act of 1965.

3.5.3 Environmental Consequences

This section describes how noise from rail traffic under the Proposed Transactions and the No-Action Alternative could impact EJ populations, as compared to non-EJ populations.

Proposed Transactions

As discussed in *Section 3.4, Noise and Vibration*, OEA expects that the Proposed Transactions would result in an adverse noise impact on a total of 33 receptors.[15] The predominant sources of noise under the Proposed Transactions are locomotive warning horns sounded near roadway/rail at-grade crossings and, to a lesser extent, wayside noise generated by the operation of the locomotive engine and wheel/rail sound. Wayside noise would not exceed the Board's thresholds for adverse noise impacts on any of the Eastern or Western Line rail segments. Rather, the adverse noise impacts to the 33 receptors would occur as a result of the sounding of train horns at grade crossings.

As noted in **Table 3.5-1**, OEA identified 4 block groups in the study area as potential EJ block groups, which is 40 percent of the 10 total block groups in the study area. Among the 10 total block groups in the EJ study area, 6 contain receptors that would experience adverse noise impacts under the Proposed Transactions. Out of these 6 block groups, 3 (50 percent) were identified as EJ block groups. Further, out of the 33 total receptors that would experience adverse noise impacts under the Proposed Transactions, 12 (or approximately 36 percent) are located within block groups with potential EJ populations, while 21 (or approximately 64 percent) are in non-EJ block groups.

OEA also examined the distribution of receptors that would experience adverse noise impacts under the Proposed Transactions at the community scale.[16] OEA identified two incorporated areas within the EJ study area (the Towns of Pennington and White Hall, Alabama) and then determined the percentage of adversely affected receptors in each of those two communities that were located within EJ block groups. **Table F-3** in **Appendix F** provides a table showing the two communities with receptors subject to adverse noise impacts under the Proposed Transactions and the distribution of adversely affected receptors within each community in EJ and non-EJ block groups. As shown in **Table F-3**, the four adversely affected receptors in the Town of Pennington are in EJ block groups while the six

[15] The disproportionality test applies to adverse impacts rather than high and adverse as in the previous guidance. Therefore, all receptors identified in *Section 3.4, Noise and Vibration* based on the Board's thresholds are included.

[16] Incorporated areas were the unit of analysis for this community-based analysis; unincorporated areas were not included.

adversely affected receptors in the Town of White Hall are in non-EJ block groups. Therefore, most receptors at the community scale (60 percent) are in non-EJ block groups.

Based on the distribution of adverse noise impacts throughout the study area, OEA concludes that adverse noise impacts would not be borne disproportionately by EJ populations. Most of the block groups in which adverse noise impacts would occur were not identified as potential EJ populations (60 percent), and most of the receptors that would experience adverse noise impacts are not in EJ block groups (approximately 64 percent).

No-Action Alternative

Under the No-Action Alternative, the Board would not authorize either of the Proposed Transactions. The No-Action Alternative assumes that CSXT would renew MNBR's lease of the assets comprising the Eastern Line, and MNBR would continue to operate as it did under the previous lease. The projected changes in rail operations that would occur under the Proposed Transactions would not take place. However, rail traffic on the Eastern and Western Lines and activities at rail yards could change to support regular railroad operations or because of changing market conditions, such as general economic growth, but would not change due to the Proposed Transactions.

As discussed in *Section 3.4, Noise and Vibration*, no sensitive receptors in the study area would experience adverse noise impacts under the No-Action Alternative.

3.5.4 Conclusion

Based on the distribution of adverse noise impacts throughout the study area, OEA concludes that impacts would not be borne disproportionally by potential low-income or minority EJ populations. Based on the analysis, greater than half of the block groups in which adverse noise impacts would occur were not identified as potential EJ populations (60 percent), and more than half of the receptors that would experience adverse noise impacts are not in EJ block groups (approximately 64 percent).

As described in *Section 3.4, Noise and Vibration*, OEA is recommending reasonable and feasible noise mitigation requiring sound insulation for receptors that would experience severe noise impacts under the Proposed Transactions. OEA's recommended noise mitigation would apply to the receptors located in block groups that were identified to contain potential EJ populations (**MM-Noise-01a & b, -02, -03, -04)**.

3.6 Cumulative Effects

Cumulative effects are defined in 40 C.F.R. § 1508.1 as the "effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time."

This section describes the cumulative effects of the Proposed Transactions. The following sections describe the approach, affected environment, and environmental consequences for the cumulative effects analysis.

3.6.1 Approach

CEQ developed the handbook, *Considering Cumulative Effects under the National Environmental Policy Act* (1997), to assist federal agencies in assessing cumulative effects. OEA has followed these guidelines in its evaluation of whether cumulative effects could result from impacts of the Proposed Transactions and impacts of past, present, and reasonably foreseeable future projects and actions along the existing rail line.

The analyses in *Sections 3.1, Grade Crossing Delay*, *3.2, Energy*, *3.3, Air Quality and Climate Change*, and *3.5, Environmental Justice* conclude that the Proposed Transactions would have no or *de minimis* impacts on Grade Crossing Delay, Energy Resources, Air Quality and Climate Change, and Environmental Justice. Therefore, the incremental effects of the Proposed Transactions when added to any past, present, or reasonably foreseeable actions would result in no measurable cumulative effects on these resources. As such, OEA did not analyze the cumulative effects on these resources here. However, the Proposed Transactions would have adverse impacts on noise (see *Section 3.4, Noise and Vibration*). Reasonably foreseeable projects and actions could generate noise along the Eastern and Western Lines and incrementally contribute to train noise that would be generated if both Proposed Transactions are authorized by the Board as described in the noise analysis above. The cumulative effects study area for noise was set at a quarter of a mile from the Eastern and Western Lines to encompass potential projects within the quarter-mile study area for the noise analysis. Within this study area, OEA reviewed various sources to generate a list of projects and actions that could potentially have cumulative effects on noise and environmental justice, as described below in *Section 3.6.2, Past, Present, and Reasonably Foreseeable Future Projects and* Actions.

3.6.2 Past, Present, and Reasonably Foreseeable Future Projects and Actions

OEA reviewed multiple federal, state, and local sources to generate a list of potential projects and actions for this cumulative effects analysis, including:

- U.S. Army Corps of Engineers Mobile District Public Notices (U.S. Army Corps of Engineers, 2024);
- Alabama Department of Transportation (ALDOT)'s Current Projects list funding under Rebuild Alabama (RBA) and Alabama Transportation Rehabilitation and Improvement Program-II (ATRIP II) (ALDOT, 2024);
- ALDOT Regional Road Projects list (ALDOT, 2024);
- ALDOT Design Build Projects list (ALDOT, 2024);
- Federal Highway Administration (FHWA) Alabama Division's Current Projects list (FHWA, 2018);

- Alabama Department of Economic and Community Affairs (ADECA) grants and broadband projects list (ADECA, 2023);
- 2024 Alabama County Transportation Plans (ALDOT, 2024);
- Dallas County Projects (FY 2024 County Transportation Plan) (ALDOT, 2024);
- Dallas County Projects (Statewide Transportation Improvement Plan) (ALDOT, 2023);
- City of Selma Planning Department Projects (City of Selma, 2024);
- Mississippi Department of Transportation (MDOT) Proposed Projects (2024-2028) list (MDOT, 2023);
- Federal Government Permitting Dashboard for Federal Infrastructure Projects (The U.S. Department of Transportation, undated);
- Bipartisan Infrastructure Law and Inflation Reduction Act (BIL) funding project list (The White House, 2023); and
- Federal Energy Regulatory Commission's (FERC) Major Pipeline Projects Pending list (FERC, 2023).

A review of these sources identified 19 projects or actions that are occurring or anticipated to occur in the cumulative effects study area. None of the 19 projects identified would substantially and permanently increase noise (See **Appendix G** for a list of projects and descriptions). The projects primarily include construction projects, mostly related to transportation. These projects would generate short-term and temporary noise that would have no lasting effect on the noise environment or negate noise from an operating train.

Sources that showed no projects or actions in the cumulative effects study area include ALDOT Design Build Projects list, ALDOT Regional Roads Projects list, FHWA Alabama Division Current Projects list, and FERC's Major Pipeline Projects Pending list. OEA identified two projects in Lauderdale County, Mississippi, under the BIL although the exact location of these projects is unconfirmed.

3.6.3 Cumulative Effects Analysis

Noise

As discussed in *Section 3.4, Noise and Vibration*, the Proposed Transactions could result in increased noise along the Eastern and Western Lines where increases in rail traffic as measured in gross ton miles (GTM) exceed the Board's thresholds for analysis as set forth in 49 C.F.R. §1105.7(e). However, as previously mentioned in *Section 3.6.2, Past, Present, and Reasonably Foreseeable Future Projects and Actions*, none of the 19 projects identified in the cumulative effects study area would substantially increase noise because the projects would only contribute short-term and temporary noise that would have no lasting effect on the noise environment or negate noise from an operating train. Therefore, there would be no significant cumulative noise impacts resulting from the Proposed Transactions when added to the impacts of the 19 projects identified in the cumulative effects study area.

3.6.4 Conclusion

OEA determined that there would be no cumulative noise effects from the Proposed Transactions when added to the effects of the reasonably foreseeable projects in the cumulative effects study area. The Proposed Transactions would have no or *de minimis* impacts on Grade Crossing Delay, Energy Resources, Air Quality and Climate Change, Vibration, and Environmental Justice. Therefore, the incremental effects of the Proposed Transactions when added to any past, present, or reasonably foreseeable actions would result in no measurable cumulative effects on these resources.

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Chapter 4

Mitigation

This chapter describes mitigation measures that, if imposed by the Board, would avoid, minimize, or mitigate potential environmental impacts of the Proposed Transactions. The regulations implementing NEPA require that agencies consider mitigation that could reduce the environmental impacts of their actions, but NEPA does not mandate the form or adoption of any mitigation (40 C.F.R. § 1508.1(s)). In this Draft EA, OEA is preliminarily recommending mitigation measures based on the results of OEA's environmental analysis. If the Board decides to authorize both of the Proposed Transactions, the mitigation measures set out in this chapter could become conditions of the Board's decision.[1]

4.1 Conditioning Power of the Board

The Board has the authority to impose conditions to mitigate environmental impacts, but that authority is not limitless. Any mitigation measure the Board imposes must relate directly to the transaction before the Board, must be reasonable, and must be supported by the record before the Board. OEA's consistent practice has been to recommend mitigation only for those impacts that would result directly from a proposed action. The Board does not require mitigation for pre-existing environmental conditions.

Sometimes applicants propose voluntary mitigation to address potential environmental impacts of their proposals. Voluntary mitigation could replace, supplement, or extend further than mitigation measures the Board might otherwise impose. The Board's practice is to require compliance with any voluntary mitigation agreed to by applicants in any final decision authorizing a proposed line. No voluntary mitigation has been submitted by Applicants here to date.

4.2 Preliminary Nature of Mitigation

OEA's preliminary recommended mitigation measures are based on information available to date, consultation with appropriate agencies, and the environmental analysis presented in this Draft EA. OEA emphasizes that the identified mitigation measures are preliminary and invites public comment on these proposed mitigation measures. For OEA to assess the

[1] As described in *Section 1.4*, the Board determined that OEA would prepare a single EA that covers both Proposed Transactions, as well as the CSXT-owned Burkville to Montgomery segment. According to CPKC, its acquisition of the Western Line is contingent on CSXT's acquisition of the Eastern Line, and the CPKC transaction would only proceed if CSXT's transaction is authorized by the Board. If CSXT's transaction is authorized but CPKC's transaction is not, an environmental review by OEA would not be required because projected traffic over the Eastern Line would not change as a result of the CSXT transaction and would not trip the Board's environmental thresholds.

comments effectively, it is critical that the public be specific regarding any desired mitigation and the reasons why the suggested mitigation would be appropriate.

After OEA issues the Draft EA, receives comments on the document, and the public comment period closes, OEA will prepare a Final EA. The Final EA will respond to all comments received, may include additional analyses, and will make final recommendations to the Board on what mitigation to impose. After the conclusion of the EA process, the Board will make its final decision weighing both the transportation merits of the proceeding and the full environmental record—which includes this Draft EA, the Final EA, all public and agency comments received, and OEA's final recommended mitigation.

4.3 Mitigation Measures

The following section includes OEA's recommended preliminary mitigation measures to address potential Proposed Transactions-related impacts discussed in the Draft EA. OEA recommends that, if the Board authorizes both of the Proposed Transactions, such authority should be subject to the mitigation measures identified below. As noted in footnote 1 of this chapter, if the Board authorizes only CSXT's transaction, the mitigation below would not apply to CSXT because the Board's thresholds for environmental review would not be tripped.

If a resource topic is not listed below, OEA did not identify any adverse impacts that warrant mitigation and has therefore not proposed mitigation measures for this resource area.

4.4 General Mitigation Measures

4.4.1 OEA's Preliminary Recommended Mitigation

MM-General-01. If there is a material change in the facts or circumstances upon which the Board relied in imposing specific environmental mitigation conditions, and upon petition by any party who demonstrates such material change, the Board shall consider revising its final mitigation, if warranted and appropriate.

4.5 Noise

4.5.1 OEA's Preliminary Recommended Mitigation

Assuming that the Board authorizes both Proposed Transactions, mitigation measure MM-Noise-01 addresses noise mitigation for receptors on the CSXT and CPKC lines separately ('a' and 'b'). The other noise mitigation measures would apply to both CSXT and CPKC.

MM-Noise-01a. CSXT shall install, appropriate building sound insulation (upgraded acoustical windows and doors) on the 5 receptors OEA identified that would experience

severe noise impacts. See receptors 30 and 33-36 in Attachment 1 to **Appendix E**. CSXT should begin implementing the required building sound insulation mitigation within one month of the Board's authorization of the CSXT transaction. Specifically, CSXT shall do the following:

- CSXT shall meet with and communicate with the residents and owners of the 5 receptors that would experience severe noise impacts to discuss implementation of the required building sound insulation.
- Using industry standard loudspeaker testing, the existing building sound insulation performance shall be determined in accordance with ASTM 966-90, *Standard Guide for Field Measurements of Airborne Sound Insulation of Building Facades and Façade Elements* by a qualified acoustics consultant. The qualifications for the acoustic consultant shall include at least 5 years of experience with major transportation noise projects, and board certification membership with the Institute of Noise Control Engineering or registration as a Professional Engineer in Mechanical Engineering or Civil Engineering.
- The design goal for the sound insulation shall be a 10 dBA noise reduction. The calculated Noise Level Reduction (NLR) improvement shall be at least 5 dBA. If the calculated NLR associated with acoustical replacement windows and doors is less than 5 dBA, no additional mitigation shall be required since the improvement would be minor and likely not noticeable. The overall goal of the required sound insulation analysis is to demonstrate that interior noise levels (under the CSXT Transaction) at severely impacted receptors would be 45 DNL or lower, and to implement sound insulation to result in an NLR improvement of 5 dBA or more, where feasible and reasonable based on the characteristics of each property. CSXT shall provide written documentation to OEA upon successful completion of the required building sound insulation to demonstrate compliance with this mitigation measure. CSXT shall also provide written documentation to OEA in the event that a homeowner declines mitigation.

MM-Noise-01b. CPKC shall install, appropriate building sound insulation (upgraded acoustical windows and doors) on the 7 receptors OEA identified that would experience severe noise impacts. See receptors 3, 6, 8, 9, 10, 14 and 19 in Attachment 1 to Appendix E. CPKC should begin implementing the required building sound insulation mitigation within one month of the Board's authorization of the CPKC transaction. Specifically, CPKC shall do the following:

- CPKC shall meet with and communicate with the residents and owners of the 7 receptors that would experience severe noise impacts to discuss implementation of the required building sound insulation.
- Using industry standard loudspeaker testing, the existing building sound insulation performance shall be determined in accordance with ASTM 966-90, *Standard Guide for Field Measurements of Airborne Sound Insulation of Building Facades and Façade Elements* by a qualified acoustics consultant. The qualifications for the acoustic consultant shall include at least 5 years of experience with major transportation noise projects, and board certification membership with the Institute of Noise Control

Engineering or registration as a Professional Engineer in Mechanical Engineering or Civil Engineering.

- The design goal for the sound insulation shall be a 10 dBA noise reduction. The calculated Noise Level Reduction (NLR) improvement shall be at least 5 dBA. If the calculated NLR associated with acoustical replacement windows and doors is less than 5 dBA, no additional mitigation shall be required since the improvement would be minor and likely not noticeable. The overall goal of the required sound insulation analysis is to demonstrate that interior noise levels (under the CPKC Transaction) at severely impacted receptors would be 45 DNL or lower, and to implement sound insulation to result in an NLR improvement of 5 dBA or more, where feasible and reasonable based on the characteristics of each property. CPKC shall provide written documentation to OEA upon successful completion of the required building sound insulation to demonstrate compliance with this mitigation measure. CPKC shall also provide written documentation to OEA in the event that a homeowner declines mitigation.

MM-Noise-02. To minimize noise and vibration, Applicants shall maintain rail and rail beds according to American Railway Engineering and Maintenance-of-Way Association standards.

MM-Noise-03. Applicants shall comply with FRA regulations establishing decibel limits for train operations.

MM-Noise-04. Applicants shall consider lubricating curves where doing so would both be consistent with safe and efficient operating practices and significantly reduce noise for residential or other noise receptors.

Chapter 5

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