Chapter 2
Alternatives Considered

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2 Alternatives Considered

2.1 Introduction

Chapter 2 describes the alternatives development process that could meet the purpose of and need for the Project described in **Chapter 1**. The alternatives development process built on prior NICTD studies that examined a broad range of alignments, technologies, and transit modes in the Project Area, and on the DEIS.[1] The FEIS Preferred Alternative for the Project is evaluated in more detail in this FEIS. This chapter summarizes the decision-making process for the Project to date, including the selection and approval of the Locally Preferred Alternative (LPA).

2.1.1 Changes to This Chapter since Publication of the DEIS

FTA and NICTD identified a NEPA Preferred Alternative in the DEIS. Since publication of the DEIS, the discussion regarding the alternatives that were considered has been updated, and design refinements have been made to the DEIS NEPA Preferred Alternative to address public comments and to further minimize impacts.

- **Section 2.2** describes the alternatives advanced for further study in the DEIS. This section has been summarized from the DEIS.
- **Section 2.3** describes the LPA selection process. This section has been updated to reflect the decisions made during and subsequent to completion of the DEIS.
- **Section 2.4** describes the No Build Alternative and the FEIS Preferred Alternative (stations, maintenance and storage facility, ancillary facilities, track type, vehicles, and service and operating characteristics). This section also discusses how the DEIS NEPA Preferred Alternative's design was refined in response to comments received on the DEIS, further attempts to minimize impacts, and efforts to resolve technical issues that were raised since publication of the DEIS.

2.1.2 Alternatives Development Process

NICTD used a two-step analysis and evaluation process to identify and screen a wide range of possible alignments and design options that could meet the purpose of and need for the Project. In the first step of the analysis and evaluation process, 19 alternatives were identified and evaluated for consistency with the purpose of and need for the Project. Those 19 alternatives were evaluated for their physical feasibility, including constructability and reasonable cost; operational capacity and compatibility; and service quality, including speed and reliability. Of the 19 alternatives evaluated, 3 alternatives met the criteria and were advanced to the second step of the analysis and evaluation process. The analysis of the final 3 alternatives included a detailed assessment of the alignments, motive power, maintenance and storage facility locations, flyovers (that is, grade separation from existing transportation facilities, such as railroad tracks), and stations. The detailed assessments of each of these Project elements were documented by the DEIS.

[1] The DEIS was published in December 2016 by FTA as the lead federal agency and NICTD as the local sponsor. The DEIS and all supporting information, such as appendices, may be found online at http://www.nictdwestlake.com/resources/.

The 3 alternatives identified were:

- Dyer, Indiana, to Millennium Station in Chicago with connection to the SSL near Hegewisch Station in Chicago, Illinois (Commuter Rail Alternative)
- Dyer, Indiana, to Millennium Station in Chicago via the Indiana Harbor Belt (IHB) Kensington Branch with connection to the SSL near 130th Street in Chicago, Illinois (IHB Alternative)
- St. John, Indiana, to Millennium Station in Chicago via the IHB Kensington Branch with connection to the SSL in Chicago, Illinois (St. John Design Option)

Following a second screening, NICTD determined that the St. John Design Option should be dropped from further consideration because the estimated capital cost would have exceeded the funding identified for the Project. In addition, another alignment was identified between Dyer and downtown Hammond, Indiana—the Hammond Alternative.

- Dyer, Indiana, to Millennium Station in Chicago with connection to the SSL east of the Indiana–Illinois state line in Hammond, Indiana (Hammond Alternative)

Therefore, these 3 alternatives were carried forward for evaluation in the DEIS as Build Alternatives: Commuter Rail, IHB, and Hammond Alternatives. These alignments and their associated design options were evaluated further in the DEIS based on cost, feasibility, and freight railroad acceptability. The alignments and all other Project elements were evaluated based on the potential to affect the human environment, including biological, cultural, and social resources.

2.2 Alternatives Advanced for Further Study in the DEIS

The following sections describe the No Build Alternative, the DEIS Build Alternatives, and the DEIS NEPA Preferred Alternative.

2.2.1 No Build Alternative

The No Build Alternative in the DEIS reflected existing and committed improvements to the regional transit network for the planning horizon year of 2040. The No Build Alternative included transportation improvements identified in NIRPC's CRP, *A Vision for Northwest Indiana* (NIRPC 2011), and CMAP's *GO TO 2040* CRP through the planning horizon year of 2040 (CMAP 2014). The No Build Alternative also included capacity improvements to the existing MED line and Millennium Station as part of NICTD's and the Northwest Indiana RDA's *20-Year Strategic Business Plan* (NICTD and RDA 2014).

2.2.2 DEIS Build Alternatives

Three Build Alternatives were considered in the DEIS, as illustrated in **Figure 2.2-1**. All Build Alternatives are variations of the Commuter Rail Alternative that would begin just south of the Munster–Dyer municipal boundary near Main Street at the southern terminus of the Project. Traveling north, all Build Alternatives would include new track operating at grade on a separate ROW adjacent to the CSX Monon Subdivision railroad in Dyer and Munster, Indiana. The alignments would all be elevated from 45th Street to the CN Elsdon Subdivision railroad at Maynard Junction in Munster. North of the CN railroad, the Build Alternatives would join with the publicly owned former Monon Railroad corridor in Munster and Hammond and would continue north to Douglas Street in Hammond.

At this location, the three Build Alternatives differ slightly in their alignments. The Commuter Rail Alternative (see **Figure 2.2-2**) and Hammond Alternative would continue north on new elevated track generally along the Indiana–Illinois state line until they turn west to parallel the existing SSL. Specifically, the Commuter Rail Alternative would have an at-grade station in downtown Hammond before turning west to travel under Hohman Avenue and then veer north over the IHB and Norfolk Southern Railway (NS) railroads and Grand Calumet River until it turns west to parallel the existing SSL alignment in Burnham Yard. The alignment would then turn northwest on unused NS ROW to connect with the existing SSL southeast of Hegewisch Station in Chicago.

In contrast, the Hammond Alternative would begin to elevate north of Douglas Street, crossing over the IHB railroad, NS railroad, and Hohman Avenue. The alignment would cross the Grand Calumet River immediately west of Hohman Avenue before crossing the CSX railroad. The Hammond Alternative would include a new elevated Hammond Gateway Station before returning to grade on the SSL alignment east of the Indiana–Illinois state line.

The IHB Alternative (see **Figure 2.2-3**) would have an at-grade station in downtown Hammond before turning west to travel under Hohman Avenue and then would be constructed in the IHB ROW and continue northwest to join the SSL near I-94 and 130th Street in Chicago.

For all DEIS Build Alternatives, Project trains would operate on the existing MED line for the final 14 miles, terminating at Millennium Station in downtown Chicago. Station locations include Munster/Dyer Main Street, Munster Ridge Road, South Hammond, and either Downtown Hammond or Hammond Gateway.

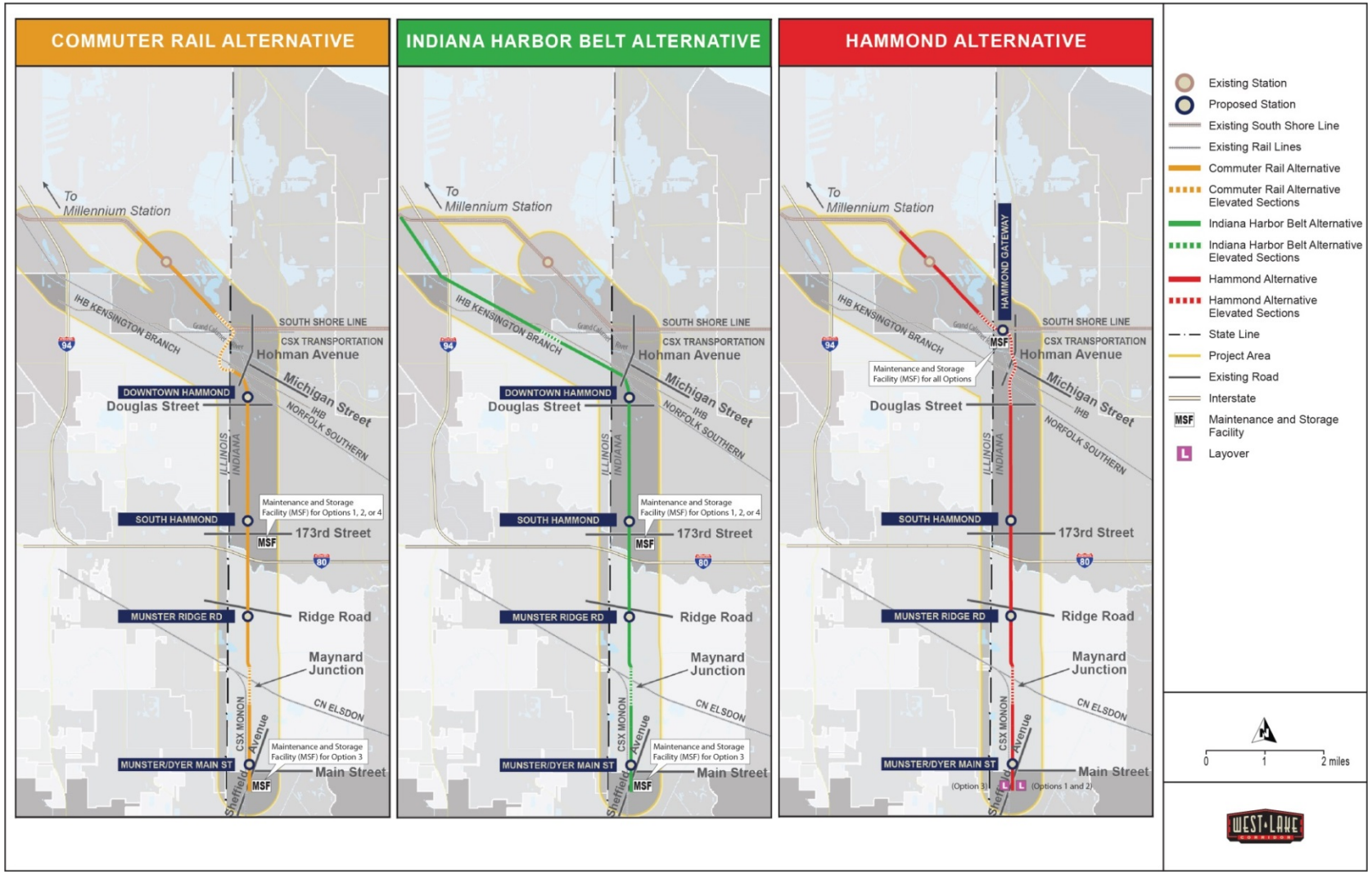
Also evaluated in the DEIS were multiple design options for each Build Alternative. Four design options were evaluated for the Commuter Rail and IHB Alternatives, and three options were evaluated for the Hammond Alternative (see insets in **Figure 2.2-2** through **Figure 2.2-4**).

In addition, a design variation, the Maynard Junction Rail Profile Option, was evaluated for each of the three DEIS Build Alternatives. Under this design variation, the alignment at Maynard Junction in Munster would cross the existing CSX railroad in an at-grade profile instead of an elevated profile. With this design variation, the Project track would be located east of the CSX ROW for Commuter Rail Alternative Options 1, 2, and 3; IHB Alternative Options 1, 2, and 3; and Hammond Alternative Options 1 and 2. The Maynard Junction at-grade design variation was not considered for Commuter Rail Alternative Option 4, IHB Alternative Option 4, or Hammond Alternative Option 3. These exceptions were to avoid crossing the CSX railroad connecting track in the southwestern quadrant of the junction.

2.2.3 DEIS NEPA Preferred Alternative

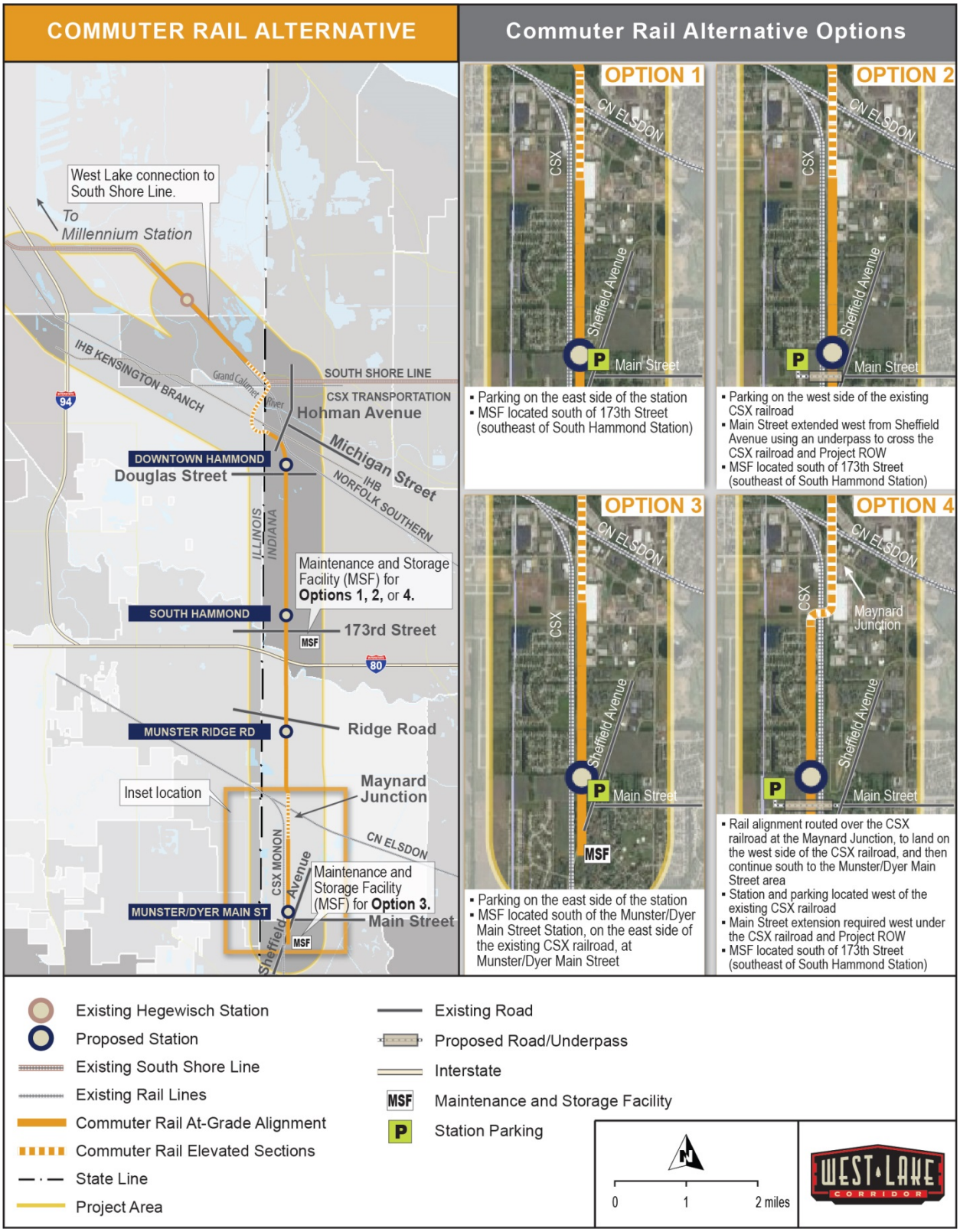
Under federal regulations [40 CFR Part 1502.14(e)], an Environmental Impact Statement (EIS) must identify the preferred alternative. NICTD and FTA selected the Hammond Alternative Option 2 as the DEIS NEPA Preferred Alternative (see **Figure 2.2-5**).

Figure 2.2-1: Build Alternatives Evaluated in the DEIS



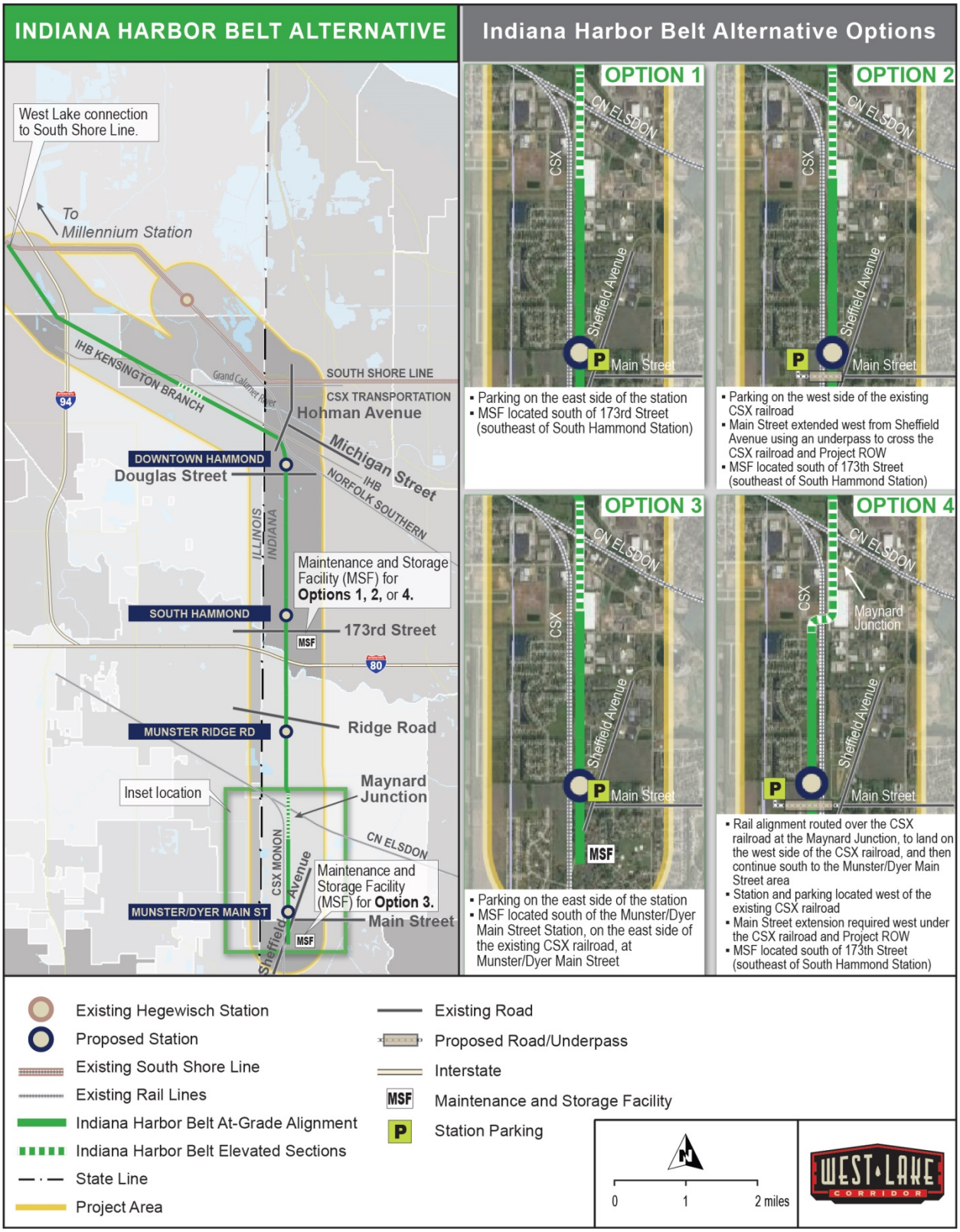
Sources: NICTD 2016; HDR 2017a.

Figure 2.2-2: Commuter Rail Alternative



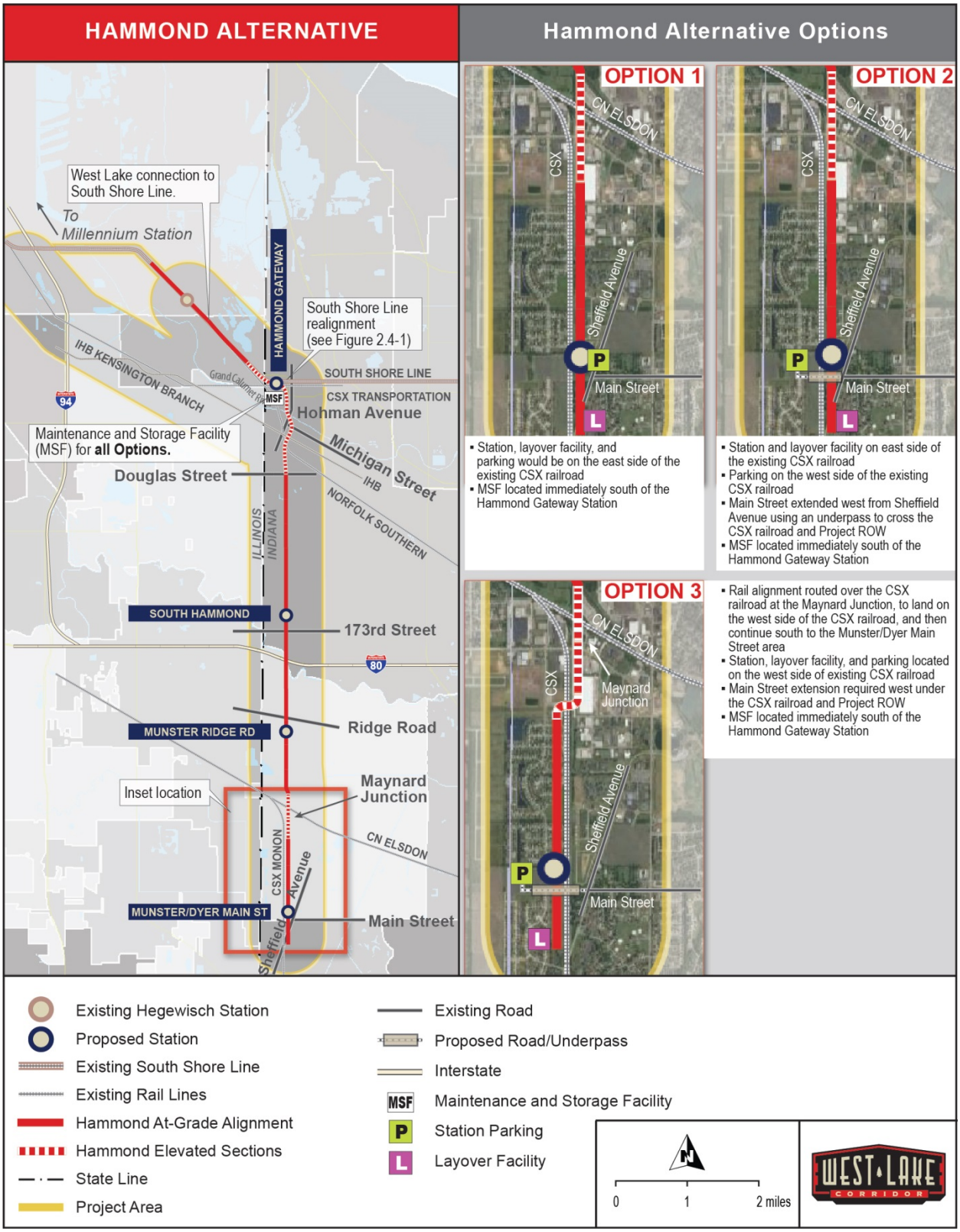
Sources: NICTD 2016; HDR 2017a.

Figure 2.2-3: Indiana Harbor Belt Build Alternative



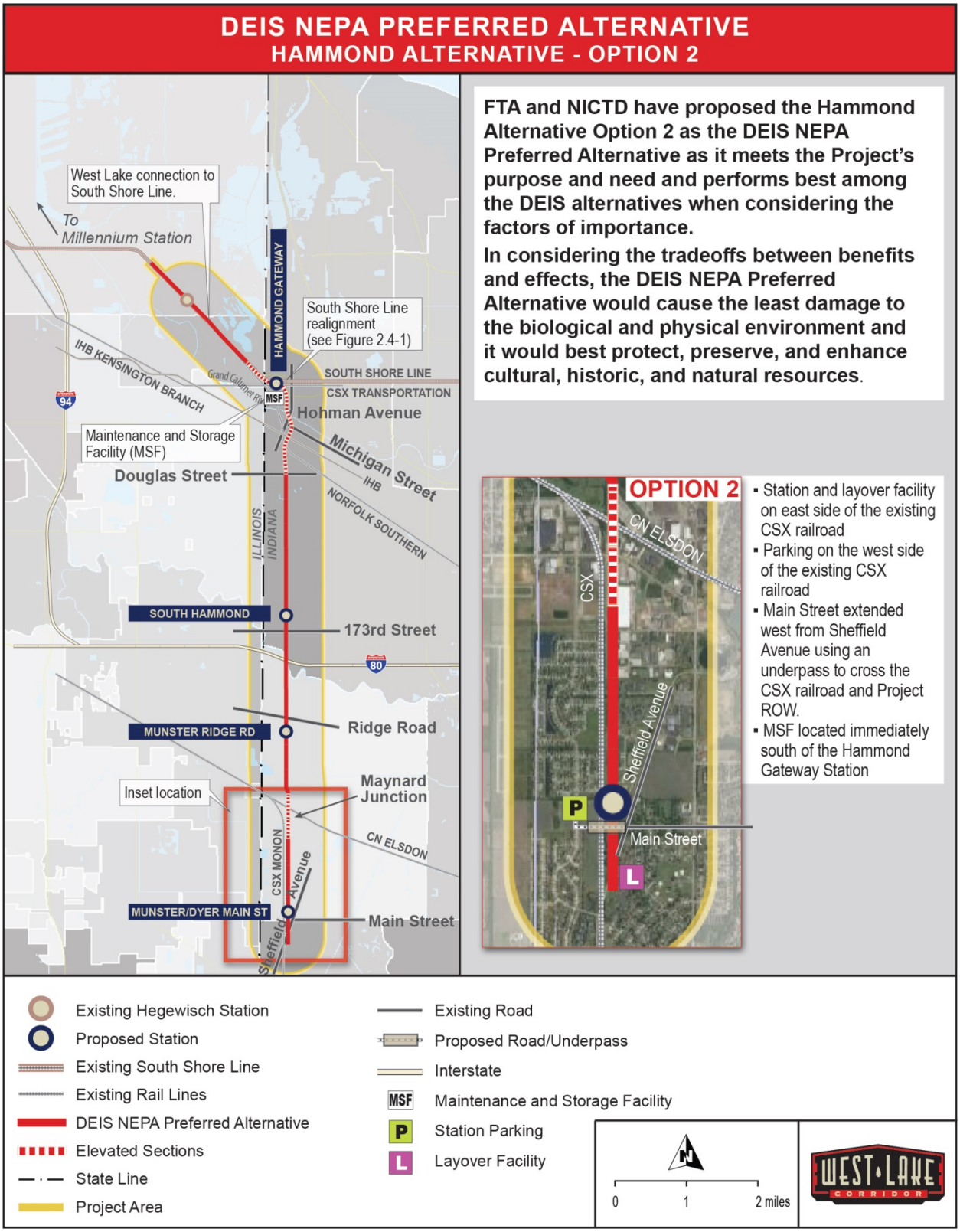
Sources: NICTD 2016; HDR 2017a.

Figure 2.2-4: Hammond Alternative



Sources: NICTD 2016; HDR 2017a.

Figure 2.2-5: DEIS NEPA Preferred Alternative



Sources: NICTD 2016; HDR 2017a.

Identifying the DEIS NEPA Preferred Alternative involved considering factors discussed in the DEIS (summarized in Chapter 10), including the ability to achieve the purpose of and need for the Project, responsiveness to Project goals and objectives, performance ratings for engineering factors, transportation and environmental consequences, and public and agency input.

The No Build Alternative would not achieve the Project purpose and need and would not effectively respond to the Project goals and objectives. Only one of the Build Alternatives can be considered the DEIS NEPA Preferred Alternative.

The DEIS NEPA Preferred Alternative includes a dedicated guideway, overhead contact system (OCS), traction power substations (TPSS) along with four proposed stations, a maintenance facility, and a layover facility:

- **Munster/Dyer Main Street Station** would be located north of an extended Main Street in Munster. The station building and platform would be on the east side of the CSX railroad and would be accessed from Sheffield Avenue/Columbia Avenue. The station's parking area would be located on the west side of the CSX railroad. Vehicle access to the parking area would require an underpass of the Project and CSX ROWs.
- **Munster Ridge Road Station** would be located east of the proposed alignment and south of Ridge Road. The primary station access would be from Ridge Road, using an entrance at Harrison Avenue. Parking would be located east of the proposed alignment with an optional, overflow parking lot between Ridge Road and Broadmoor Avenue on the west side of the rail corridor.
- **South Hammond Station** would be located east of the track and north of 173rd Street. The station would be accessed on the north end from 169th Street and on the south from 173rd Street.
- **Hammond Gateway Station** would be located in north Hammond, adjacent to the relocated SSL Hammond Station, which would be moved approximately 0.15 mile west. The combined SSL/Project station would be designed to serve passengers transferring between the two services. Roadway access would be facilitated by the City of Hammond's project to realign Chicago Street (i.e., Chicago Street Widening and Reconstruction Project) (City of Hammond 2016), which is currently in development.
- A **maintenance facility** would be located immediately south of Hammond Gateway Station.
- A separate **layover facility** at the southern end of the proposed alignment near Munster/Dyer Main Street Station.

Because the DEIS Build Alternatives would perform similarly in achieving the purpose of and need for the Project and in meeting Project goals and objectives, other factors became important to select the DEIS NEPA Preferred Alternative. The engineering, transportation, and environmental ratings indicated variable performance among the Build Alternatives depending on the factor considered. Factors of particular importance to NICTD and FTA included freight railroad impacts, operational perspectives, and community preferences. The combination of these factors pointed to Hammond Alternative Option 2 as the best performer. Hammond Alternative Option 2 would have the least potential impact on area freight railroads, a critical factor in the decision-making process. Additionally, the communities within Hammond and Munster preferred Hammond Alternative Option 2.

These factors led FTA and NICTD to propose Hammond Alternative Option 2 as the DEIS NEPA Preferred Alternative because it would meet the purpose of and need for the Project and

would perform best among the DEIS Build Alternatives when considering the other factors of importance. In considering the tradeoffs between benefits and effects, the DEIS NEPA Preferred Alternative would cause the least damage to the biological and physical environment, and it would best protect, preserve, and enhance cultural, historic, and natural resources.

2.3 Selection of the Locally Preferred Alternative

Scoping for the Project was held in an open house format on October 28, 2014, to solicit comments from the public and agencies invited to participate in the environmental review process. In addition to the scoping meetings, public workshops were also held. During these meetings, NICTD described the study objectives and solicited input on the Project purpose and need, alternatives considered, and environmental issues being studied for the Project. The input FTA and NICTD received during scoping helped them identify the appropriate alternatives and the depth and breadth of environmental analysis to be completed. The input received assisted with identifying and eliminating concerns that were not significant (or covered by prior studies) from detailed study.

A broad range of reasonable alternatives was considered for the Project. The alternatives were evaluated and screened based on operational and engineering constraints, constructability, cost, and environmental factors. This screening enabled FTA and NICTD to eliminate alternatives that were not feasible to finance, construct, and/or operate efficiently and to refine and further consider better-performing alternatives. Ultimately, the screening process yielded a more well-defined Project that advanced into the DEIS.

Several studies have been conducted that included extensive coordination with stakeholders and members of the public to develop, evaluate, and refine a range of transportation alternatives in the Project Area. All key studies included the use of the Monon Railroad ROW as an integral element of larger corridors. Following the previous planning studies, the identification of alternatives to advance in the DEIS involved a two-step analysis and evaluation process to identify and screen a wide range of possible alignments and design options that could meet the purpose of and need for the Project. Additions, deletions, and refinements to the initial set of alternatives from the two-step screening process were made during the NEPA process.

In the first step of research, NICTD identified a wide range of potential alignment alternatives for the Project. These alternatives were then evaluated to identify the alignment alternatives that would be practical and feasible to finance, construct, and/or operate efficiently. NICTD then performed an initial fatal flaw and significant concern evaluation of the alignment alternatives using specified criteria (see Section 2.2.2.1 of the DEIS). The alignment alternatives that met the specified criteria were then recommended for further analysis in the second stage of screening. The range of alternatives was narrowed from an initial 19 alternatives to 3 alternatives, which were advanced to the second stage of screening. The initial identification and screening involved an assessment of the alignments of 3 shortlisted alternatives and the Project elements. This resulted in the alternatives carried forward in the DEIS (see Section 2.2.2.4 of the DEIS).

Several alignment options were considered as part of the Build Alternatives evaluated in the DEIS (see Section 2.2.2.4 of the DEIS). Based on the analysis conducted in the DEIS and the public and agency comments received on the DEIS, the NICTD Board passed a resolution recommending Hammond Alternative Option 2 as the LPA for the West Lake Corridor on May 12, 2017. The DEIS NEPA Preferred Alternative is the alternative that NICTD and FTA, along with RDA, the Town of Dyer, the Town of Munster, and the City of Hammond, recommended for detailed study through further engineering and environmental review. The

DEIS NEPA Preferred Alternative specified the alignment details, station locations, maintenance and storage facility (MSF) location, and TPSS locations.

Additional details on public input into the LPA selection process can be found in **Chapter 9**.

2.4 Alternatives Evaluated in the FEIS

The No Build Alternative and DEIS NEPA Preferred Alternative were advanced for further study in the FEIS. During the FEIS process, NICTD refined the DEIS NEPA Preferred Alternative to address public and agency comments, resolve technical design issues, and further minimize impacts. The term *FEIS Preferred Alternative* now refers to NICTD's current proposed action, which is the subject of this FEIS/ROD.

2.4.1 No Build Alternative

The No Build Alternative, which has been updated since the DEIS was published, reflects existing and committed improvements to the regional transit network for the planning horizon year of 2040. The No Build Alternative includes transportation improvements identified in the NIRPC 2040 CRP (NIRPC 2011) and the CMAP *GO TO 2040* CRP through the planning horizon year of 2040 (CMAP 2014). It also includes capacity improvements to the existing MED line and Millennium Station as part of NICTD and RDA's *20-Year Strategic Business Plan* (NICTD and RDA 2014). The No Build Alternative as defined in this section is the subject of this FEIS/ROD. The No Build Alternative does not include the West Lake Corridor Project.

A No Build Alternative serves as a baseline, or benchmark, against which the Project is evaluated. To determine committed improvements in the Project Area, the latest 5-year Transportation Improvement Programs (TIPs) of the respective metropolitan planning organizations (MPOs) were used; NIRPC TIP Fiscal Year 2018–2021 (NIRPC 2017a) and CMAP TIP Fiscal Year 2017–2020 (CMAP 2017). The TIPs list all federally funded projects and regionally significant, non-federally funded projects scheduled for implementation in the next 4 years. **Table 2.4-1** and **Table 2.4-2** list projects that are located in the Project Area or that intersect with the Project.

Table 2.4-1: NIRPC Transportation Improvement Program Projects, 2018–2021

Type, TIP ID	Sponsor	Municipality, County	Project
Bicycle, 1173707	Munster	Munster, Lake County	Construct Pennsy Greenway from Fisher Street at Timrick Drive to Calumet Avenue north of 45th Street
Bicycle, 1173595	Schererville	Schererville, Lake County	Pennsy Greenway Phase 2 (Transportation Enhancement Funds) from Main Street to 137th Avenue
Bicycle, 1382661	Schererville	Schererville, Lake County	Pennsy Greenway Phase 3 from Wilhelm Street at Town Hall to 213th Street
Bicycle, 1500416	Hammond	Hammond, Lake County	Construct bicycle/pedestrian bridge over Calumet Avenue (U.S. Route 41) at Conkey Street
Bicycle, 1601145	Hammond	Hammond, Lake County	Construct bicycle/pedestrian Marquette Trail from State Street at Rabin Plaza to Toll Road overpass at Kosciusko Street
Bicycle, 1601164	Hammond	Hammond, Lake County	Install bicycle/pedestrian flashing beacons at three Erie Lackawanna Trail crossings (150th, Douglas, and 165th Streets)
Bicycle, 1173597	Munster	Munster, Lake County	Bicycle/pedestrian trail connector: Erie Lackawanna Trail and Pennsy Greenway at Cady Ditch and Marsh Ditch
Highway, 1600450	INDOT	Hammond, Lake County	Install railroad protection on Sohl Avenue at IHB Railroad
Highway, 1500221	Hammond	Hammond, Lake County	Reconstruct relinquished State Route 312 (Chicago Street) from Indiana–Illinois state line to Marble Street Phase 1
Highway, 0710056	Munster	Munster, Lake County	45th Street: Reconstruct on new alignment; includes railroad underpass (from 0.2 mile east of Calumet Avenue)
Highway, 0710056	Munster	Munster, Lake County	Construct grade separation structure (45th Street beneath railroad)
Transit, 1700533	NICTD	Chicago, Cook County	Add Track 7 – Millennium Station preliminary engineering
Transit, 1700560, 170091	NICTD	Chicago, Cook County	Add Track 7 – Millennium Station construction
Transit, 1700530, 1700559, 1700579	NICTD	Various, multiple	Positive train control implementation
Transit, 1700534, 1700561, 1700580	NICTD	Various, multiple	Positive train control implementation
Transit, 1700529, 1700557, 1700575	NICTD	Various, multiple	Second track, Gary to Michigan City, engineering/real estate acquisition/construction
Transit, 1700594, 1700620	NICTD	Various, multiple	Double tracking – Gary to Michigan City, construction

Source: NIRPC TIP 2018–2021 (NIRPC 2017a).

Note: INDOT = Indiana Department of Transportation

Table 2.4-2: CMAP Transportation Improvement Program Projects, Fiscal Year 2017–2020

Type	TIP ID	Sponsor	Municipality	County	Project
Bicycle	07-12-0004	Illinois Department of Natural Resources	Chicago	Cook	Bicycle facility, Burnham Greenway from William Powers Conservation Area to Brainard Avenue
Highway	01-09-0032	Illinois Department of Transportation	Chicago	Cook	I-55 Stevenson Expressway from I-94 to Lake Shore Drive improvements
Highway	01-12-0019	Illinois Department of Transportation	Chicago	Cook	Circle Interchange: add lanes to road, reconfigure bridge, reconstruct road, replace bridge, work on miscellaneous projects

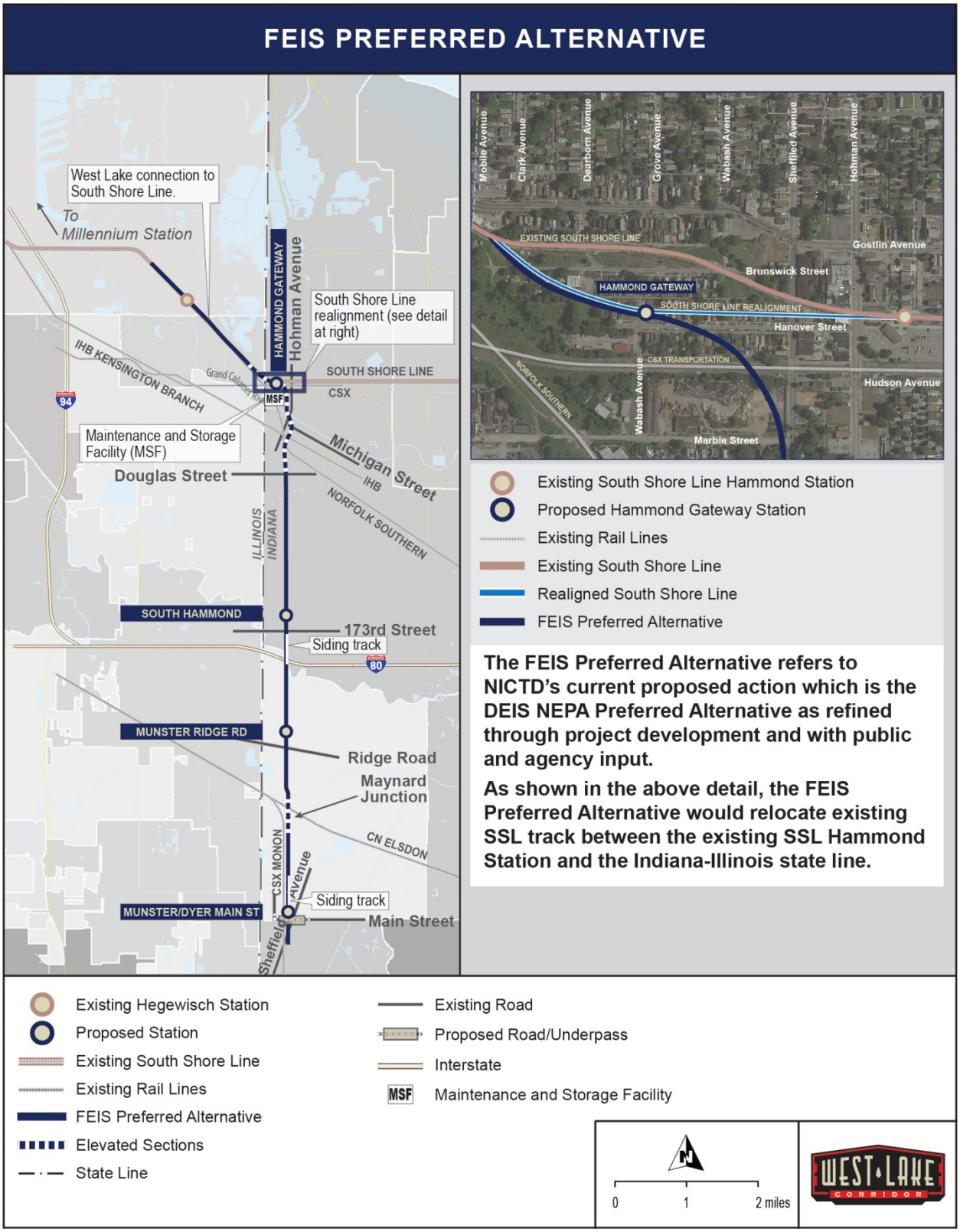
Source: CMAP TIP Fiscal Year 2017–2020 (CMAP 2017).

2.4.2 FEIS Preferred Alternative

The southern terminus of the FEIS Preferred Alternative begins just south of the Munster–Dyer municipal boundary near Main Street. Traveling north, the FEIS Preferred Alternative would include new track operating at grade on separate ROW adjacent to the CSX Monon Subdivision railroad in Dyer and Munster. The alignment would be elevated from 45th Street to the CN Elsdon Subdivision railroad at Maynard Junction in Munster. North of the CN railroad, the FEIS Preferred Alternative would return to grade on the publicly owned former Monon Railroad corridor in Munster and Hammond and continue north.

From downtown Hammond north of Douglas Street, the FEIS Preferred Alternative would extend north on an embankment and use bridges to cross over the IHB and NS railroads immediately east of the Hohman Avenue overpass. The FEIS Preferred Alternative would then extend northward and cross over Hohman Avenue just south of Michigan Street. It would then continue north and west, crossing over the Grand Calumet River and the CSX railroad, before connecting with the existing SSL (see **Figure 2.4-1**). Construction activities in Illinois would be limited to the existing railroad ROW.

Figure 2.4-1: FEIS Preferred Alternative



Source: HDR 2017a.

The FEIS Preferred Alternative would relocate existing SSL track between the current SSL Hammond Station at 4531 Hohman Avenue and the Indiana–Illinois state line so that the SSL could serve the new Hammond Gateway Station. The SSL and West Lake routes would be adjacent to one another at Hammond Gateway Station, allowing passengers to transfer between the two services. During non-peak times, Project trains would operate as shuttles between Munster/Dyer Main Street Station and Hammond Gateway Station, making timed connections with SSL service (see the inset in **Figure 2.4-1**).

The elements of the FEIS Preferred Alternative include the stations, MSF, TPSSs, guideway, vehicles, and operating frequencies. These features of the FEIS Preferred Alternative are summarized in the following sections (see the engineering drawings in **Appendix E**).

2.4.2.1 Stations

Four new stations would be constructed along the alignment. Each station would include station platforms, parking facilities, benches, trash receptacles, bicycle racks, and other site furnishings. Shelter buildings would be located at Munster/Dyer Main Street and Hammond Gateway Stations only. Station descriptions are as follows:

- **Munster/Dyer Main Street Station** would be on the eastern side of the Project's track, and the parking lot would be on the western side of the CSX railroad (see **Figure 3.6-3**). The station would be accessed from Sheffield Avenue, with the driveway forming the western leg of the Sheffield Avenue and Main Street intersection. The driveway access to the western parking lot would require an underpass of the CSX railroad and Project ROW. Vehicular access to the parking lot would be from the station driveway only. A separate ADA-compliant pedestrian underpass would pass under the CSX and Project tracks to allow safe access between the western parking lot and the station. ADA parking, bus, and "Kiss-and-Ride" accommodations would be in a separate lot in the southwestern quadrant of the intersection of Sheffield Avenue and Main Street. An ADA-compliant pedestrian bridge would be provided over the station driveway to provide safe access between the southern parking lot and the station. The parking areas would be designed for up to 1,333 parking spaces and 99 "Kiss-and-Ride" spaces.
- **Munster Ridge Road Station** would be east of Manor Avenue and north of Ridge Road in a developed residential neighborhood (see **Figure 3.6-4**). The station would be west of the Project track. Parking for the station, including ADA parking and "Kiss-and-Ride" accommodations, would be on the western side of Manor Avenue on several vacant residential parcels owned by the Town of Munster. The station would provide access to shopping, restaurants, and services near the Project. The parking area would be designed for up to 100 parking spaces and 12 "Kiss-and-Ride" spaces.
- **South Hammond Station** would be north of 173rd Street and east of Lyman Avenue on the eastern side of the Project track (see **Figure 3.6-5**). Parking for the station, including ADA parking, bus, and "Kiss-and-Ride" accommodations, would be divided between vacant parcels north and south of 173rd Street. One driveway located east of Lyman Avenue on 173rd Street would provide access to the north parking lot to and from all directions. The parking lot to the south would be accessed from two driveways. One driveway is the western leg of the 175th Street and Harrison Avenue intersection with access to and from all directions. The second driveway, located east of Lyman Avenue on 173rd Street, would allow right turns into and right turns out of the parking lot. The parking areas would be designed for up to 761 parking spaces and 34 "Kiss-and-Ride" spaces.

- **Hammond Gateway Station** would be located in the northern part of Hammond approximately 0.15 mile west of the existing SSL Hammond Station (see **Figure 3.6-6**). The existing SSL Hammond Station would be used for overflow parking and future transit-oriented development. Hammond Gateway Station and parking, including ADA parking, bus, and "Kiss-and-Ride" accommodations, would be south of the Project track. Access to the SSL platform (north of the Project track) from the parking lot would be accommodated by a paved plaza area under the elevated Project track. Two driveways would be provided. One driveway would be on Sheffield Avenue across from Hanover Street, and the second driveway would be on Wabash Avenue just north of the extension of Hudson Street (Allman Street). The station and parking would be in the northern portion of the Project corridor in an area of mixed residential and vacant land. Several changes to the local street network are proposed (i.e., Hammond's Chicago Street Widening Project) that would complement Hammond Gateway Station and improve access for residential neighborhoods and nearby businesses. The parking areas would be designed for up to 631 parking spaces and 45 "Kiss-and-Ride" spaces.

2.4.2.2 Maintenance and Storage Facility

The North Hammond MSF would be west of Sheffield Avenue, south of the CSX Barr Subdivision line, east of the NS railroad, and north of the Grand Calumet River (shown in **Appendix E**). This facility would require the acquisition of approximately 21 acres of industrial and residential properties. The North Hammond MSF would consist of a maintenance shop building, employee welfare and administrative area, rail car wash building, substation, yard storage tracks, and maintenance of way open storage area.

2.4.2.3 Traction Power Substations

Potential TPSS locations are shown in **Appendix E**. Three potential TPSS locations have been identified along the FEIS Preferred Alternative: at Munster/Dyer Main Street Station, the South Hammond Station parking lot, and the North Hammond MSF. The precise location of each TPSS would be refined during the Project's engineering phase to minimize impacts on surrounding properties and resources and to balance safety, reliability, cost, and operational efficiencies. the TPSSs would be approximately 4,000 square feet and would accommodate a single-story building measuring approximately 40 feet by 20 feet. The TPSSs would be enclosed to secure the electrical equipment and controls, but NICTD maintenance personnel would be able to access the buildings.

2.4.2.4 Guideway

The FEIS Preferred Alternative would operate in a dedicated guideway within new or existing ROW. The guideway would include a single track throughout, with a 2,000-foot-long siding track near the center of the proposed alignment north of I-80/94 and a 1,900-foot-long siding track at Munster/Dyer Main Street Station. South of Douglas Street in Hammond, the alignment would generally be at grade, while north of Douglas the alignment would be elevated (on an elevated structure or retained fill). The proposed alignment would also be elevated at Maynard Junction, crossing over the CN Elsdon Subdivision railroad and 45th Street in Munster. The proposed alignment would be designed to operate completely separated from any freight rail operations.

2.4.2.5 Vehicles

The preferred vehicle type is electric multiple unit (EMU), which would be electrically powered by an OCS using poles to support overhead wires. The EMU vehicle would have a passenger seating capacity of approximately 100 per vehicle and would operate in trainsets of up to eight cars. The proposed Project fleet would consist of 36 rehabilitated SSL vehicles.

2.4.2.6 Operating Frequencies

The proposed service plan for the FEIS Preferred Alternative involves two service patterns: peak periods on weekdays and off-peak periods. Proposed operating hours for the new service would be generally from 5:30 AM to 12:00 AM on weekdays and 6:00 AM to 1:00 AM on Saturdays and Sundays (weekends). Peak periods on weekdays would be from 6:00 AM to 9:30 AM and 3:30 PM to 6:30 PM; off-peak periods would be weekdays from 5:30 AM to 6:00 AM, 9:30 AM to 3:30 PM, and 6:30 PM to 12 AM and weekends from 6 AM to 1 AM. Twelve trains per weekday would be scheduled to travel between Munster/Dyer Main Street Station and Millennium Station (downtown Chicago).

- Peak Periods on Weekdays: Most trains would operate in the peak direction (i.e., AM peak to Chicago; PM peak from Chicago). A reverse-peak train would enable one train and crew to operate two peak-direction trips during each peak period.
- Off-peak Periods (Including Weekends): The second service pattern would involve one train and crew that would shuttle during off-peak periods between Munster/Dyer Main Street Station and Hammond Gateway Station, where timed connections to SSL trains would allow passengers to transfer to continue their trip. This would give Project riders the opportunity to travel either west to Chicago or east toward South Bend.

Travel times between Munster/Dyer Main Street Station and Millennium Station would range from 38 to 46 minutes, depending on the scheduled station stops. Travel time for the shuttle between Munster/Dyer Main Street Station and Hammond Gateway Station would be 13 to 14 minutes. The operating plan assumes that cars would be stored overnight at the North Hammond MSF, where service would be initiated each day. Three of the trainsets serving Millennium Station on weekdays would be stored during the day in Chicago at or near Millennium Station. Cars from one train would return to Hammond Gateway Station to operate the shuttle.

The operating plan would include a weekly cycle of equipment into the North Hammond MSF for maintenance and inspection. Daily required inspections and testing would occur nightly at the North Hammond MSF. The proposed service would require 30 cars, consisting of three 8-car trains and one 6-car train. The fleet of cars available for Project service would include 6 spares, for a total of 36 EMU cars.

Table 2.4-3 summarizes the differences between the DEIS NEPA Preferred Alternative and the FEIS Preferred Alternative. The features are based on NICTD's assumptions associated with the level of engineering conducted for the Project to date.

Table 2.4-3: Comparison of DEIS NEPA Preferred and FEIS Preferred Alternatives

Feature	DEIS NEPA Preferred Alternative	FEIS Preferred Alternative
Level of design	<10%	30%
Northern terminus	Southeast of Hegewisch Station in Chicago	Southeast of Hegewisch Station in Chicago
Length[a]	9 miles	9 miles
Capital cost (2020 $)	$615 million	$661 million
West Lake Corridor stations	Munster/Dyer Main Street Munster Ridge Road South Hammond Hammond Gateway	Munster/Dyer Main Street Munster Ridge Road[b] South Hammond[c] Hammond Gateway
MSFs	MSF in Hammond: between Grand Calumet River and CSX tracks Layover (storage) in Dyer south of Main Street	MSF and layover facility in Hammond: between Grand Calumet River and CSX tracks No storage facility in Dyer (relocated to Hammond)
TPSSs	4 proposed	3 proposed
Other major design changes	• South Hammond Station platform located between 169th and 173rd Streets; no overflow parking	• South Hammond Station platform moved farther south toward 173rd Street, with split parking north and south of 173rd Street
	• Munster Ridge Road Station located southeast of Ridge Road, requiring acquisition of three homes	• Munster Ridge Road Station and associated parking was moved north of Ridge Road, requiring no acquisition of homes
	• Acquisition of the southwestern quadrant of the intersection of Sheffield Avenue and Main Street (nine homes) for a layover facility	• Instead of a layover facility, some Munster/Dyer Main Street Station parking and access facilities would occupy land (nine homes)

Sources: NICTD 2016; HDR 2017a.

[a] The length represents the approximate end-to-end length of the alternatives.

[b] Munster Ridge Road Station relocated north of Ridge Road.

[c] South Hammond Station moved south toward 173rd Street.