

Chapter 10

Evaluation of Alternatives

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10 EVALUATION OF ALTERNATIVES

Chapter 10 presents a comparative evaluation of the alternatives considered in this Draft Environmental Impact Statement (DEIS), including the No Build Alternative, the National Environmental Policy Act (NEPA) Preferred Alternative, and the other Build Alternatives. **Section 10.1** summarizes how well each alternative is projected to meet the Purpose and Need of the proposed West Lake Corridor Project (Project). **Section 10.2** discusses the key themes provided by the public and relevant agencies that aided in alternatives development and decision-making. **Section 10.3** describes the key differentiators among the alternatives. **Section 10.4** identifies the NEPA Preferred Alternative. **Section 10.5** identifies next steps.

The information in this chapter was derived from the quantitative and qualitative data presented elsewhere in this DEIS and provided the basis for decision-makers (i.e., Federal Transit Administration [FTA] and Northern Indiana Commuter Transportation District [NICTD] Board of Trustees), cooperating and participating agencies, major Project stakeholders, non-governmental organizations, and the public to assess the benefits, costs, and environmental consequences of the alternatives against the Purpose and Need and associated goals and objectives of the Project. As described in **Chapter 1** of this DEIS, the Project development and evaluation process responds to the requirements of NEPA and the FTA New Starts process.

10.1 Purpose and Need

As explained in **Chapter 1** of this DEIS, the purpose of the Project is to increase transportation options for central and southern Lake County residents traveling to downtown Chicago, reduce travel time and travel costs, and promote economic development opportunities for Lake County, Indiana. The identified needs for the Project are as follows:

Increase transportation options for accessing downtown Chicago

- Existing transportation options available to Study Area residents seeking access to Chicago jobs are limited to travel by automobile, or by automobile to MED and SSL commuter rail services.
- Forecasted Study Area population growth will exert increasing demands on regional roadways, Metra, and the SSL, which are already operating at or near capacity.

Reduce travel time to downtown Chicago

- The highway connections between Northwest Indiana and downtown Chicago are congested, especially during peak times (i.e., trips are 40 percent faster in the off-peak).
- There is a need to overcome the increasing unpredictability of commuting time by automobile and reduce or eliminate the automobile component of transit travel time in the Study Area.
- An alternative solution to driving is needed to increase the region’s commuter capacity and reduce congestion on roads and highways leading to and from downtown Chicago.

Reduce the parking burden at existing transit stations

- Limited transit options for Study Area residents are causing the nearest existing transit stations to experience parking conditions at or near capacity.

Reduce travel time and costs

- The price of commuting can be an important factor in choice of travel mode.
- Providing Study Area families the option of lower cost transit would minimize the impacts of being more distant to jobs, while still allowing them to take advantage of comparatively lower area housing costs.

Promote economic development

- Current planning documents incorporate a long-term vision for the growth of businesses and jobs within the Study Area.
- Planning documents clearly articulate the addition of new transit service as being the focal point and means for achieving this vision.
- A common thread among entities responsible for making land use decisions and promoting economic development in the Study Area is that advancement of a commuter rail project is consistent with their respective visions and planning.
- Long-term vision includes developing and sustaining a reverse commute travel pattern to the Study Area.

As described in **Chapter 2** of this DEIS, the No Build Alternative is defined as the existing transportation system, plus any committed transportation improvements included in the Transportation Improvement Programs (TIP) or long range plans of the Northwestern Indiana Regional Planning Commission (NIRPC) and the Chicago Metropolitan Agency for Planning (CMAP). NIRPC's long range plan is the *2040 Comprehensive Regional Plan (CRP)* (NIRPC 2011) and CMAP's the *GO TO 2040 Comprehensive Regional Plan* (CMAP 2014); both are through the planning horizon year 2040. The No Build Alternative serves as the basis of comparison for the NEPA Preferred and other Build Alternatives.

The NEPA Preferred Alternative, also known as Hammond Alternative Option 2, is described in detail in **Chapter 2**. It contains the preferred alignment options, station locations, and maintenance and layover facility locations. In addition to the NEPA Preferred Alternative, several other Build Alternatives are included for analysis in this DEIS. These include:

- Commuter Rail Alternative – Options 1 to 4
- IHB Alternative – Options 1 to 4
- Hammond Alternative – Options 1 and 3

In addition, the Maynard Junction Rail Profile Option was evaluated as a design option associated with selected Build Alternatives (i.e., Commuter Rail Alternative Options 1-3, IHB Alternative Options 1-3, and Hammond Alternative Options 1 and 2).

The NEPA Preferred and other Build Alternatives have similar alignments in many locations and would serve essentially the same travel markets using the same transit technology (electric multiple unit rail cars or EMU), and therefore, would have similar performance as to the Project's Purpose and Need. **Table 10.1-1** summarizes the effectiveness of the NEPA Preferred and other Build Alternatives in addressing the Project needs compared to the No Build Alternative using need criteria, and highlights where there are differences in the alternatives. The NEPA Preferred Alternative and other Build Alternatives would be highly effective at meeting each of the five Project need criteria. The new commuter rail service in each alternative would increase transportation options and transit capacity for access to downtown Chicago, reduce travel time to downtown Chicago, reduce the parking burden at

existing transit stations by introducing an additional parking facility in the Study Area, reduce travel costs, and promote local and regional economic development.

Goals and objectives were developed based on the transportation needs, issues, and opportunities that have been identified for the Project. The goals and objectives are included in **Section 1.2.3** of this DEIS. The goals and objectives were used to evaluate how effectively each alternative addresses and meets the overall Purpose and Need for the Project. **Table 10.1-1** summarizes the performance of the NEPA Preferred Alternative, the other Build Alternatives, and the No Build Alternative with regard to the Project goals and objectives. These findings indicate similar, effective performance of the NEPA Preferred Alternative and other Build Alternatives, indicating high achievement of the Project goals and objectives. The No Build Alternative, in contrast, is somewhat effective in achieving a few Project goals, but is not effective in achieving most Project goals and objectives.

Table 10.1-1: Project Goals and Objectives Performance Summary

Goals	Objectives	No Build Alternative	NEPA Preferred and other Build Alternatives
Improve regional mobility	<ul style="list-style-type: none"> • Provide new commuter rail service to high growth areas in central, southern, and western Lake County, Indiana • Expand NICTD service coverage in underserved areas of Northwest Indiana • Increase NICTD ridership 	<p>Somewhat Effective</p> <ul style="list-style-type: none"> • Provides some transportation improvements, but largely maintains status quo • Provides no new service to areas underserved by transit • Provides no new service to transit-dependent and environmental justice populations 	<p>Highly Effective</p> <ul style="list-style-type: none"> • Provide transportation improvements to high growth areas • Provide new service to areas underserved by transit • Provide new service to transit-dependent and environmental justice populations • Expand NICTD service coverage
Improve transportation links to downtown Chicago	<ul style="list-style-type: none"> • Connect Northwest Indiana residents to higher paying jobs and major activity centers in downtown Chicago • Provide fast and reliable commuter rail service to downtown Chicago from the West Lake Corridor 	<p>Not Effective</p> <ul style="list-style-type: none"> • Includes some highway improvement, but provides no new transit connection to jobs and activity in downtown Chicago 	<p>Effective</p> <ul style="list-style-type: none"> • Provide convenient connections to downtown Chicago, higher paying jobs and major activity centers
Improve regional accessibility to an expanded commuter rail network of services	<ul style="list-style-type: none"> • Maximize return on investment by reducing parking burden at existing commuter rail stations • Provide easily accessible stations in the Study Area that are supported by multiple modes including parking, kiss-n-ride, bicycle and pedestrian access 	<p>Not Effective</p> <ul style="list-style-type: none"> • Does not enrich modal alternatives • Does not include any improvements to the existing parking supply at stations 	<p>Effective</p> <ul style="list-style-type: none"> • Establish modal alternative other than driving • Includes additional stations with parking opportunities and access from multiple modes.
Provide equitable access to transportation	<ul style="list-style-type: none"> • Provide reasonably priced commuter rail service to downtown Chicago, especially compared to driving • Minimize costs to access and use local commuter rail stations 	<p>Not Effective</p> <ul style="list-style-type: none"> • Does little to reduce commuting times • Does not promote more cost-effective trips to downtown Chicago 	<p>Effective</p> <ul style="list-style-type: none"> • Reduce commuting travel times and costs • Provide more cost-effective transit trips into downtown Chicago

Table 10.1-1: Project Goals and Objectives Performance Summary (cont.)

Goals	Objectives	No Build Alternative	NEPA Preferred and other Build Alternatives
Support the economic vitality of Northwest Indiana	<ul style="list-style-type: none"> • Complement regional and local plans for economic development and encourage transit-supportive land use patterns • Minimize out-migration of existing residents improving transportation links to downtown Chicago jobs and encouraging mixed-use, mixed-income development in Northwest Indiana • Create Northwest Indiana jobs through the construction and operation of the Project • Stimulate job-based development in station areas 	<p>Somewhat Effective</p> <ul style="list-style-type: none"> • Partially supports regional and local plans • Does not encourage transit-supportive land use patterns • Does nothing to alter the impetus for out-migration of existing residents • Does not encourage mixed-use development • A small number of local jobs may be created with planned projects, but none related to construction of the Project • Jobs related to TOD opportunities would not be realized • Incidental contributions to economic outputs and gross regional product 	<p>Highly Effective</p> <ul style="list-style-type: none"> • Support regional and local plans • Encourage transit-supportive land use patterns • Minimize out-migration of existing residents • Encourage mixed-use, mixed-income development • Economic stimulation through the construction and operation of the expanded service • Create local jobs in Northwest Indiana through construction • Create local jobs through potential TOD opportunities • Generate economic outputs • Contribute to gross regional product

SOURCE: Project Needs, Goals, and Objectives were developed by NICTD for this DEIS based upon previous studies conducted for the West Lake Corridor, including the *West Lake Corridor Major Investment Study* (NICTD 2000), *West Lake Corridor New Start Studies: Purpose and Need Final Report* (NICTD 2006), *Comprehensive Economic Development Plan, Phase I and II* (RDA 2007) and the *20-Year Strategic Business Plan* (NICTD and RDA 2014).

10.2 Public and Agency Input

In addition to the technical analyses in this DEIS, input provided by the public and relevant agencies was a critical element in the decision-making process.

10.2.1 Public Input

As described in **Chapter 9** of this DEIS, public engagement was important to the alternatives development and evaluation process. Study Area residents showed support for, as well as opposition against, the Project. Supporters cited the following benefits of new transit service in their community: economic growth, improved connectivity, expanded access, and overall positive benefits. Opponents were concerned about Project cost, citing taxpayer burden, and the need to focus expenditures on other basic infrastructure improvement priorities such as roads and bridges. Opponents were also concerned that the Project would not reflect the needs of the larger community and would impact residential properties. Other key issues heard from the public included:

- Noise and vibration impacts to residential properties
- Effects on property values
- Impacts to adjacent businesses and residences
- Property acquisitions and potential displacements
- Impacts to the Monon Trail
- Impacts on parking in adjacent neighborhoods

➤ Safe access to stations

NICTD considered public input during alternatives development and this DEIS, and worked to address concerns through alignment and infrastructure refinement to avoid or minimize negative effects and provide local benefits. As the Project advances, FTA and NICTD will continue to work with the agencies to address issues related to design to avoid or minimize and mitigate negative impacts to the extent reasonably feasible. For example, NICTD will further consider the strategies identified in this DEIS to reduce or eliminate property acquisitions and noise effects.

10.2.2 Agency Input

As described in **Chapter 9** of this DEIS, FTA and NICTD engaged local officials, regulatory agencies, and other entities. The following key themes distinguish among the alternatives and contributed to the selection of the NEPA Preferred Alternative:

- The City of Hammond preferred the alignment of the Hammond Alternative as the “gateway” entrance to the City. They felt strongly that the Project should lead into Hammond from the SSL east of the Hegewisch Station, the “front door” of the City. The City of Hammond passed a resolution on August 8, 2016 in support of the NEPA Preferred Alternative (see **Appendix F**).
- The Hammond Alternative included the proposed maintenance facility in north Hammond, which was a preferred location by the City over the South Hammond Maintenance and Storage Facility site. The proposed location is a commercial and industrial area with vacant parcels that have been difficult to develop. In contrast, the South Hammond Maintenance and Storage Facility location is residential in character.
- The Town of Munster favored the NEPA Preferred Alternative because of the alignment of the rail line on the east side of the CSX freight line, with the west side location of the parking facility at Munster/Dyer Main Street Station. The Town foresees the west side location as being more conducive to potential future transit-oriented development zoning and land use compared to the traditional suburban-style development pattern on the east side of the alignment. Munster foresees the Project as a much-needed opportunity for new housing and economic development in the Town. The Town of Munster passed a resolution on May 16, 2016 in support of the NEPA Preferred Alternative (see **Appendix F**).
- NICTD would operate the last 14 miles of West Lake Corridor peak period trains over MED tracks, which are controlled by Metra. NICTD’s trackage rights agreement with Metra would need to be amended to include West Lake Corridor peak operations. NICTD collaborated with Metra in a rail simulation study to assess whether sufficient capacity on the MED exists to accommodate Project trains. While not officially committing to this expansion of NICTD services on the MED, Metra acknowledged the simulation work, and expressed a willingness to continue to work with NICTD in evaluating medium- and long-term MED needs required by both Metra and NICTD.
- Governmental and environmental agencies identified a variety of concerns related to the natural and built environment, including potential Project effects on trails, air quality, noise, contamination and hazardous materials, the Grand Calumet River, wetlands, habitat and nature preserves, protected species, soil stabilization, historic districts, environmental justice populations, induced development, freight traffic, and grade crossing safety. The agencies anticipated the DEIS evaluation of these issues.

NICTD considered agency input during alternatives development and the DEIS process, and has worked to address concerns through alignment and infrastructure refinement to avoid or minimize negative effects and provide local benefits. For example, only the NEPA Preferred Alternative and Hammond Alternative Option 3 accommodated these views. As the Project advances, NICTD would

continue to work with the agencies to address issues related to design to avoid or minimize and mitigate negative impacts to the extent reasonably feasible.

10.3 Assessment of Findings

This section discusses the assessment of findings of the NEPA Preferred and other Build Alternatives, in comparison to the No Build Alternative. The evaluation of the Maynard Junction Profile Option, which is a design option associated with selected Build Alternatives, is discussed separately. The findings in this assessment consider agency and public input described above. The DEIS as a whole and **Table 10.3-1** present the benefits and potential impacts across a wide range of assessment disciplines. Among many of the disciplines, the NEPA Preferred and other Build Alternatives perform similarly. Thus, to compare performance, it is necessary to focus on the benefits and impacts that distinguish the Build Alternative Options from each other. These distinguishing factors include:

- West Lake connection to SSL in Indiana
- Accommodation for off-peak and weekend services
- Added track miles to the NICTD system
- Provision of a co-aligned Hammond Gateway Station
- Elimination of a new crossing in Munster
- Forecasted average weekday boardings
- Travel time
- Private freight railroad impacts
- Partial land acquisitions
- Full land acquisitions and displacements
- Wetlands impacts
- Floodplain impacts

In this evaluation, the proposed highway, transit, bicycle, and railroad projects included in the No Build Alternative are assumed to be built and in operation as scheduled in the metropolitan transportation plans and the respective TIPs.

Using the data in **Table 10.3-1** for each distinguishing factor, ratings were assigned based on how well each Build Alternative Option performs compared to the others. The following rating system was applied:

- Good: Good performance and/or minor negative impacts (green triangle in **Table 10.3-2**)
- Fair: Fair performance and/or moderate negative impacts (yellow triangle in **Table 10.3-2**)
- Poor: Poor performance and/or severe negative impacts (red triangle in **Table 10.3-2**)

The assignment of the three-point ratings used the quantitative and qualitative performance results from **Table 10.3-1** and professional judgement. For example, the Build Alternative Option with the least negative impacts within a factor was assigned the highest, “Good,” rating, while the Build Alternative Option with the most negative impacts was assigned the “Poor” rating. Build Alternative Options that performed neither “Good” nor “Poor” received a “Fair” rating. Ratings were not weighted based on the nature of the factor. It is understood that a “Good” performer for wetlands impacts, for example, may still warrant further evaluation as the Project advances. **Section 10.3.1** and **Section 10.3.2** summarize the rating results of the No Build and Build Alternatives, based on the summary rating results shown in **Table 10.3-2**.

Table 10.3-1: Alternatives Benefits and Consequences Matrix

Factor	No Build Alternative	NEPA Preferred Alternative	Commuter Rail Alternative Options				IHB Alternative Options				Hammond Alternative Options	
			1	2	3	4	1	2	3	4	1	3
Project Features and Engineering Factors												
Number of Stations	0						4					
Number of Vehicles (EMU)	0						36					
Number of Park-and-Ride Locations	0						4					
Number of Park-and-Ride Spaces	0	3,150					2,650				3,150	
Number of Maintenance Facilities	0						1					
Avoids Connecting to the SSL in Illinois	Yes	Yes					No				Yes	
Provides Peak Period Service	No						Yes					
Provides Weekday Off-Peak and Weekend Services	No	Yes					No				Yes	
Minimizes Added track miles to the NICTD system	Yes	Yes					No				Yes	
Enables Co-Aligned Hammond Gateway Station	No	Yes					No				Yes	
Eliminates New CSX Freight Rail Crossing in Munster	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Year of Expenditure Capital Cost (millions)	N/A	\$603	\$599	\$610	\$634	\$607	\$623	\$634	\$660	\$630	\$592	\$603
O&M Cost (millions)	N/A	\$13.6	\$12.9				\$12.8				\$13.6	
Key Agency Factors												
Hammond-preferred "Gateway" Alignment	N/A	Yes					No				Yes	
Hammond Preferred Maintenance Facility Location	N/A	Yes	No		Yes	No		Yes	No	Yes	Yes	Yes
Munster Preferred East-Side Alignment with Parking West of CSX Freight Line ROW at Munster/Dyer Main Street Station	N/A	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	No
Enables Main Street Extension Across CSX Freight Line ROW	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

Table 10.3-1: Alternatives Benefits and Consequences Matrix (cont.)

Factor	No Build Alternative	NEPA Preferred Alternative	Commuter Rail Alternative Options				IHB Alternative Options				Hammond Alternative Options	
			1	2	3	4	1	2	3	4	1	3
Transportation												
Forecasted average weekday boardings	N/A	7,120	6,220	6,220	6,220	6,220	5,750	5,750	5,750	5,750	7,120	7,120
Trains per Weekday/Weekend	N/A	24/20	12/0								24/20	
Travel time (minutes from Munster/Dyer Main Street Station to Millennium)	67	47	50	50	50	50	46	46	46	46	47	47
Freight Railroad Impacts	N/A	Minimal	Some	Some	Some	Some	Major	Major	Major	Major	Minimal	Minimal
Pedestrian and bicycle facility crossings	0	All pedestrian and bicycle crossings would occur at streets or would be grade-separated from rail tracks.										
Parking spaces affected (number)	0	114 on-street	68 on-street	68 on-street	68 on-street	68 on-street; 110 off-street	68 on-street	68 on-street	68 on-street	68 on-street; 110 off-street	114 on-street	114 on-street; 110 off-street
Community and Social Environment												
Land use Consistency	Inconsistent with local planning	Consistent with local planning										
Partial Land Acquisitions (numbers)												
Residences	0	42	14	14	8	2	13	13	7	1	42	38
Commercial	0	11	11	11	10	5	12	12	11	6	11	5
Parklands	0	2	2	2	2	3	2	2	3	2	2	3
Full Land Acquisitions/Displacements (numbers)(a)												
Residences	0	147/91	75/17	51/16	102/29	41/27	79/17	55/16	106/29	45/27	171/92	129/94
Commercial	0	14/14	31/11	31/11	32/11	31/10	12/8	12/8	13/8	12/7	14/14	14/13
Parklands	0	0										
Socioeconomics and Economic Development	Limited job opportunities; no support for TOD-style development	Increased job access; supports TOD-style development										
Neighborhoods and Community Resources Impacts	N/A	Noise and visual effects to adjacent properties; traffic effects at at-grade crossings; shift of Monon and Erie Lackawanna Trails; co-alignment of Project and portion of trails would change trail experience										

Table 10.3-1: Alternatives Benefits and Consequences Matrix (cont.)

Factor	No Build Alternative	NEPA Preferred Alternative	Commuter Rail Alternative Options				IHB Alternative Options				Hammond Alternative Options	
			1	2	3	4	1	2	3	4	1	3
Cultural Resources (number of adverse effects)	0	1	1	1	1	1	0	0	0	0	1	1
Visual and Aesthetics	N/A	Visual effects not substantial along existing or former railroad corridors due to similar rail transportation use; visual impact of Munster/Dyer Main Street Station parking area and layover facility in low-density residential/commercial area										
Safety and Security	N/A	Provisions for improvements addressing safety and security best practice will apply uniformly to all build alternatives.										
Environmental Justice	N/A	No disproportionately high and adverse effects on environmental justice populations; benefits of increased transit access										
Noise Impacts (number of locations exceeding FTA moderate/severe criteria)(d)	0	310/148 No impacts after mitigation	308/150 No impacts after mitigation				335/156 No impacts after mitigation				310/148 No impacts after mitigation	
Vibration Impacts (number of locations exceeding FTA impact criteria)	0	1 before mitigation No impacts after mitigation										
Air Quality impacts	No violation of NAAQS (b)	No violation of the NAAQS										
Energy use compared to No Build Alternative	N/A	-0.5%	-0.4%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%
New impervious surfaces (acres)	0	70	73	76	75	75	82	85	84	84	67	72
Threatened and Endangered Species affected	0	0										
Habitat impacts (c) (acres)	0	21	32	32	21	32	44	44	33	44	22	22
Hazardous Materials (high risk sites)	0	32	23	23	23	23	25	25	25	25	32	32
Water Resources												
Wetlands impacts (acreage)	0	8	5	9	9	9	20	21	19	19	8	5
Floodplain impacts (acreage)	0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Secondary and Cumulative Effects												
Secondary	N/A	Induce station area TOD effects										
Cumulative	N/A	Incremental natural and built environment effects of Project and No Build Alternative projects										

SOURCE: AECOM 2016.

- Notes:
- (a) Full acquisition of a vacant property is not considered a displacement.
 - (b) National Ambient Air Quality Standards
 - (c) Land with vegetation quality sufficient to serve as habitat for wildlife, including commonly occurring species
 - (d) Noise screening assessment for West Lake Corridor; no impacts in MED corridor.

Table 10.3-2: Performance Ratings of Alternatives

Factor	No Build Alternative	NEPA Preferred Alternative	Commuter Rail Alternative Options				IHB Alternative Options				Hammond Alternative Options	
			1	2	3	4	1	2	3	4	1	3
Avoids Connecting to the SSL in Illinois	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Provides Peak Period Service	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Provides Off-Peak and Weekend Services	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Minimizes Added Track	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Enables Co-Aligned Hammond Gateway Station	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Eliminates New Crossing in Munster	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Freight railroad impacts	N/A	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Hammond-preferred "Gateway" Alignment	N/A	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Hammond Preferred Maintenance Facility Location	N/A	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Munster Preferred East-Side Alignment with Parking West of CSX Freight Line ROW at Munster/Dyer Main Street Station	N/A	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Enables Main Street crossing of the CSX Freight Line	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Forecasted average weekday boardings	N/A	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Travel time (minutes from Munster/Dyer Main Street Station to Millennium)	N/A	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Residences- Partial Acquisitions	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Commercial- Partial Acquisitions	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲

Table 10.3-2: Performance Ratings of Alternatives (cont.)

Factor	No Build Alternative	NEPA Preferred Alternative	Commuter Rail Alternative Options				IHB Alternative Options				Hammond Alternative Options	
			1	2	3	4	1	2	3	4	1	3
Residences – Full Acquisitions	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Commercial – Full Acquisitions	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Wetlands impacts (acreage)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Floodplain impacts (acreage)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲

SOURCE: AECOM 2016.

Note: ▲ Good: Good performance and/or minor negative impacts; ▲ Fair: Fair performance and/or moderate negative impacts; ▲ Poor: Poor performance and/or severe negative impacts

10.3.1 No Build Alternative

The No Build Alternative serves as the basis for comparing the travel benefits and environmental impacts of the other Build Alternative Options. The No Build Alternative includes existing and planned transit services; highway, bicycle, pedestrian, and transit facilities; and railroad improvements that are proposed to exist in 2040 and are included in the fiscally constrained Long Range Transportation Plan (LRTP) adopted by NIRPC and CMAP. The transportation improvements included in the No Build Alternative are listed in **Chapter 2**. No major transit investment is proposed in the Study Area with the No Build Alternative. Among the distinguishing measures are travel time, property acquisitions, and impacts on wetlands and floodplains. No change in travel time to downtown Chicago would occur in the No Build Alternative. Compared with the NEPA Preferred and other Build Alternatives, the No Build Alternative performs poorly in regard to travel time. Without the Project, the impacts regarding property acquisitions, wetlands, and floodplains that are described in the DEIS would not occur.

10.3.2 Build Alternatives

The performance ratings for the NEPA Preferred and other Build Alternatives indicate varying levels of performance depending on the factor. None of the Build Alternative Options rates “good” or “fair” in all factors. As the Study Area contains a number of existing, active freight railroad corridors, and NICTD proposes to share capacity on at least one such corridor with each Build Alternative, the following distinguishing design and operational factors are key considerations:

- **Avoid a Connection to the SSL in Illinois:** A new access point on the active SSL railroad corridor, such as would be required for the Commuter Rail Alternative Options and IHB Alternative Options, would introduce train crossings and other maneuvers across tracks that would impact the CSS freight operator already using the SSL trackage. The NEPA Preferred Alternative and Hammond Alternative Options 1 and 3 rate “good,” as each would minimize this operational complexity by connecting to the SSL in Indiana.
- **Provide Off-Peak and Weekend Services:** An Indiana connection to the SSL, provided by the NEPA Preferred Alternative and Hammond Alternative Options 1 and 3 rate “good,” as each would provide opportunities for NICTD to add weekday off-peak and weekend Project services using the Hammond Gateway Station. Such services would enable the Project to serve non-commuting travel markets such as tourism and education in Chicago. The Commuter Rail Alternative Options and IHB Alternative Options rate “poor,” as each is precluded from providing off-peak and weekend services by pre-existing freight operations and railroad capacity.
- **Eliminating a New CSX Freight Line Crossing in Munster:** An alignment on the east side of the CSX freight line reduces Project costs and coordination with CSX to design, build, and operate a crossing of their active right-of-way (ROW). The Build Alternatives, except when combined with the Maynard Junction Rail Profile Option, rate “good”.
- **Freight Railroad Impacts:** The NEPA Preferred Alternative and Hammond Alternative Options 1 and 3 rate “good” for having the least impacts to freight railroads because trains would enter the SSL in Indiana rather than Illinois, and would not require use of the active freight railroad ROW. The IHB Alternative Options rate “poor,” as each would require freight track relocation, potential conflicts with siding operations, and placement of structures that could limit potential future freight rail expansion as described in **Chapter 3**. The Commuter Rail Alternative Options rate “fair,” as each would have potential effects on freight operations at connection points.

In considering these freight factors, the NEPA Preferred Alternative and Hammond Alternative Option 1 are the only alternatives to rate “good” on each factor.

Two other key design and operational factors include minimizing non-revenue train operations and providing a Hammond Gateway Station that is co-aligned with the SSL:

- **Minimizing New Track:** In developing each Build Alternative, NICTD considered the length of new track and related infrastructure that would be added to the NICTD system (i.e., West Lake Corridor and SSL). This affected not only the initial capital cost investment, but also the ongoing infrastructure maintenance. The NEPA Preferred Alternative had the least added track of the Build Alternatives, and the IHB Alternative Options had the most.
- **Enable Co-Aligned Hammond Gateway Station:** The NEPA Preferred Alternative and Hammond Alternative Options 1 and 3 rate “good,” as each is the only Build Alternative that would be aligned close enough to the existing SSL in north Hammond to enable a co-aligned station. The other Build Alternatives rate “poor,” as each cannot make such an accommodation due to physical distance from the SSL and/or intervening transportation infrastructure.

The findings for other distinguishing factors are notable:

- **Average Weekday Boardings:** Each Build Alternative Option rates “fair” to “good” for forecasted average weekday boardings and travel time, with the NEPA Preferred Alternative and Hammond Alternative Options 1 and 3 rating “good” for each factor.
- **Acquisitions and Displacements:** Greater variability occurs among the ratings for partial and full land acquisitions and displacements. Additional land beyond NICTD’s existing ROW would be required for the NEPA Preferred Alternative and the other Build Alternatives, resulting in a range of “good” to “poor” ratings depending on the type of acquisition. Build Alternatives including Commuter Rail Alternative Option 4 and IHB Alternative Option 4 would require less additional ROW and rate “moderate” to “good” for partial and full land acquisitions and displacements. The NEPA Preferred Alternative rated “poor.”
- **Wetland and Floodplain Impacts:** The NEPA Preferred Alternative and other Build Alternatives except the IHB Alternative Options rate “fair” to “good,” as impacts to these resources are minor to moderate. Relatively high wetland impacts result in “poor” ratings for the IHB Alternative Options.

10.3.3 Maynard Junction Rail Profile Option

As noted above, selected Build Alternative included a design option to operate Project service at-grade through the Maynard crossing of the CSX freight line (i.e., Commuter Rail Alternative Option 1-3, IHB Alternative Option 1-3, and Hammond Alternative Option 1 and 2). The principal advantages of this option would be that the at-grade crossing would reduce the Project capital costs by approximately \$35 million, which could be a consideration in the future should anticipated funding levels fall short, and it would avoid conflict with NIPSCO’s high tension power lines. However, the evaluation clearly indicated that there would be negative issues including obtaining concurrence from CSX to cross their tracks and potential impacts of the crossing on Project service reliability. Assuming that CSX would grant permission to construct a crossing on their railroad, they would control the operation of the crossing and the Project operation would not be guaranteed of having priority over freight trains. Depending on the length and speed of freight trains through the crossing, delays to commuter trains could reach 5 minutes or more. The reliability issue is especially important in that Project service delays could impact SSL and MED operations. In addition, the proposal to operate off-peak shuttle service with timed connections to the SSL service at the proposed Hammond Gateway Station could be compromised by unreliable Project service. For these reasons, this design option was not part of the NEPA Preferred Alternative.

10.4 NEPA Preferred Alternative

Identifying the NEPA Preferred Alternative involved consideration of the factors discussed in this DEIS and summarized in this chapter, including the ability to achieve the Project Purpose and Need, responsiveness to Project goals and objectives, performance ratings for engineering factors, transportation and environmental consequences, and public and agency input. Only one of the Build Alternatives can be considered the NEPA Preferred Alternative as the No Build Alternative fails to achieve the Project Purpose and Need and is ineffective at responding to the Project goals and objectives.

As the Build Alternatives performed similarly in achieving the Project Purpose and Need and Project goals and objectives, other factors were considered to select the NEPA Preferred Alternative. The engineering, transportation and environmental factor ratings indicate variable performance among the alternatives depending on the factor considered. Factors that were especially important to NICTD from railroad infrastructure and operational perspectives, included:

- Avoiding a connection to the SSL in Illinois
- Providing off-peak and weekend services
- Avoiding a new CSX freight line at-grade crossing in Munster
- Minimizing direct and operational impacts on freight operations
- Minimizing added trackage
- Enabling a co-aligned Hammond Gateway Station
- Improving Forecasted average weekday boardings
- Reducing Travel time

The combination of these factors points to Hammond Alternative Option 2 as the best performer. The Hammond Alternative Options would have the least potential impact on area freight railroads. This is a critical factor in decision-making, as using or crossing existing freight railroad corridors would require agreement from the affected railroad owners. The Hammond Alternative Options would not cross freight railroad tracks at-grade, share railroad ROW and infrastructure, and would have the least effect on freight railroad operations.

Looking at all Build Alternative Options in light of public and agency concerns regarding property acquisitions and natural resources, for example, indicates no clear best performer. Factors identified by the City of Hammond and Town of Munster provide additional perspective. The City of Hammond favors the Hammond Alternative Options for their “gateway” entrance and maintenance facility locations, and for their ease of integration with other existing rail services. Munster’s preference for the rail line alignment is Hammond Alternative Option 2, with the proposed alignment on the east side of the CSX freight line, the proposed Munster/Dyer Main Street Station parking facility on the west side, and extension of Main Street under the CSX freight line to connect to the parking facility. Hammond Alternative Option 2 supports this input from Hammond and Munster, with the Munster/Dyer Main Street Station arrangement being the factor that distinguishes Hammond Alternative Option 2 as the better performer compared to Hammond Alternative Option 1.

In examining the distinguishing natural and built environment factors, including acquisitions, wetlands and floodplains impacts, each Build Alternative is primarily a “fair” to “poor” performer among these factors. Although a few “good” ratings occur for Commuter Rail Alternative Options, IHB Alternative Options 3 and 4, and Hammond Alternative Option 3, none is a substantially better performer in all natural and built environment factors.

Considering these many engineering, transportation, natural and built environmental factors, and input from the City of Hammond and Town of Munster, FTA and NICTD propose that Hammond Alternative Option 2 is the NEPA Preferred Alternative as it meets the Project's Purpose and Need and performs best among the alternatives when considering the other factors of importance. At the current level of conceptual design, the NEPA Preferred Alternative was determined to have some negative effects on the natural and built environment, particularly in the areas of property acquisitions, wetlands, and floodplains. However, none of the other Build Alternatives performed substantially better. NICTD anticipates being able to reduce or potentially eliminate some of these impacts through future design refinement and mitigation. In considering the tradeoffs between benefits and effects, the NEPA Preferred Alternative would cause the least damage to the biological and physical environment and it best protects, preserves, and enhances cultural, historic, and natural resources.

10.5 Next Steps

This DEIS will be distributed to appropriate local, regional, state, and federal agencies and the public for their review and comment. Public comment on the DEIS will be considered and substantive comments will be addressed in the combined FEIS/ROD. Local elected officials and the public have been and will continue to be involved in the Project throughout design and construction, through public and agency meetings, and other coordination methods.

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