Appendix G4. Visual and Aesthetic Conditions Technical Report

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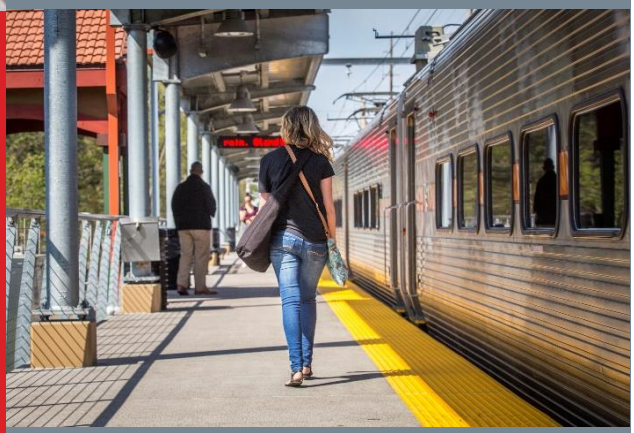
Visual and Aesthetic Conditions Technical Report

West Lake Corridor Project

Federal Transit Administration
and
Northern Indiana Commuter Transportation District

March 2018



NORTHERN INDIANA COMMUTER TRANSPORTATION DISTRICT

33 East U.S. Highway 12

Chesterton, Indiana 46304

T 219.926.5744 / F 219.929.4438

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Acronyms and Abbreviations

ADA	Americans with Disabilities Act
CMAP	Chicago Metropolitan Agency for Planning
CN	Canadian National Railway
CSS	Chicago South Shore & South Bend
CSX	CSX Transportation
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
I-80	Interstate 80
I-94	Interstate 94
KVP	key viewpoint
MED	Metra Electric District
MSF	maintenance and storage facility
NICTD	Northern Indiana Commuter Transportation District
NIRPC	Northwestern Indiana Regional Planning Commission
Project	West Lake Corridor Project
ROW	right-of-way
SSL	South Shore Line
TOD	transit-oriented development
TPSS	traction power substation

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Executive Summary

The West Lake Corridor Project (Project) is sponsored by the Northern Indiana Commuter Transportation District (NICTD) to expand its commuter rail service through an approximate 9-mile southern extension, creating a new passenger rail service to the municipalities of Dyer, Munster, and Hammond, in Lake County, Indiana. This new service would provide rail access to downtown Chicago. The Project would also expand service coverage, improve mobility and accessibility, and stimulate local job creation and economic development opportunities for Lake County.

This *Visual and Aesthetic Conditions Technical Report* has been prepared in support of the Final Environmental Impact Statement (FEIS) for the Project. The objective of this technical report is to evaluate the Project's anticipated effects on visual resources and aesthetic quality within the Project Area, including the effect of the Project on the character of the natural and cultural resources of the Project Area, and the effect of the Project as visually perceived by the affected population in the Project Area.

Project implementation is not anticipated to result in a substantial change to the visual character of the Project corridor as a whole, and moderate visual effects are anticipated to result from Project implementation along most segments. However, moderately high visual effects would occur in some areas, such as where full or partial residential acquisitions would be required (near the Munster/Dyer Main Street Station area), where the alignment would be elevated (near Maynard Junction, the State Street Commercial Historic District, and the Hammond Gateway Station area), and where residential, recreational, and other established land uses are located adjacent to the Project corridor (throughout the Dyer/Munster and Hammond Landscape Units).

NICTD would construct facilities that fit within the context of the local environment and would engage local jurisdictions and stakeholders regarding landscaping around stations and along the Project corridor to maintain or improve the visual character of the area. In addition, the station locations were coordinated with the affected municipalities, including the Towns of Munster and Dyer and the City of Hammond. At locations where moderately high visual effects are anticipated, Project elements might be visually screened or softened using landscaping where adequate space permits, and the loss of existing vegetation would be replaced to the extent feasible. As the Project advances, NICTD would coordinate with affected viewers and consider strategies to avoid or minimize and mitigate the visual effects of the Project.

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1 Introduction

This *West Lake Corridor Project Visual and Aesthetic Conditions Technical Report* has been prepared in support of the Final Environmental Impact Statement (FEIS) for the West Lake Corridor Project (Project). The objective of this technical report is to evaluate the Project's anticipated effects on visual resources and aesthetic quality within the Project Area, including the effect of the Project on the character of the natural and cultural resources of the Project Area, and the effect of the Project as visually perceived by the affected population in the Project Area.

1.1 Project Background

The Northern Indiana Commuter Transportation District (NICTD) operates the electrically powered interurban commuter South Shore Line (SSL) between Millennium Station in downtown Chicago, Illinois, and the South Bend International Airport in South Bend, Indiana (a distance of about 90 miles). NICTD operates in concert with the freight carrier Chicago South Shore & South Bend Railroad (CSS).

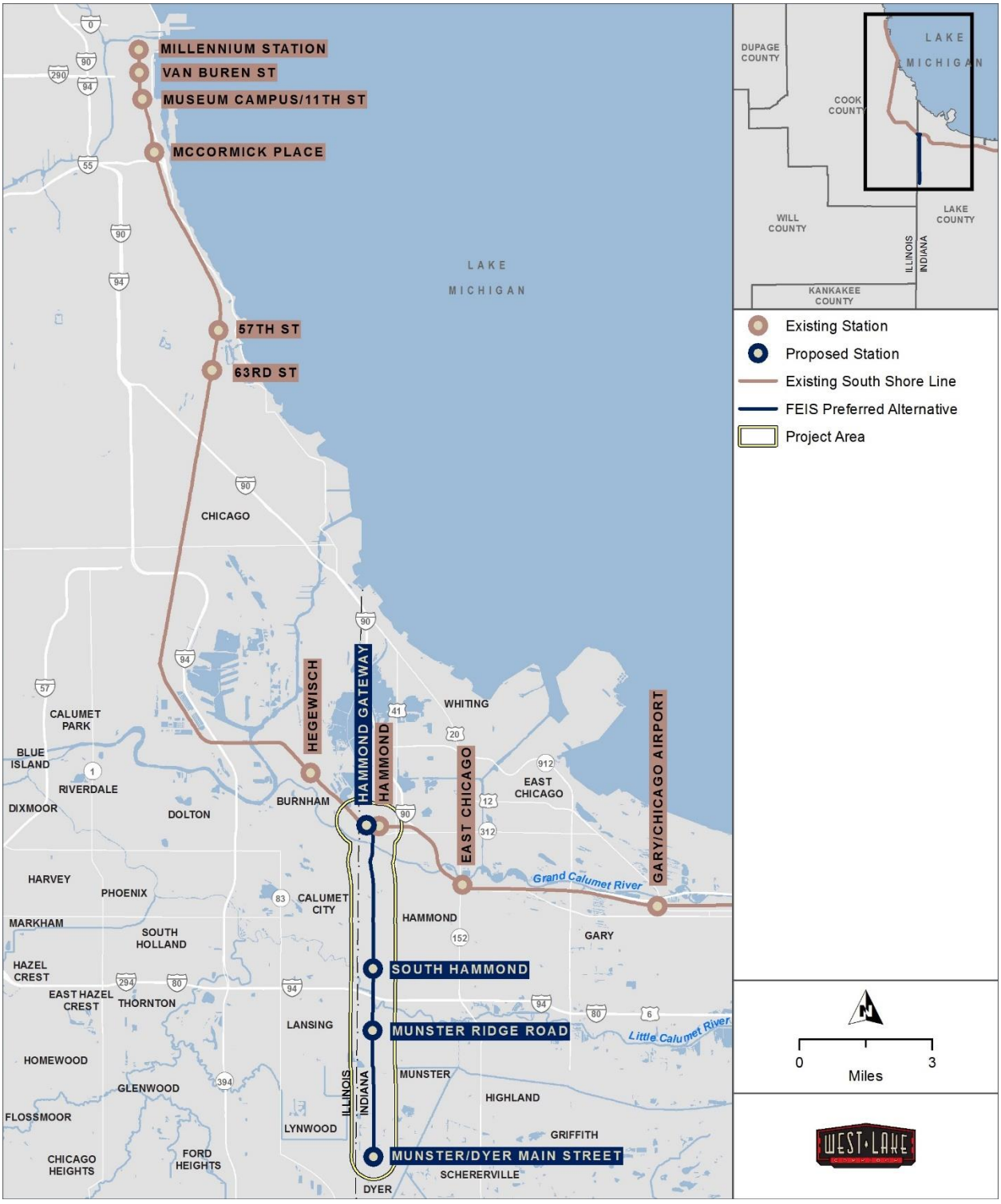
The purpose of the Project is to provide preliminary engineering services to support a New Starts grant administered by the Federal Transit Administration's (FTA) Capital Investment Grant program for a new service from the town of Dyer, Indiana, to the city of Hammond, Indiana. The Project is a proposed 9-mile southern extension tying the existing SSL in Hammond to Dyer.

The new route is proposed to reach high-growth areas in central and western Lake County, Indiana. The Project would expand NICTD's service coverage, improve mobility and accessibility, and stimulate local job creation. Numerous transit-oriented development (TOD) and economic development opportunities would be created in Lake County by this Project. This Project includes the design of a mainline track, railroad bridge structures, elevated rail structures, drainage culverts, at-grade roadway and pedestrian crossings, contact power and signal design, and construction of four commuter stations.

1.2 Project Description

The environmental review process builds upon NICTD's prior West Lake Corridor studies that examined a broad range of alignments, technologies, and transit modes. The studies concluded that a rail-based service between the Munster/Dyer area and Metra's Millennium Station in downtown Chicago, shown in **Figure 1.2-1**, would best meet the transportation needs of the northwest Indiana area. Thus, NICTD advanced a Preferred Build Alternative (referred to as the FEIS Preferred Alternative) for detailed analysis in the FEIS. NEPA also requires consideration of a No Build Alternative to provide a basis for comparison to the Build Alternative.

Figure 1.2-1: Regional Setting of West Lake Corridor Project



Source: HDR 2017.

1.2.1 No Build Alternative

The No Build Alternative is defined as the existing transportation system, plus any committed transportation improvements included in the Northwestern Indiana Regional Planning Commission's (NIRPC) *2040 Comprehensive Regional Plan* (CRP) (NIRPC 2011) and the Chicago Metropolitan Agency for Planning's (CMAP) *GO TO 2040 Comprehensive Regional Plan* (CMAP 2014) through the planning horizon year 2040. It also includes capacity improvements to the existing Metra Electric District's (MED) line and Millennium Station, documented in NICTD's *20-Year Strategic Business Plan* (NICTD and RDA 2014).

1.2.2 Build Alternative

The Project is an approximate 9-mile southern extension of the existing NICTD SSL between the town of Dyer and city of Hammond, Indiana. Traveling north from the southern terminus near Main Street at the Munster–Dyer municipal boundary, the Project would include new track operating at grade on a separate right-of-way (ROW) to be acquired adjacent to the CSX Transportation (CSX) Monon Subdivision rail line in Dyer and Munster. The Project alignment would be elevated from 45th Street to the Canadian National Railway (CN) Elsdon Subdivision rail line at Maynard Junction. North of the CN line, the Project alignment would return to grade and join with the publicly owned former Monon Railroad corridor in Munster and Hammond, Indiana, and continue north. The Project would relocate the existing Monon Trail pedestrian bridge crossing over the Little Calumet River and build a new rail bridge at the location of the former Monon Railroad bridge. The Project alignment would cross under Interstate 80/94 (I-80/94) and continue north on the former Monon Railroad corridor to Sibley Street. From Douglas Street north, the Project would be elevated over all streets and rail lines using a combination of retaining walls, elevated structures, and bridges. The Project would terminate just east of the Indiana Harbor Belt at the state line, where it would connect with the SSL. Project trains would operate on the existing MED line for the final 14 miles, terminating at Millennium Station in downtown Chicago.

Four new stations would be constructed along the alignment; Munster/Dyer Main Street, Munster Ridge Road, South Hammond, and Hammond Gateway Stations. Each station would include station platforms, parking facilities, benches, trash receptacles, bicycle racks, and other site furnishings. Shelter buildings would only be located at the Munster/Dyer Main Street and Hammond Gateway Stations.

The Project would include a vehicle maintenance and storage facility (MSF) with a layover yard and traction power substation (TPSS) to power the overhead contact system, located just south of the Hammond Gateway Station, west of Sheffield Avenue. Additional TPSSs would be located at the South Hammond Station parking lot and Munster/Dyer Main Street Station. The TPSS would be enclosed to secure the electrical equipment and controls, with a footprint of about 20 feet by 40 feet.

1.3 Definition of Terms

1.3.1 Project Area

The term *Project Area* as applicable to this technical report is defined as the ROW for the Project alignment and the adjacent properties with a visual connection to the alignment, which include residential, commercial, industrial, and recreational properties. The Project Area can also be referred to as the *viewshed*, or the landscape formed by the area that can be seen from the Project alignment and the areas from which the Project would be seen. The viewshed includes a diverse array of development patterns, parks and natural areas, rail lines, highways, and local roads. A summary of the general visual context of the viewshed is provided in **Section 1**.

1.3.2 Visual Resources

The term *visual resources* refers to the appearance of the features that make up the visible landscape. These features can include elements of the natural, cultural, or project environments, as described in further detail below.

- *Natural environment* includes the land, water, vegetation, animals, and atmospheric conditions that compose the natural surroundings. Although natural features might have been altered or imported by people, features that are primarily geological or biological in origin are considered natural.
- *Cultural environment* includes the buildings, structures, artifacts, and art that compose the built surroundings. These are features that were constructed by people.
- *Project environment* includes the geometrics (such as alignment, profile, and cross sections), grading, constructed elements (such as pavement and structures), vegetative cover, and ancillary visual elements (such as control devices and signs) of the various Project features. These are the constructed features that would be placed in the environment as part of the Project.

1.3.3 Viewers

The term *viewers* is defined as the affected population who occupy the land adjacent to a project, either long term or short term. An example of a long-term viewer is a homeowner with property located along the Project alignment, and an example of a short-term viewer is a pedestrian using a trail along the Project alignment. Viewers can be characterized by their association with a specific adjacent land use (for example, residential, commercial, industrial, agricultural, recreational, and institutional) and are collectively referred to as *viewer groups*.

2 Assessment Methodology

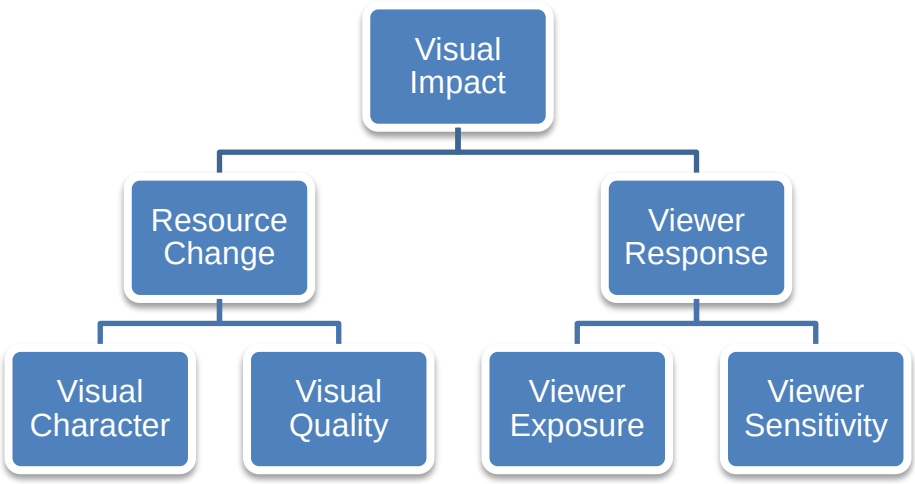
Since FTA does not have visual assessment guidelines, NICTD used a methodology based on the Federal Highway Administration's (FHWA) *Visual Impact Assessment for Highway Projects* (FHWA 1981), which outlines the following steps for assessing visual impacts:

- Define the project setting and viewshed.
- Identify key views for visual assessment.
- Analyze existing visual resources and viewer response.
- Depict the visual appearance of project alternatives.
- Assess the visual impacts of project alternatives.
- Propose methods to mitigate adverse visual impacts.

2.1 Assessing Visual Change

According to FHWA's guidelines, the visual impacts of a project are determined by assessing the ***visual resource change*** that would occur as the result of the project and by predicting the ***viewer response*** to those changes, as summarized in **Figure 2.1-1**. These processes are also described in further detail below.

Figure 2.1-1: Visual Impact Assessment Process



2.1.1 Visual Resource Change

Visual resource change is the sum of the change in visual character and the change in visual quality. This change can be determined by assessing the compatibility of a project with the visual character of the existing landscape, and then comparing the visual quality of the existing resources with the projected visual quality after implementation of the project. Visual character and visual quality are described below.

- **Visual Character:** *Visual character* refers to the physical features inherent to the potentially affected area. Both natural and artificial landscape features contribute to the visual character of an area or view. Visual character is descriptive and non-evaluative, which means that it is based on defined attributes that are neither good nor bad themselves. A change in visual character cannot be described as having good or bad attributes until it is compared with the viewer response to that change. Changes in visual character can be identified by how visually compatible a proposed project would be with the existing condition.
- **Visual Quality:** *Visual quality* refers to the value that viewers place on the visual character of, or what viewers like and dislike about, the visual features of a particular scene. Visual quality is inherently subjective, as different viewers might evaluate visual features differently. In general, people respond favorably to scenes that create a sense of perceived harmony, order, and coherence. Public attitudes help to determine the assessed level of visual quality and to predict how project changes would be perceived. FHWA describes three aspects of visual perception, which determine the visual quality of a particular scene: vividness, intactness, and unity, as described in detail below.
    - *Vividness* is the visual power or memorability of landscape components as they combine in distinctive visual patterns.
    - *Intactness* is the visual integrity of the natural and built landscape and its freedom from encroaching elements. It can be present in well-kept urban and rural landscapes as well as in natural settings.
    - *Unity* is the visual coherence and compositional harmony of the landscape considered as a whole. It frequently attests to the careful design of individual components in the landscape.

2.1.2 Viewer Response

The viewer response to changes resulting from a project is the sum of viewer exposure and viewer sensitivity to the project. These elements combine to form a method of predicting how sensitive receptors might react to visual changes brought about by a project. Viewer exposure and viewer sensitivity are further described as follows.

- **Viewer Exposure:** *Viewer exposure* is defined as the measurement of the number of viewers exposed to the resource change, the type of viewer activity, the duration of the view, the speed at which the viewers move, and the position of the viewers. Examples of typical viewer exposure levels are provided below.
    - *High* viewer exposure results when there are many viewers, consistent exposure for extended durations, close proximity to the resource, and unobstructed views.
    - *Moderate* viewer exposure results when there are some viewers, routine exposure for a short duration, moderate proximity to the resource, and partially obstructed views.
    - *Low* viewer exposure results when there are few viewers, limited exposure for a short duration, distance from the resource, and obstructed views.
- **Viewer Sensitivity:** *Viewer sensitivity* is defined as both the viewers' concern for scenic quality and the viewers' response to change in the visual resources that make up the view. Examples of scale for viewer sensitivity levels are provided below.
    - *High* viewer sensitivity results when the viewer's activity is associated with the view, when the view is important to the viewer, or when the view has cultural significance.
    - *Moderate* viewer sensitivity results when the viewer's activity may be associated with the view but might also distract them from the view, or when the view is of some importance to the viewer.
    - *Low* viewer sensitivity results when the viewer's activity distracts them from the view, or when the view is not of importance to the viewer.

2.1.3 Level of Visual Impact

As noted above, the visual impacts of a project are determined by assessing the visual resource change that would occur as the result of the project and by predicting the viewer response to those changes. Considering these processes, FHWA generally defines the level of visual impact as follows:

- **Low:** A slight change in visual character or quality, with no substantive effect on a visually sensitive area. New visual elements would be generally compatible with existing visual character, and little to no viewer response to visual changes is anticipated.
- **Moderate:** Either (1) a slight change in visual character or quality, resulting in a moderate level of viewer response, or (2) an extensive change in visual character or quality, resulting in a minimal viewer response. New visual elements would be somewhat compatible with existing visual character and quality.
- **Moderately High:** Either (1) a moderate change in visual character or quality, resulting in a high level of viewer response, or (2) an extensive change in visual character or quality, resulting in a moderate viewer response. New visual elements would be somewhat incompatible with existing visual character and quality.
- **High:** An extensive change to visual character or quality, or a substantial effect on a visually sensitive area. New visual elements would be generally incompatible with existing visual character and quality, resulting in a high level of viewer response.

Table 2.1-1 provides a visual reference that shows how the level of visual impact is determined by combining the level of the resource change and the level of the viewer response.

Table 2.1-1: Level of Visual Impact

Level of Visual Impact		Viewer Response		
		Low (L)	Moderate (M)	High (H)
Visual resource change	Low (L)	L	ML	M
	Moderate (M)	ML	M	MH
	High (H)	M	MH	H

Source: HDR 2017.

3 Project Setting

3.1 Project Setting

The regional landscape establishes the general visual environment of a project. The Project Area, or the viewshed, for this technical report is defined as the ROW for the Project alignment and the adjacent properties with a visual connection to the alignment, which include residential, commercial, and recreational properties.

The general land use patterns in the Project Area transition from rural and suburban in the community of Dyer in the south, to increasingly dense suburban development around south Hammond, to the urban environment of downtown Hammond. The regional landscape is mostly flat, with the majority of the Project alignment surrounded by developed land. Trees line a number of streets and, in places, separate the Project alignment from bordering development. As a result, the majority of views from the Project alignment are limited to existing roads and development that are located adjacent to the alignment. Project views can extend beyond adjacent properties in areas where the Project would be elevated.

As noted in **Section 1.3.1**, the viewshed includes a variety of land use patterns that have been influenced by the transportation-oriented history of the Project corridor. Additionally, the presence of the existing rail lines has influenced the development patterns and settings in much of the Project corridor.

Natural areas, such as parks, where present, are scattered and often isolated. Other natural features include the Little Calumet and Grand Calumet Rivers.

3.2 Landscape Units

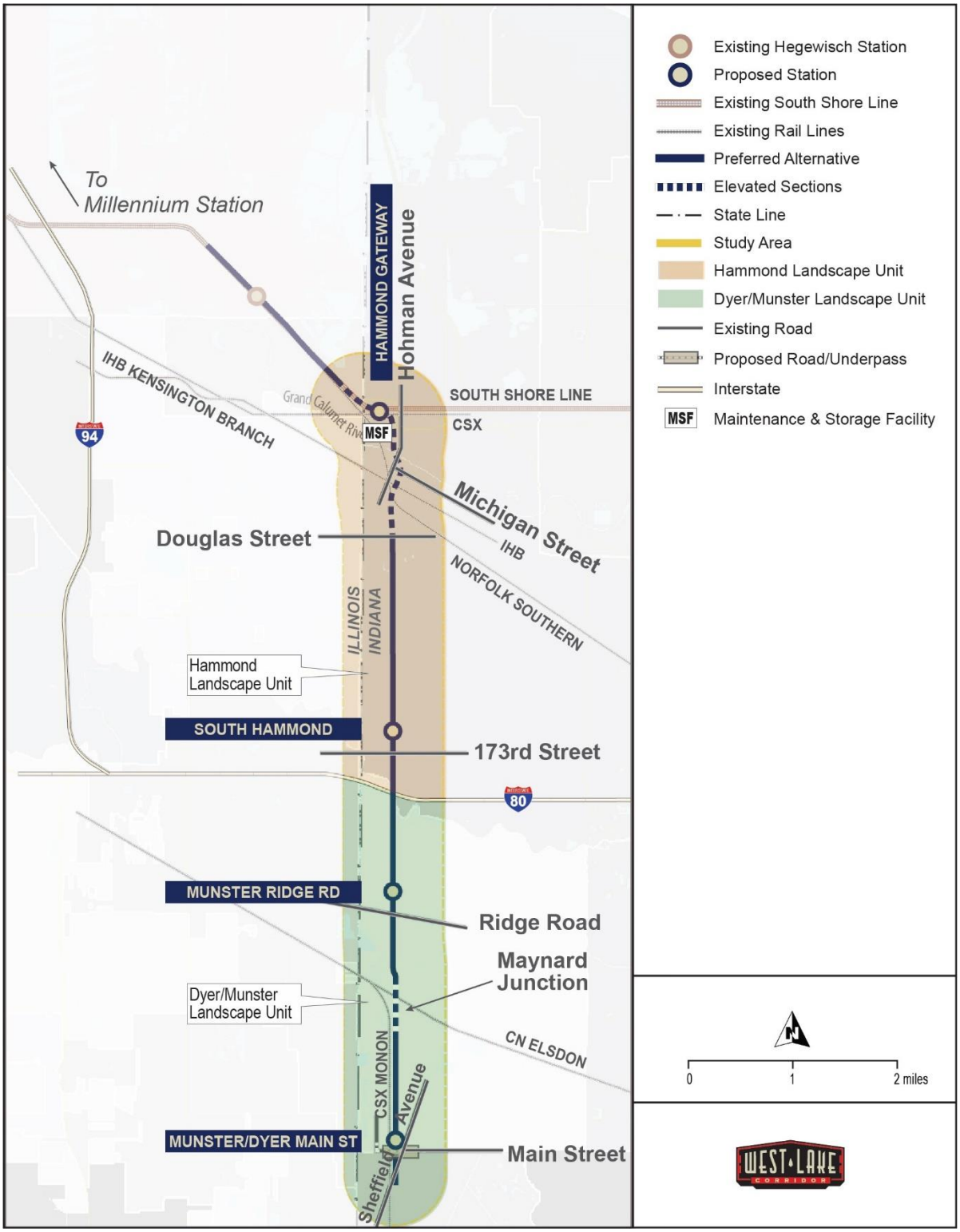
A landscape unit is a portion of the regional landscape. These units are commonly used to divide long, linear projects into logical geographic entities for assessment purposes. Landscape units generally are made up of areas with similar visual characteristics, although smaller locations within each landscape unit might differ from the overall unit's character.

For the purposes of this technical report, the Project Area is divided into two landscape units: Dyer/Munster and Hammond. The general limits of the Dyer/Munster Landscape Unit consist of the Project Area from the southern terminus of the Project to I-80/94 within the towns of Dyer and Munster. The general limits of the Hammond Landscape Unit consist of the Project Area from I-80/94 to the northern terminus of the Project. The general limits of the two landscape units are shown in **Figure 3.3-1**.

3.3 Visual Character and Quality of the Project Area

The visual character and quality of the Project Area are described in detail in **Table 3.3-1**. **Table 3.3-1** also includes representative photographs to document the existing conditions of the Project Area and includes a brief description of key resources and land uses that might be sensitive to visual resource change, such as residential, recreational, and other established land uses.

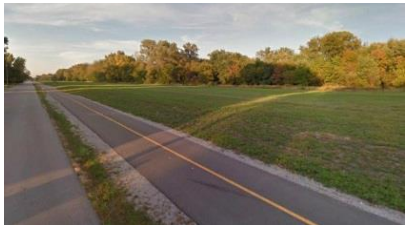
Figure 3.3-1: Landscape Units



Source: HDR 2017.

Table 3.3-1: Summary of Visual Character and Quality

Project Segment	Visual Character	Visual Quality	Viewer Groups	Representative Photograph of Existing Conditions
Dyer/Munster Landscape Unit				
Dyer	In the town of Dyer, land uses range from medium-density suburban residential, with the majority of the residential land uses consisting of single-family development, to business and light industrial districts. This area includes an existing active rail corridor that is located adjacent to the Project alignment. Adjacent homes generally face away from the Project alignment. Trees line much of the Project alignment.	Moderate	Roadway travelers, pedestrians, residents, workers	 Source: Google 2017.
Munster/Dyer Main Street Station area	The west side of the Project alignment includes medium-density residential development as well as a large undeveloped area. The east side of the Project alignment includes medium-density residential development as well as subdivision that is partially developed and partially vacant.	Moderate	Roadway travelers, pedestrians, residents, workers	 Source: Google 2017.
Munster	In the town of Munster, land uses are typically medium-density suburban residential, along with a planned subdivision that is mostly undeveloped. Residential areas are interspersed with an industrial park and some commercial land uses. Within the residential area is an open-space area that is planned for station development. This area includes an existing active rail corridor that is located adjacent to the Project alignment. Adjacent homes face either toward or away from the proposed alignment. Trees line much of the Project alignment. Sensitive visual resources in this segment include West Lakes Park, Lansing Country Club, Pennsy Greenway, Little Calumet River Levee Trail, and Monon Trail.	Low to moderate	Roadway travelers, pedestrians, residents, workers, recreational users	 Source: Google 2017.

Project Segment	Visual Character	Visual Quality	Viewer Groups	Representative Photograph of Existing Conditions
Munster Ridge Road Station area	The west side of the Project alignment includes vacant, undeveloped land surrounded by medium-density residential development. Commercial development is present to the south along Ridge Road and includes various restaurants and small businesses.	Moderate	Roadway travelers, pedestrians, residents, workers	 Source: Google 2017.
Hammond Landscape Unit				
Hammond	In the city of Hammond, land uses are typically medium- to high-density residential and consist mostly of single-family homes on small lots. Downtown Hammond, at the north, is primarily commercial, residential, and industrial land uses and includes some vacant, undeveloped land. North of downtown Hammond, land uses consist of industrial and transportation uses with both occupied and vacant properties. Adjacent homes both face towards or away from the proposed alignment. Trees separate homes from the alignment in some locations. Sensitive visual resources in this segment include the Monon Trail, Erie Lackawanna Trail, Oak Hill Cemetery, Harrison Park, and the State Street Commercial Historic District.	Moderate	Roadway travelers, pedestrians, residents, workers, recreational users	 Source: Google 2017.
South Hammond Station area	The east side of the Project alignment includes vacant, undeveloped land surrounded by medium-density residential development.	Moderate	Roadway travelers, pedestrians, residents, workers, recreational users	 Source: Google 2017.

Project Segment	Visual Character	Visual Quality	Viewer Groups	Representative Photograph of Existing Conditions
North Hammond MSF area	This area includes single-family residential development and industrial buildings as well as vacant lots with debris.	Low to moderate	Roadway travelers, pedestrians, residents, workers, recreational users	 Source: Google 2017.
Hammond Gateway Station area	This area includes single-family residential development as well as vacant parcels and industrial development, which are generally located at the edge of a transportation corridor.	Low to moderate	Roadway travelers, pedestrians, residents, workers, recreational users	 Source: Google 2017.

Source: HDR 2017.

3.4 Viewer Groups in the Project Area

Viewers refer to the affected population who occupy the land adjacent to a project. These viewers can be characterized in viewer groups by their association with a specific adjacent land-use. The Project Area includes several types of viewer groups, such as roadway travelers, transit riders, pedestrians, residents, workers, and recreational users, as described in further detail below. **Table 3.3-1** above also lists the potentially affected viewer groups in each segment of the Project Area.

- **Roadway Travelers:** Roadway travelers include both routine (for example, commuters) and occasional (for example, recreational) travelers through the project area. Roadway travelers move at varying speeds due to differences in the mode of transportation used (vehicles, bicycles, etc.), the topography of the route, the traveler's familiarity with the route, and the current roadway and weather conditions. Roadway travelers are generally assumed to have low to moderate levels of viewer sensitivity due to the typically short-term exposure to changes in the environment, and because the passing landscape becomes familiar. Also, roadway travelers might be less focused on the passing views and more focused on the roadway conditions.
- **Transit Riders:** Transit riders include both routine (for example, commuters) and occasional (for example, recreational) passengers on transit lines using the Project Area. Single views for transit riders are typically of short duration. Transit riders who frequently travel a route generally have low to moderate viewer sensitivity to their surroundings due to the typically short-term exposure to changes in the environment, and because the passing landscape becomes familiar.
- **Pedestrians:** Pedestrians include individuals who are traveling on foot along or in the vicinity of the Project alignment. Pedestrians can include people traveling to and from residences, schools, places of employment, retail centers, transportation facilities, etc. Pedestrians are generally assumed to have higher levels of viewer sensitivity due to the typically long-term exposure to changes in the environment.
- **Residents:** Residents include individuals whose homes are located along or in the vicinity of the Project alignment. Residents are generally assumed to have higher levels of viewer sensitivity due to a concern for their home environment and the typically long-term exposure to changes in the environment. Residents can also have higher levels of viewer sensitivity due to the typically long-term exposure to changes in the environment, and because they are likely to place a high value on local visual resources.
- **Workers:** Workers include individuals whose place of employment or work activities are located along or in the vicinity of the Project alignment. Workers are generally assumed to have lower levels of viewer sensitivity because they are typically less focused on the visual resources surrounding their workplace and more focused on conditions in their work location. Workers can experience short- or long-term exposure to changes in the environment.
- **Recreational Users:** Recreational users include includes walkers, joggers, bicyclists, nature viewers, and other users whose recreational activities take place along or in the vicinity of the Project alignment. Recreational users are generally assumed to have higher levels of viewer sensitivity due to a particularly focused interest in scenic quality and the potential for varying durations of exposure to changes in the environment.

4 Visual Impact Assessment

As described in **Section 2**, NICTD assessed the visual impacts of the Project by evaluating the changes to existing visual resources that would occur as a result of the Project and by evaluating the anticipated viewer response to those changes.

Visual impact assessment was based on direct field observation from multiple vantage points, including from neighboring properties and roads; evaluation of the existing visual character; and a review of Project plans and features. Visual impact assessment was also based on photographic documentation of several key viewpoints of the Project alignment. However, because it is not feasible to analyze all the viewpoints from which the Project would be seen, NICTD selected a number of key viewpoints to best demonstrate the change in the Project's visual resources. These key viewpoints described in detail below.

4.1 Key Viewpoints and Simulations

NICTD's visual impact assessment for the Project included evaluating photographs of several key viewpoints. These key viewpoints were selected along commonly traveled routes, or at other likely observation points, to document the existing conditions of the Project Area. Key viewpoints represent specific locations within a landscape unit from which the Project would be visible. Within the landscape unit, key viewpoints were used to characterize the existing visual conditions and to represent examples of visual character and visual quality. They were also used to determine impacts by demonstrating how the Project would change views within the landscape unit.

Key viewpoint locations were also selected based on the sensitivity of the resource (for example, to support the Section 106 consultation process) or based on the locations of key vertical features of the Project that would change the visual character or views of an affected area. These key viewpoint locations (KVPs) are discussed in **Section 4.2** and illustrated in the figures in **Appendix A**. For each figure, an aerial photograph or a conceptual site plan is also provided that depicts the location and direction of each key viewpoint.

For some locations, both an existing-condition photograph and a simulated-condition drawing are provided. Simulation vantage points were selected to provide representative public views from which Project elements would be most visible to the various types of viewer groups that NICTD anticipates would be located within the Project landscape units. For these locations, each key viewpoint is represented with a "before Project" existing condition photograph and a computer-generated sketch-up simulation of the conceptual "after Project" condition. The computer-generated sketch-up simulations were prepared using digital photographs and computer modeling to represent the visual changes that would result from the Project.

4.2 Visual Impact Assessment

This section describes the anticipated changes in visual quality and character within each landscape unit and for each key viewpoint, if applicable, as a result of the Project. As described in **Section 3.2**, the Project would pass through the Dyer/Munster and Hammond Landscape Units, for which a total of seven key viewpoints were analyzed.

It is important to note that, when assessing key viewpoints, seasonal changes and weather patterns typical of the Project Area produce variations to vegetation and ground cover. Thus, in the short term, Project features might be more visible when vegetation is young, and, in the long term, Project features might be less visible when vegetation is mature. Therefore, depending on the timeframe of the view, both seasonal and vegetation variations would result in different views than those represented in each existing-condition and simulated-condition photograph.

4.2.1 No Build Alternative

The No Build Alternative is defined as the existing transportation system plus any committed transportation and/or capacity improvements. With the No Build Alternative, there would be no alteration of the visual character and quality of the Project corridor beyond these planned improvements. Therefore, no adverse visual effects are anticipated, and no mitigation would be required.

4.2.2 FEIS Preferred Alternative

4.2.2.1 Long-term Operating Effects

The FEIS Preferred Alternative would change the visual environment by introducing new elements or removing or replacing existing elements. New elements would affect visually sensitive resources by altering the view to and/or from the resource, or by adding an element that would be out of scale or character with the existing visual context. New elements would include vehicles and tracks; the overhead contact system, which includes the poles supporting the wires to power the vehicles; stations, sidewalks, and parking; ramps or pedestrian bridges; TPSS; ROW modifications; bridges and retaining walls; and the MSF. TOD around stations would add a new mixed-use visual element to the suburban-style visual character of existing residential areas.

The anticipated visual effects during Project operation would generally be consistent with existing, similar features, such as roads and utility infrastructure, and NICTD does not anticipate that the FEIS Preferred Alternative would substantially obstruct Project Area views or substantially alter the existing visual character of the Project alignment. A summary of the analysis by landscape unit is provided in **Table 4.2-1**, which is followed by a detailed discussion of the anticipated visual impacts for each project segment.

Table 4.2-1: Summary of Visual Impacts from the FEIS Preferred Alternative

Landscape Unit	Project Segment	Photographic Documentation	Resource Change	Viewer Response	Visual Impact
Dyer/Munster	Dyer	Not applicable	MH	M–MH	MH
	Munster/Dyer Main Street Station area	KVP 1a	MH	M–MH	MH
		KVP 1b	M	M–MH	MH
		KVP 1c	M	MH	MH
		KVP 1d	M	MH	MH
	Munster	Not applicable	MH	MH	MH
	Munster Ridge Road Station area	KVP 2a	MH	MH	MH
		KVP 2b	MH	MH	MH
Hammond	Hammond	Not applicable	MH	MH	MH
	South Hammond Station area	KVP 3a	MH	M–MH	MH
		KVP 3b	MH	M–MH	MH
		KVP 3c	MH	M–MH	MH
	Monon Trail	KVP 4	MH	MH	MH
	State Street Commercial Historic District	KVP 5a	MH	MH	MH
		KVP 5b	MH	MH	MH
		KVP 5c	MH	MH	MH
	North Hammond MSF	KVP 6a	M	M–MH	MH
		KVP 6b	M	M–MH	MH
	Hammond Gateway Station	KVP 7a	MH	MH	MH
		KVP 7b	MH	MH	MH

Source: HDR 2017.

Notes:

KVP = key viewpoint; L = low; M = moderate; MH = moderately high; H= high

Dyer/Munster Landscape Unit

Within the Dyer/Munster Landscape Unit, the FEIS Preferred Alternative would operate at grade on a separate ROW adjacent to the existing CSX Monon Subdivision rail line in Dyer and Munster. The Munster/Dyer Main Street Station would be constructed on a vacant parcel in a suburban setting with low-density surrounding development. To avoid crossing Maynard Junction at grade, the Project alignment would be elevated from 45th Street over the Pennsy Greenway to the CN Elsdon Subdivision rail line. North of the CN rail line, the Project alignment would transition back to ground level and would join with the publicly owned former Monon Railroad corridor in Munster and would continue northward. The Monon Trail runs north-south through Munster, beginning at Fisher Street, within the Monon railroad ROW. The FEIS Preferred Alternative would require relocating the existing Monon Trail pedestrian bridge crossing over the Little Calumet River and constructing a new rail bridge at the location of the former Monon Railroad bridge. The Monon Trail would be preserved as part of the Project.

The two new stations in the Dyer/Munster Landscape Unit would have high-level station platforms with access ramps. Each station stop would have parking facilities, benches, trash receptacles, bicycle racks, and other site furnishings. The Munster/Dyer Main Street Station would also include a shelter building and a TPSS.

KVPs for the Dyer/Munster Landscape Unit

Several types of viewer groups are present in the Dyer/Munster Landscape Unit, so viewer sensitivity in the Dyer and Munster segments of the Project Area is generally anticipated to range from low (workers) to moderate (roadway travelers) to moderately high (pedestrians, residents, and recreational users). The analysis of KVPs below includes a description of the affected viewers and anticipated viewer sensitivity levels. For the Dyer/Munster Landscape Unit, two key viewpoints were analyzed: KVP 1 for the Munster/Dyer Main Street Station area and KVP 2 for the Munster Ridge Road Station area. See **Appendix A** for KVP figures.

- **KVP 1, Munster/Dyer Main Street Station:** The Munster/Dyer Main Street Station would be situated on the east side of the West Lake Corridor track, and the parking area would be on the west side of the CSX rail line. An Americans with Disabilities Act (ADA)–compliant pedestrian tunnel would be constructed to allow the safe crossing of the CSX and NICTD tracks. ADA parking and “Kiss-and-Ride” accommodations would be in a separate lot located in the southwest quadrant of the intersection of Sheffield Avenue and Main Street and would require the acquisition of residential properties. A pedestrian grade separation would be provided to connect this lot with the platform.
    - **KVP 1a**, the view to the southwest from Sheffield Avenue, represents the view as seen by roadway travelers, pedestrians, and residents. Views at this location would typically be of both short (roadway travelers) and long (pedestrians and residents) duration, depending on the viewer group, and viewers at this location would have a moderate (roadway travelers) to moderately high (pedestrians and residents) sensitivity. Following implementation of the FEIS Preferred Alternative, this view would consist of the ADA parking area and associated landscape features. The addition of Project features and the conversion of land use from residential to transportation would alter the visual character and quality at this location.
    - **KVP 1b**, the view to the northwest from Sheffield Avenue, represents the view as seen by roadway travelers, pedestrians, and residents. Views at this location would typically be of both short (roadway travelers) and long duration (pedestrians and residents), depending on the viewer group, and viewers at this location would have a moderate

(roadway travelers) to moderately high (pedestrians and residents) sensitivity. Further, residents might have higher levels of viewer sensitivity due to the typically long-term exposure to changes in the environment, and because they are likely to place a high value on local visual resources. KVP 1b is located within an established residential area in which acquisitions would be required. Following implementation of the FEIS Preferred Alternative, this view would consist of the station platform and associated landscape features. The addition of Project features and the conversion of land use from residential to transportation would alter the visual character and quality at this location. Acquisition of residential parcels would also alter the visual character at this location.

  - **KVP 1c**, the view to the north from Seminary Drive, represents the view as seen by roadway travelers, pedestrians, and residents. Views at this location would typically be of both short (roadway travelers) and long (pedestrians and residents) duration, depending on the viewer group, and viewers at this location would have a moderately high sensitivity based on its location between established residential areas. Following implementation of the FEIS Preferred Alternative, this view would consist of the station parking and associated landscape features. The addition of Project features and the conversion of land use from undeveloped to transportation would alter the visual character, but not the visual quality, at this location.
  - **KVP 1d**, the view to the south from Knightbridge Place, represents the view as seen by roadway travelers, pedestrians, and residents. Views at this location would typically be of both short (roadway travelers) and long (pedestrians and residents) duration, depending on the viewer group, and viewers at this location would have a moderately high sensitivity based on its location between established residential areas. Following implementation of the FEIS Preferred Alternative, this view would consist of the station parking and associated landscape features. The addition of Project features and the conversion of land use from undeveloped to transportation would alter the visual character, but not the visual quality, at this location.

- **KVP 2, Munster Ridge Road Station:** The Munster Ridge Road Station would be situated east of Manor Avenue north of Ridge Road in a developed residential neighborhood. Parking for the station, including accessible and “Kiss-and-Ride” spaces, would be on the west side of Manor Avenue on several vacant residential parcels owned by the Town of Munster. The station and parking would support the high-density residential zoning for that area. The station and parking areas would not substantially alter access or land use patterns. The station would provide access to shopping, restaurants, and services located in the vicinity of the FEIS Preferred Alternative.
  - **KVP 2a**, the view to the northwest from Manor Avenue, represents the view as seen by roadway travelers, pedestrians, residents, and recreational users. Views at this location would typically be of both short (roadway travelers) and long (pedestrians, residents, and recreational users) duration, depending on the viewer group, and viewers at this location would have a moderately high sensitivity based on its location between established residential areas and the adjacent Monon Trail. Following implementation of the FEIS Preferred Alternative, this view would consist of the station parking and associated landscape features, and the Monon Trail would be preserved. The addition of Project features would alter the visual character but not the visual quality, at this location.
  - **KVP 2b**, the view to the southwest from Manor Avenue, represents the view as seen by roadway travelers, pedestrians, residents, and recreational users. Views at this location would typically be of both short (roadway travelers) and long (pedestrians, residents, and

recreational users) duration, depending on the viewer group, and viewers at this location would have a moderately high sensitivity based on its location between established residential areas and the adjacent Monon Trail. Following implementation of the FEIS Preferred Alternative, this view would consist of the station platform and associated landscape features, and the Monon Trail would be preserved. The addition of Project features would alter the visual character, but not the visual quality, at this location.

Visual Impacts for the Dyer/Munster Landscape Unit

Within the Dyer/Munster Landscape Unit, a portion of the Project alignment uses the existing CSX Monon Subdivision rail line ROW. The Project alignment would closely parallel the existing ROW and, for that reason, would be an addition to an existing dedicated transportation corridor rather than the introduction of a new transportation corridor. Therefore, the addition of the Project alignment to this portion of the Project Area would generally be compatible with the existing land uses, and visual impacts are anticipated to be moderate. However, where residential acquisitions would be required, the addition of the Project alignment would alter the existing land uses, and visual impacts are anticipated to be moderately high.

The Project alignment would be elevated from 45th Street to the CN Elsdon Subdivision rail line at Maynard Junction, adjacent to an existing golf course. However, the nature of development surrounding the golf course includes an existing rail corridor to the south and an existing electrical substation to the east. Therefore, the addition of the Project alignment to this portion of the Project corridor would generally be compatible with the existing land uses; however, visual impacts are anticipated to be moderately high at this location based on the increased viewer sensitivity that is characteristic of recreational land uses. Where the Project alignment would be elevated over the Pennsy Greenway or would be adjacent to the existing Monon Trail, visual impacts are anticipated to be moderately high at these locations based on the increased viewer sensitivity that is characteristic of recreational land uses.

The FEIS Preferred Alternative would also bring increased frequency of rail vehicles passing through the area, as well as a viewer group not previously represented in the Project Area (transit riders). Impacts on visual quality would range from moderate to moderately high, especially in some locations where the Project alignment would be elevated or would be adjacent to sensitive visual resources (that is, recreation areas). Further, where residential areas are present on one or both sides of the Project corridor, an increased level of viewer sensitivity is assumed based on the close proximity to the Project corridor and the varying degrees of openness of existing vegetation. Both temporary and permanent impacts on the vegetation along the Project corridor would alter the views and the amount of screening provided for adjacent neighborhoods and recreation areas.

At locations where moderately high visual impacts are anticipated, implementation of the mitigation measures described in **Section 5.2** would help to avoid or minimize and mitigate visual effects of the FEIS Preferred Alternative at each location.

Moderate impacts are generally anticipated as a result from adding station and TPSS Project elements, since these features would be designed to complement their surroundings, with variations in design that are consistent with the context of each station and TPSS location. However, NICTD anticipates that station features would also include passenger information displays, lighting, and security systems, which would alter the visual quality and character at these locations. At station locations, the FEIS Preferred Alternative would also create a visual barrier between the neighborhoods on either side of the track and would cause local light and glare impacts.

Hammond Landscape Unit

Within the Hammond Landscape Unit, the Project alignment would cross under I-80/94 and continue northward on the former Monon Railroad corridor until Sibley Street. The trail continues in north-south through Hammond, ending at Sibley Street. From Douglas Street north, the Project alignment would be elevated over all streets and rail lines using a combination of retaining walls, elevated structures, and bridges. The Project alignment would terminate just east of the Indiana Harbor Belt at the state line, where it would connect with the existing SSL. The Monon Trail would be preserved as part of the Project.

The two new stations in the Hammond Landscape Unit would have high-level station platforms with access ramps. Each station stop would have parking facilities, benches, trash receptacles, bicycle racks, and other site furnishings. A shelter building would be located at the Hammond Gateway Station. The FEIS Preferred Alternative would also include a vehicle maintenance facility with a layover yard and TPSS that would be located just south of Hammond Gateway Station, west of Sheffield Avenue. An additional TPSS would be located at the South Hammond Station parking lot.

KVPs for the Hammond Landscape Unit

Several types of viewer groups are present in the Hammond Landscape Unit, so viewer sensitivity in the Hammond segments of the Project Area is generally anticipated to range from low (workers) to moderate (roadway travelers) to moderately high (pedestrians, residents, and recreational users). The analysis of KVPs below includes a description of the affected viewers and anticipated viewer sensitivity levels. For the Hammond Landscape Unit, five key viewpoints were analyzed: KVP 3 for the South Hammond Station area, KVP 4 for the Monon Trail, KVP 5 for the State Street Commercial Historic District, KVP 6 for the Hammond Gateway Station area, and KVP 7 for the North Hammond MSF area. See **Appendix A** for KVP figures.

- **KVP 3, South Hammond Station:** The South Hammond Station would be situated north of 173rd Street east of Lyman Avenue. Parking for the station, including accessible and “Kiss-and-Ride” spaces, would be located on vacant parcels north of 173rd Street and would be expanded south of 173rd Street as demand increases. This station would not conflict with existing land uses, and no changes to overall land use patterns are anticipated. All access to the north parking would be from 173rd Street. Parking to the south would be accessed from both 173rd Street and 175th Street.
    - **KVP 3a**, the view to the northeast from Lyman Avenue, represents the view as seen by roadway travelers, pedestrians, residents, and recreational users. Views at this location would typically be of both short (roadway travelers) and long (pedestrians, residents, and recreational users) duration, depending on the viewer group, and viewers at this location would have a moderate (roadway travelers) to moderately high (pedestrians, residents, and recreational users) sensitivity based on its location adjacent to an established residential area and the Monon Trail. Following implementation of the FEIS Preferred Alternative, this view would consist of the station parking and associated landscape features, and the Monon Trail would be preserved. The addition of Project features would alter the visual character, but not the visual quality, at this location.
    - **KVP 3b**, the view to the northeast from 173rd Street, represents the view as seen by roadway travelers, pedestrians, residents, and recreational users. Views at this location would typically be of both short (roadway travelers) and long (pedestrians, residents, and recreational users) duration, depending on the viewer group, and viewers at this location would have a moderate (roadway travelers) to moderately high (pedestrians, residents,

and recreational users) sensitivity based on its location adjacent to an established residential area and the Monon Trail. Following implementation of the FEIS Preferred Alternative, this view would consist of the station platform, station parking, and associated landscape features, and the Monon Trail would be preserved. The addition of Project features would alter the visual character, but not the visual quality, at this location.

  - **KVP 3c**, the view to the southeast from Lyman Avenue, represents the view as seen by roadway travelers, pedestrians, residents, and recreational users. Views at this location would typically be of both short (roadway travelers) and long (pedestrians, residents, and recreational users) duration, depending on the viewer group, and viewers at this location would have a moderate (roadway travelers) to moderately high (pedestrians, residents, and recreational users) sensitivity based on its location adjacent to an established residential area and the Monon Trail. Following implementation of the FEIS Preferred Alternative, this view would consist of the station parking and associated landscape features, and the Monon Trail would be preserved. The addition of Project features would alter the visual character, but not the visual quality, at this location.

- **KVP 4, Monon Trail:** KVP 4, the view to the north from Blaine Avenue, represents the view as seen by roadway travelers, pedestrians, residents, and recreational users. Views at this location would typically be of both short (roadway travelers) and long (pedestrians, residents, and recreational users) duration, depending on the viewer group, and viewers at this location would have a moderate (roadway travelers) to moderately high (pedestrians, residents, and recreational users) sensitivity based on its location adjacent to an established residential area and the Monon Trail.

  KVP 4 represents the typical cross section view of the alignment with the addition of Project elements adjacent to the Monon Trail, which would be preserved. The addition of Project features would alter the visual character, but not the visual quality, at these locations based on their locations along frequently traveled roads with existing utility infrastructure.

- **KVP 5, State Street Commercial Historic District:** Starting at Douglas Street in the Hammond Landscape Unit, the Project alignment would begin to elevate so as to span the existing freight rail tracks east of Hohman Avenue. The elevated alignment would be located on the east side of downtown Hammond, passing through the State Street Commercial Historic District, where the existing view is characterized by existing roads and both historic and non-historic buildings. Just north of downtown Hammond, the Project alignment would be adjacent to the Hohman Avenue overpass, an imposing structure that dominates the view, including from portions of the historic district.

  - **KVP 5a**, **KVP 5b**, and **KVP 5c** show views of Sibley Street from various viewpoints and represent the view as seen by roadway travelers, pedestrians, residents, and workers. The visual simulations of the proposed elevated structures near the State Street Commercial Historic District represent the changes to the view as seen by these viewer groups. Views at these locations would typically be of both short (roadway travelers) and long (pedestrians, residents, and recreational users) duration, depending on the viewer group, and viewers would have a moderate (roadway travelers) to moderately high (pedestrians, residents, and recreational users) sensitivity based on the variety of land uses (retail, commercial, transportation, historic, etc.).

  - As shown in the simulated views of Sibley Street, the Project elements that would be most visible would be the new elevated track and bridge, as well as passing trains. The new elevated track and bridge would be prominent visual features that would be highly

visible and would alter the visual quality at these locations. However, the new elevated track and bridge are not anticipated to substantially alter the visual character based on their location over existing and frequently used roads because they would be in an area where the view might be limited due to the presence and height of existing structures and vegetation. Additionally, the visual character of the Project Area immediately north of the historic district is characterized by the presence of existing, elevated transportation features that dominate the view.

- **KVP 6, North Hammond MSF:** The North Hammond MSF would be situated west of Hohman Avenue, south of the CSX Barr Subdivision rail line, east of the NS rail line, and north of the Grand Calumet River. The North Hammond MSF would require the acquisition of about 21 acres of industrial and residential properties. The land use and zoning designations are generally compatible, and there would be no disruption to the predominant land use pattern in the area.
    - **KVP 6a**, the view to the west from Marble Street, represents the existing conditions in the proposed MSF area, and the view as seen by roadway travelers, pedestrians, and workers. Views at this location would typically be of both short (roadway travelers and workers) and long (pedestrians) duration, depending on the viewer group, and viewers at this location would have a moderate sensitivity based on its location in an industrial area. Following implementation of the FEIS Preferred Alternative, this view would consist of the MSF. The FEIS Preferred Alternative is not anticipated to alter the visual character or quality at this location.
    - **KVP 6b**, the view to the northwest from Sheffield Avenue, represents the existing conditions in the proposed MSF area, and the view as seen by roadway travelers, pedestrians, residents and workers. Views at this location would typically be of both short (roadway travelers and workers) and long (pedestrians and residents) duration, depending on the viewer group, and viewers at this location would have a moderate (roadway travelers and workers) to moderately high (pedestrians and residents) sensitivity based on its location in both an industrial and residential area. Following implementation of the FEIS Preferred Alternative, this view would consist of the MSF. The FEIS Preferred Alternative is not anticipated to alter the visual character or quality at this location.
- **KVP 7, Hammond Gateway Station:** The Hammond Gateway Station and parking, including accessible and “Kiss-and-Ride” spaces, would be located in the north portion of the Project Area in an area of mixed residential and vacant land, and would require the acquisition of residential properties. Several changes to the local street network are proposed by others (that is, Hammond’s Chicago Street Widening Project) that would complement the Hammond Gateway Station and would have a beneficial effect on access for the residential neighborhoods and nearby businesses.
    - **KVP 7a**, the view to the southeast from Dearborn Avenue, represents the view as seen by roadway travelers, pedestrians, residents, and workers. Views at this location would typically be of both short (roadway travelers and workers) and long (pedestrians and residents) duration, depending on the viewer group, and viewers at this location would have a moderate (roadway travelers and workers) to moderately high (pedestrians and residents) sensitivity. Following implementation of the FEIS Preferred Alternative, this view would consist of the elevated station platform and platform connection, parking area, and associated landscape features. The addition of Project features and the

conversion of land use from residential to transportation would alter the visual character and quality at this location.

- **KVP 7b** the view to the west from Sheffield Avenue, represents the view as seen by roadway travelers, pedestrians, residents, and workers. Views at this location would typically be of both short (roadway travelers and workers) and long (pedestrians and residents) duration, depending on the viewer group, and viewers at this location would have a moderate (roadway travelers and workers) to moderately high (pedestrians and residents) sensitivity. Following implementation of the FEIS Preferred Alternative, this view would consist of the elevated station platform and platform connection, parking area, and associated landscape features. The addition of Project features and the conversion of land use from residential to transportation would alter the visual character and quality at this location.
- As shown in the simulated views of Hammond Gateway Station, the Project elements that would be most visible would be the new elevated station platform and platform connection, as well as passing trains. The new elevated platform and platform connection would be prominent visual features that would be highly visible and would alter the visual character and quality at these locations.

Visual Impacts for the Hammond Landscape Unit

Within the Hammond Landscape Unit, the Project alignment would closely parallel the existing Monon Trail, which would be preserved. The Monon Trail generally follows existing roads, so the Project elements would be an addition to existing transportation corridors rather than the introduction of a new transportation corridor. Therefore, the addition of the Project alignment to this portion of the Project Area would generally be compatible with the existing land uses; however, visual impacts are anticipated to be moderately high at these locations based on the increased viewer sensitivity that is characteristic of recreational land uses. Further, where residential acquisitions would be required, the addition of the Project alignment would alter the existing land uses, and visual impacts are anticipated to be moderately high.

From Douglas Street north, the Project alignment would be elevated over all streets and rail lines using a combination of retaining walls, elevated structures, and bridges. However, the nature of development surrounding this area includes other prominent, elevated transportation features. Therefore, the addition of the Project alignment to this portion of the corridor would generally be compatible with the existing land uses; however, visual impacts are anticipated to be moderately high at this location based on the increased viewer sensitivity that is characteristic of established land uses, such as historic resources.

The FEIS Preferred Alternative would also bring new and frequent rail vehicles passing through the area, as well as a viewer group not previously represented in the Project Area (transit riders). Impacts on visual quality would range from moderate to moderately high, especially in some locations where the Project alignment would be elevated or would be adjacent to sensitive visual resources (that is, recreation areas, historic districts, etc.). Further, where residential areas are present on one or both sides of the Project corridor, an increased level of viewer sensitivity is assumed based on the close proximity to the Project corridor and the varying degrees of openness of existing vegetation. Both temporary and permanent impacts on the vegetation along the Project corridor would alter the views and the amount of screening provided for adjacent neighborhoods and recreation areas or historic resources.

At locations where moderately high visual effects are anticipated, implementation of the mitigation measures described in **Section 5.2** would help to avoid or minimize and mitigate visual effects of the FEIS Preferred Alternative at each location.

Moderate impacts are generally anticipated as a result from adding station and TPSS Project elements, since these features would be designed to complement their surroundings, with variations in design that are consistent with the context of each station and TPSS location. However, NICTD anticipates that station features would also include passenger information displays, lighting, and security systems, which would alter the visual quality and character at these locations. At station locations, the FEIS Preferred Alternative would also create a visual barrier between the neighborhoods on either side of the track and would cause local light and glare impacts.

Moderately high impacts are anticipated as a result of adding the MSF, which would require the acquisition of residential, business, and industrial properties. Where residential areas are present on one or both sides of the Project corridor, an increased level of viewer sensitivity is assumed. However, portions of this area are also industrial. New features would be designed to complement their surroundings, and, at locations where moderately high visual effects are anticipated, implementation of the mitigation measures listed in **Section 5.2** would help to avoid or minimize and mitigate visual effects of the FEIS Preferred Alternative.

4.2.2.2 Short-term Construction Effects

The anticipated visual effects during Project construction would be similar to the appearance of typical roadway projects, including the temporary presence of heavy equipment, traffic-control measures, and construction activities. Areas where construction activities for Project elements would be particularly noticeable to sensitive viewer groups include:

- Areas where the Project alignment is located adjacent to, and may require the acquisition of, existing residences;
- Areas where the alignment is elevated, or is located adjacent to sensitive visual resources; and
- Areas that are currently designated for recreational land uses.

In general, the anticipated short-term effects during Project construction would be associated with construction staging areas, concrete and form installation, removal of existing structures and/or vegetation, lights and glare from construction areas, and generation of dust and debris in the Project Area.

Temporary construction activities are anticipated to include partial or complete road and lane closures, vehicle and pedestrian detours, construction material deliveries, and transport of construction equipment. In general, construction staging areas would be located adjacent to the Project alignment, where the presence of construction equipment and earthmoving activities are not anticipated to be visually intrusive and would be compatible with the surrounding landscape. Where the Project alignment passes along residential and recreation areas, construction activities, such as grading, vegetation removal, and lighting of work areas, would likely be perceived as visually disruptive to those typically more peaceful residential settings.

Construction effects would be temporary, and, following the completion of construction activities, construction staging areas would be restored to pre-Project conditions to the extent feasible. At locations where moderately high visual effects are anticipated, implementation of the mitigation

measures listed in **Section 5.2** would help to further reduce the effects of Project construction on sensitive viewer groups in the Project Area.

5 Conclusions and Recommendations

5.1 Visual Impact Assessment Results

The FEIS Preferred Alternative is not anticipated to substantially change the visual character of the Project Area as a whole, and moderate visual effects are anticipated to result from the FEIS Preferred Alternative along most segments, as shown above in **Table 4.2-1**. However, moderately high visual effects would occur in some areas, such as where full or partial residential acquisitions would be required (near the Munster/Dyer Main Street Station area), where the alignment would be elevated (near Maynard Junction, the State Street Commercial Historic District, and the Hammond Gateway Station area), and where residential, recreational, and other established land uses are adjacent to the Project corridor (throughout the Dyer/Munster and Hammond Landscape Units, as shown above in **Table 4.2-1**).

5.2 Mitigation Measures

NICTD would construct facilities that fit within the context of the local environment and would engage local jurisdictions and stakeholders regarding landscaping around stations and along the Project corridor to maintain or improve the visual character of the area. In addition, the station locations were coordinated with the affected municipalities, including the Towns of Munster and Dyer and the City of Hammond. At locations where moderately high visual effects are anticipated, Project elements might be visually screened or softened using landscaping where adequate space permits, and the loss of existing vegetation would be replaced to the extent feasible. Additional details regarding proposed minimization and mitigation measures are provided below.

5.2.1 Long-term Operating Effects

No mitigation measures are proposed for the No Build Alternative since no construction would occur.

Operational effects on the visual environment would be minimized or mitigated through high-quality design and construction of the FEIS Preferred Alternative. NICTD would coordinate with the local communities and responsible agencies to create visual design guidelines for the Project, such as through the selection of landscape treatments, which would be consistent with applicable local policies and would be compatible with the character of the affected community.

For example, design specifications could include the use of mechanically stabilized earth (MSE) approach walls for bridge construction. The use of MSE walls can have advantages compared with conventional concrete retaining walls, including simpler construction procedures and equipment needs, and less site preparation, which can reduce visual effects for adjacent properties. Design specifications for parking lots would also include visual screening, which would be determined through ongoing coordination with the affected communities.

The Project would also minimize vegetation disturbances and clearing of trees and brush during construction, as NICTD is aware of the value the community places on trees and natural landscapes, and would work with the local communities to minimally affect the tree canopy wherever possible. NICTD, in coordination with the Towns of Munster and Dyer and the City of Hammond, is also committed to maintaining the existing trails within the Project Area and would limit trail relocation to sections of trail where required for safety.

As the Project advances, NICTD would coordinate with affected viewers and would consider strategies to avoid or minimize and mitigate visual effects of the FEIS Preferred Alternative, including, but not limited to the following:

- Planting vegetation, street trees, and landscaping in and around the FEIS Preferred Alternative where reasonably feasible
- Giving special consideration to the design of alternatives that would result in visual impacts to highly sensitive viewers
- Designing station and MSF lighting to reduce impacts from glare
- Aiming lighting toward the MSF to reduce spillage onto neighboring properties and adjacent roads
- Minimizing structural bulk where reasonably feasible
- Designing the facilities to complement or blend with the surrounding communities

5.2.2 Short-term Construction Effects

No mitigation measures are proposed for the No Build Alternative since no construction would occur.

Short-term construction effects to the visual environment would be minimized or mitigated by carefully managing those construction activities. Particular techniques that would be used include minimizing Project-related lighting during nighttime work, limiting work to daytime hours in the vicinity of particularly sensitive receptors, and restoring staging areas following Project completion.

6 References

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Appendix A. Key Viewpoints

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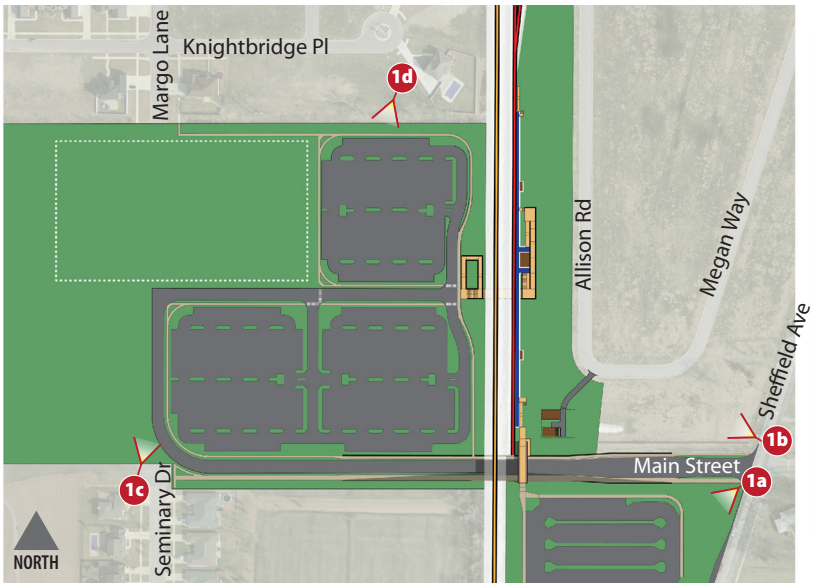
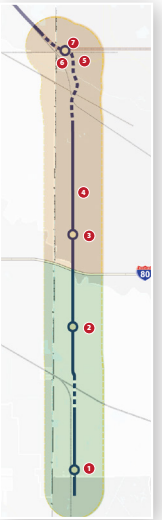
Munster/Dyer Main Street Station Area Preliminary Design Site Plan



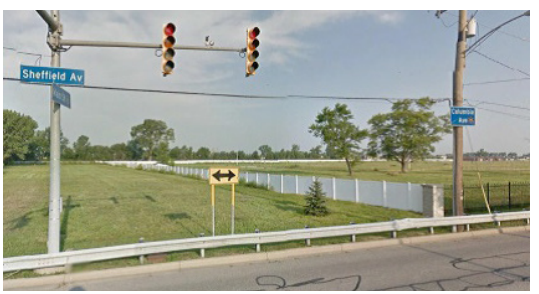


Source: HDR 2017

1a View toward ADA parking from Sheffield Avenue; View to the southwest

Source: Google 2017

1b View toward station from Sheffield Avenue; View to the northwest



Source: Google 2017

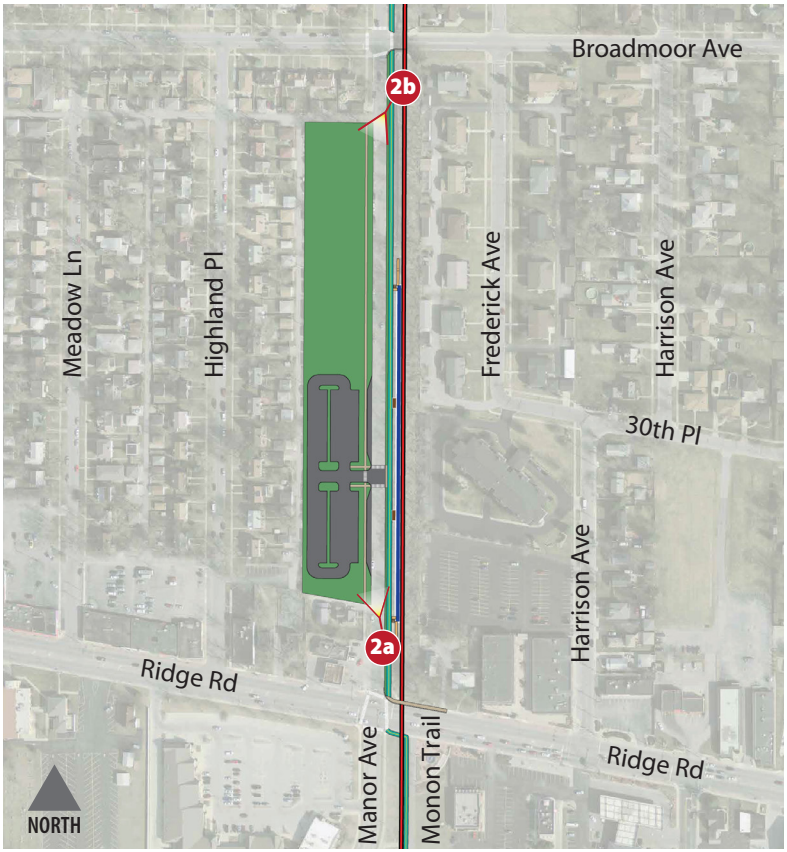
1c View toward station parking from Seminary Drive; View to the north

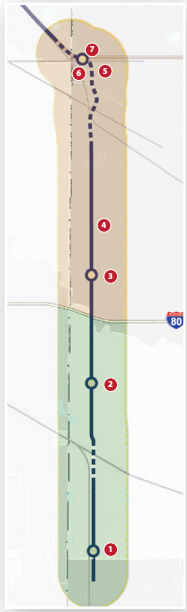
Source: Google 2017

1d View toward station parking from Knightbridge Place; View to the south

Source: Google 2017

Munster Ridge Road Station Area Design Site Plan





Source: HDR 2017

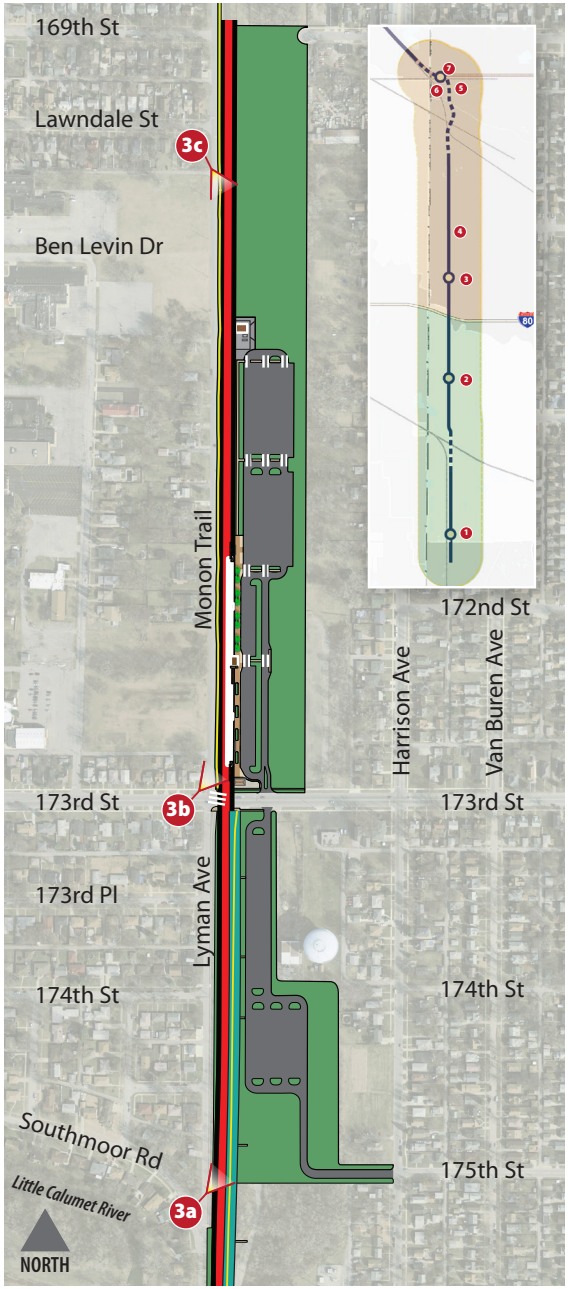
2a View toward station parking from Manor Avenue; View to the northwest

Source: Google 2017

2b View toward station from Manor Avenue; View to the southwest

Source: Google 2017

South Hammond Station Area Preliminary Design Site Plan



Source: HDR 2017

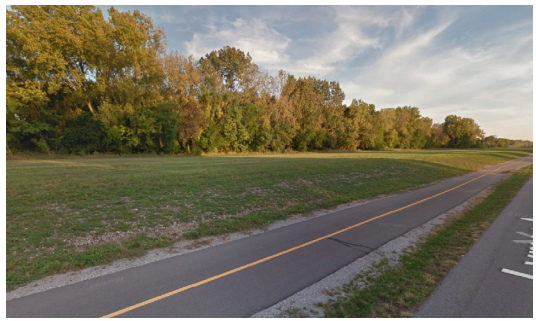
3a View toward station parking from Lyman Avenue; View to the northeast

Source: Google 2017

3b View toward station from 173rd Street; View to the northeast

Source: Google 2017

3c View toward station parking from Lyman Avenue; View to the southeast



Source: Google 2017

View of Project alignment along Monon Trail; View to the north from Blaine Avenue

Source: Google, 2017

Typical Cross Section of Project alignment along Monon Trail

Source: AECOM 2016

State Street Commercial Historic District

5a State Street Commercial Historic District; View to southeast toward proposed alignment

Source: Google 2017

5a Simulated view of proposed alignment; View to southeast from Sibley Street

Source: HDR 2017

5b Sibley Street; View to the southeast toward proposed alignment

Source: Google 2017

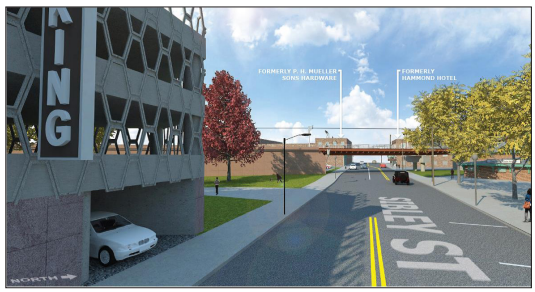
5b Simulated view of proposed alignment; View to southeast from Sibley Street

Source: HDR 2017

5c Sibley Street; View to the northwest toward proposed alignment

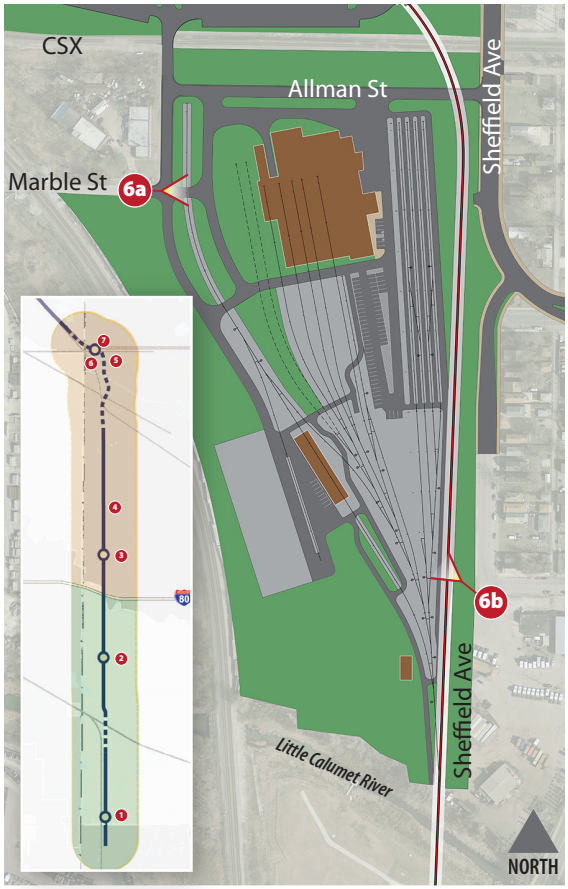
Source: Google 2017

5c Simulated view of proposed alignment; View to northwest from Sibley Street



Source: HDR 2017

North Hammond MSF Preliminary Design Site Plan



Source: HDR 2017

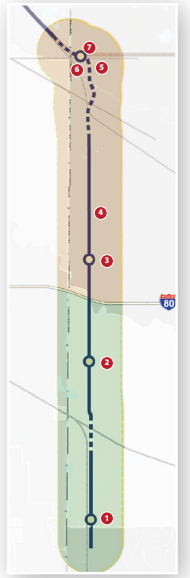
6a View of existing conditions in proposed maintenance facility area; View to the west from Marble Street

Source: Google 2017

6b View of existing conditions in proposed maintenance facility area; View to the northwest from Sheffield Avenue

Source: Google 2017

Hammond Gateway Station Area Preliminary Design Site Plan



Source: HDR 2017

7a View of existing conditions in proposed station area; View to the southeast along SSL from Deborah Avenue

Source: Google 2017

7b View of existing conditions in proposed station area; View to the northwest along SSLfrom Sheffield Avenue

Source: Google 2017

7 Simulated views of station platform and platform connection (Source: AECOM 2016)