NEPA Documented Categorical Exclusion

Pace Pulse Dempster Line Project

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Prepared for:

pace
Connecting Communities

Prepared by:

CDM Smith

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Table of Contents

Figures

Tables

Appendices

Appendix A: Station Location Plan Sheets
Appendix B: Public Outreach Supporting Information
Appendix C: Air Quality Conformity Supporting Information
Appendix D: Detailed Zoning Maps
Appendix E: Cultural Resources Analysis and Supporting Information
Appendix F: Noise Analysis Technical Memorandum
Appendix G: Hazardous Materials Technical Memorandum and Environmental Data Resource Report
Appendix H: Section 4(f) Supporting Information
Appendix I: Wetland Analysis Supporting Information
Appendix J: FEMA Flood Insurance Rate Map

A. Detailed Project Description

PROJECT IDENTIFICATION

Pulse is the new rapid transit network for Pace, the Suburban Bus Division of the Regional Transportation Authority (Pace). Pulse provides fast, frequent, and reliable service using the latest technology and streamlined route design. The Pulse Dempster Line would be Pace's second Pulse service. The corridor runs west to east from the new O'Hare Airport Consolidated Rental Car and Joint Use Facility (CRCF) to the joint Chicago Transit Authority (CTA) Purple Line Davis Station / Metra Union Pacific (UP) North Line Station in the City of Evanston, Illinois. At these two locations, Pace would use a new joint use facility at O'Hare Airport (approved and implemented as part of a separate and independent project) and the existing bus facilities at the Davis Station. The corridor is approximately 15 miles long and would include 17 station locations: two off-street terminal stations at O'Hare and Davis Station, and 15 new intermediate station pairs. The corridor is primarily served by an existing fixed-route bus service, Pace Route 250, with several other Pace bus routes also serving or intersecting the corridor.

The proposed alignment would follow Mannheim Road to Touhy Avenue and Lee Street. In Des Plaines, the alignment would run along Dempster Street to Evanston where it would use Ridge and Oak Avenues. Around the CTA Davis Station / Metra UP North Line Station, the alignment would use Benson, Church, and Davis Streets. **Figure 1** illustrates the alignment and station locations. **Appendix A** provides additional detailed mapping of proposed station platform locations as discussed in further detail throughout this document. As Pace's second Pulse line, the Pulse Dempster Line would improve connectivity and increase transit service levels through higher frequencies, travel time savings, and station and rider amenities. The Pulse Dempster Line would connect to the Pulse Milwaukee Line and eventually to three additional planned routes serving Mannheim Road: LaGrange Road, Touhy Avenue, and Harlem Avenue. The Federal Transit Administration (FTA) and Pace have prepared this Documented Categorical Exclusion (DCE) to meet the requirements of the National Environmental Policy Act (NEPA) of 1969 (42 USC § 4321) and other applicable regulations.

The Pulse Dempster Line service would operate in mixed traffic, with two off-street terminal stations at the new O'Hare Airport CRCF and the CTA Davis Station / Metra UP North Line Station in Evanston. New curbside station pairs would be constructed at 14 of the 15 intermediate stations, with one platform in the westbound (WB) direction and one platform in the eastbound (EB) direction. At Des Plaines Metra Station, one new WB platform would be constructed while an existing EB platform adjacent to the Metra station would be used. Two station location options are under consideration for one intermediate station: near either Dee or Potter Roads. **Table 1** provides a complete list of stations proposed as part of the project.

From west to east, the Pulse Dempster Line would traverse the communities of Chicago, Rosemont, Des Plaines, Park Ridge, Niles, Morton Grove, Skokie, and Evanston. The preliminary operating plan, based on running time and ridership analysis, reflects implementation of the new Pulse service and corresponding changes to local Pace Route 250 service. Reducing the number of intermediate stops for the Pulse Dempster line would provide time savings compared to the existing Pace Route 250 service while providing improved service to nearly all existing riders. Pace Route 250 would continue to provide service to all stops currently served to provide continuity of service; however, it is proposed that frequencies be reduced. The Pulse Dempster Line would use a fleet of 18 branded vehicles, including three spares. The operating plan consists of the following weekday service characteristics:

- Service span of 20 hours per day (5:00 am to 1:00 am)

- 10-minute peak headways (6:00 am to 9:00 am and 3:00 pm to 6:00 pm)
- 15-minute off-peak headways (most of the day)
- 30-minute late night headways (10:00 pm to 1:00 am)

Upon the commencement of Pulse Dempster Line service, the following Pace Route 250 weekday service characteristics are proposed:

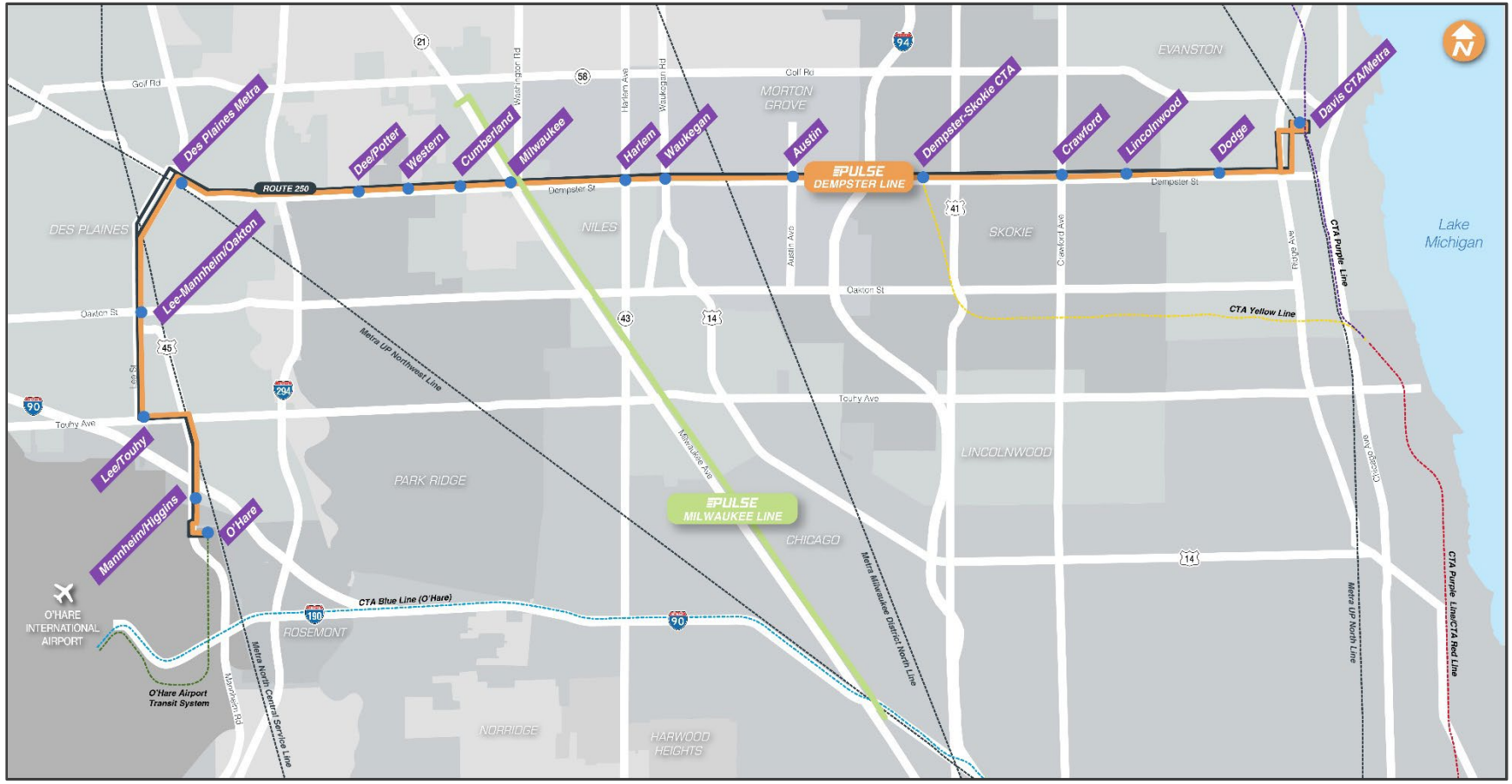
- Service span of 16 hours per day (5:30 am to 9:30 pm)
- 35-minute peak headways (6:30 am to 9:30 am and 3:00 pm to 6:00 pm)
- 70-minute off-peak headways (most of the day)

TABLE 1: STATION LOCATIONS AND CHARACTERISTICS

STATION NUMBER (WEST TO EAST)	STREET SEGMENT	STATION LOCATION	STATION CONFIGURATION
1	Off-Street	O'Hare CRCF	One Inbound/Outbound (existing)
2	Mannheim Road	Mannheim/Higgins	One EB, One WB
3	Touhy Avenue	Lee/Touhy	One EB, One WB
4	Lee Street/Mannheim Road	Lee-Mannheim/Oakton	One EB, One WB
5	Miner Street	Des Plaines Metra	One EB (existing), One WB
6	Dempster Street	Dee or Potter	One EB, One WB
7	Dempster Street	Western	One EB, One WB
8	Dempster Street	Cumberland	One EB, One WB
9	Dempster Street	Milwaukee	One EB, One WB
10	Dempster Street	Harlem	One EB, One WB
11	Dempster Street	Waukegan	One EB, One WB
12	Dempster Street	Austin	One EB, One WB
13	Dempster Street	Dempster-Skokie CTA	One EB, One WB
14	Dempster Street	Crawford	One EB, One WB
15	Dempster Street	Lincolnwood	One EB, One WB
16	Dempster Street	Dodge	One EB, One WB
17	Benson Avenue	Davis CTA/Metra	One Inbound/Outbound (existing)

EB = eastbound; WB = westbound

FIGURE 1: PACE PULSE DEMPSTER LINE ROUTING AND STATION LOCATIONS



PURPOSE & NEED

The purpose of the Pulse Dempster Line project is to provide an enhanced and cost-effective rapid transit service in the Dempster Street and Lee Street, Mannheim Road, and Touhy Avenue corridors through improvements in frequency and reliability, reduced travel times, and upgraded bus transit facilities.

The proposed action would address the following needs:

- Improve the frequency of bus transit service
- Improve the reliability of bus transit service
- Improve travel time of bus transit service vehicles
- Improve the quality of bus transit facilities

In 2001 as part of their long-range transit plan, Vision 2020, Pace identified the Pulse Dempster Line project as one of 24 corridors that would provide a regional network of premium transit services across Pace's six-county service area [1]. Over the next several years, Pace completed additional planning studies[2] to develop a specific action plan for implementation of six priority Pulse corridors:

- Milwaukee Avenue – Jefferson Park Transit Center to Golf Mill Shopping Center
- Dempster Street – O'Hare Airport CRCF to CTA Davis Station / Metra UP North Line Station
- Oak Brook – CTA Blue Line / Pink Line to Yorktown
- Harlem Avenue – Milwaukee Avenue to 95th Street
- 95th Street – CTA Red Line 95th Street / Dan Ryan to Harlem Avenue
- Halsted Street – CTA Red Line 95th Street / Dan Ryan to 159th Street

Pace identified the Pulse Dempster Line as a priority for implementation because of several factors, including strength of existing transit service, benefits to local and regional transit connectivity, existing and projected ridership, and the potential to begin establishing the Pulse network by offering a connection with the Pulse Milwaukee Line.

Based on ridership and operational data, the limits of this transit improvement project would be the new O'Hare Airport CRCF on the west end and the CTA Davis Station / Metra UP North Line Station in Evanston on the east end. The CTA Davis Station / Metra UP North Line Station serves as an existing transit hub with connections to Pace bus, CTA bus, CTA rail, and Metra commuter rail lines. On the west end of the corridor, the new CRCF is a transportation hub that will provide connections to Metra's North Central Service Line, Pace Route 250, Pace Route 330, regional charter bus companies, O'Hare's Airport Transit System (an automated people mover that operates 24 hours per day,

[1] http://www.pacebus.com/sub/vision2020/study_contents.asp

[2] Other studies completed by Pace include Arterial Rapid Transit Study (May 2009) and Arterial Rapid Transit Implementation Plan (December 2009).

connecting all four terminals and the remote parking lots), as well as rental car facilities. The CRCF will replace the current O'Hare Airport Kiss 'n' Fly, which is on the opposite side of Mannheim Road.

PUBLIC INVOLVEMENT

Pace has worked with stakeholders and the public throughout the development and definition of the Pulse Dempster Line project. This has included the formation of a Corridor Advisory Group (CAG), stakeholder outreach meetings, public open houses, and updates to the project website to disseminate information. The collaborative efforts between Pace and its stakeholders enabled the sharing of plans and visions for the project and provided stakeholders the opportunity to express their comments or concerns about project objectives and preferred station locations.

Corridor Advisory Group

Pace established the CAG to assist in the development of the Pulse Dempster Line project by providing input on various designs, operational elements, and station location options. The CAG consisted of elected officials, municipal staff, transportation organizations, and other stakeholder group representatives from the project area. The CAG members were selected to represent the views of the communities and transit users within the project limits.

The CAG met twice during the early planning and project definition phase of the Dempster Line project, on March 23, 2016 and June 29, 2016. At these meetings, Pace introduced the overall Pulse program, presented initial recommendations for station locations, and discussed station/bus features.

Pace convened the CAG two additional times during the environmental review phase of the project. The CAG met on June 28, 2017 to review station locations and platform location alternatives, provide input on preferred station platform locations, and identify potential environmental justice (EJ) populations. On January 11, 2018, the CAG met to discuss feedback from the public meetings, share the final preferred station and platform locations, and review environmental findings from the NEPA process.

Outreach Meetings

Small group meetings were conducted with municipalities, agencies, and large institutions to discuss specific topics such as station location details and features. Pace staff and project team members met with various large stakeholder groups (see list in **Table 2**) throughout the project development process.

TABLE 2: OUTREACH MEETINGS

Municipality/Agency	Meeting Date
Des Plaines	April 13, 2016
Evanston	April 14, 2016
Skokie	April 14, 2016
Rosemont	May 5, 2016
Chicago Department of Aviation	May 11, 2016
Morton Grove	May 24, 2016
Niles	June 1, 2016
Park Ridge	June 1, 2016
Morton Grove Park District	June 16, 2016
Lutheran General	June 22, 2016
Maine Township	June 22, 2016
41st Ward, Chicago	June 23, 2016
Maine East High School	July 14, 2016
Northwest Suburban Municipal Joint Action Water Agency	August 9, 2016

Public Open Houses

Pace hosted a series of public open houses as part of the environmental review phase of the Pulse Dempster Line project. At these events, members of the public were provided an opportunity to learn about the project, including the preliminary design of the Pulse Dempster Line, potential station locations, and service features. Attendees were able to communicate community concerns, ideas, questions, and other thoughts by submitting written comment cards, as well as through discussion with project staff. Pace held two identical meetings in the western and eastern corridors of the project on September 12 and 19, 2017, respectively.

The final public meetings in the environmental review phase were held on February 6 and 7, 2018. Pace shared the preferred location for each station, along with initial concept plans for the stations. Additional information such as the Pace Pulse features and benefits were provided. Comments from all the public meetings are listed in **Appendix B**.

Pace advertised public open house events by posting hardcopy notices on bus vehicles serving all routes operating in the corridor and posting electronic flyers to the Pace website in both English and Spanish. Meeting information was also distributed via Pace's email subscriber list and social media outlets, as well as electronically through municipal and other stakeholder newsletters. Samples of advertisements are included in **Appendix B**.

B. Location

The project is in Cook County in northeast Illinois. As shown in **Figure 1**, the Pulse Dempster Line is approximately 15 miles long, serving two termini at the O'Hare Airport CRCF and the CTA Purple Line /Metra UP North Line Davis

Street Station in Evanston and 15 intermediate station pairs. The project connects the communities of Chicago, Rosemont, Des Plaines, Park Ridge, Niles, Morton Grove, Skokie, and Evanston. Land uses along the corridor include residences, mixed-use developments, schools, parks, medical facilities, recreational facilities, and cemeteries.

C. Metropolitan Planning & Air Quality Conformity

The Chicago metropolitan area in Cook County is designated nonattainment for the 8-hour ozone and lead national ambient air quality standards (NAAQS) and maintenance for the PM2.5 (1997 standard) and PM10 NAAQS (USEPA 2017); the area is designated attainment for all other criteria pollutants.[3]

As a transit facility project anticipated to improve regional air quality, the Chicago Metropolitan Agency for Planning (CMAP) recently approved the Pulse Dempster Line project as part of the regional 2018–2022 Congestion Mitigation and Air Quality Improvement (CMAQ) Program. CMAP adopted the project into the 2017–2021 Transportation Improvement Program (TIP) in October 2017. Now that the project is included in the CMAQ Program, an amendment to the 2017–2021 TIP was issued and adopted by CMAP in November 2017.[4]

Appendix C provides Metropolitan Planning and Air Quality Conformity supplemental documentation**.**

D. Land Use and Zoning

CORRIDOR LAND USE

Pace reviewed regional CMAP land use data to assess the compatibility of land use surrounding the project. The latest land use inventory available from CMAP is from 2013, an update of its 2010 data. **Figures 2 through 5** show land use maps for the project corridor.

The land use adjacent to the project corridor is made up of a variety of residential, commercial, and institutional uses. The dominant land use is commercial near the station locations. Dense urban commercial developments and mixed uses are in downtown areas such as Des Plaines and Evanston near the western and eastern ends of the corridor, while strip malls and large shopping centers are more common throughout the rest of the corridor. Office, educational, medical, and multi-family uses are also near station locations. Single-family uses and parks/open space are more common along the corridor between stations.

[3] USEPA. 2017. Nonattainment Areas for Criteria Pollutants (Green Book). Available online at: https://www.epa.gov/green-book [Accessed on January 10, 2018].

[4] State TIP ID: 17-18-0001, CMAP TIP Amendment 17-12.2

The primary changes within the project corridor would be the construction of 29 new, enhanced, and branded station platforms along the corridor. The construction of these stations would not result in loss of parking within the project area. All stations would be constructed in areas dominated by commercial, office, institutional, and dense residential development and where there are existing local bus stops. The Pulse Dempster Line project is consistent with existing land uses. The construction necessary for the project would not alter or change the character of any of the current land uses; therefore, no impacts are anticipated.

CONSISTENCY WITH REGIONAL PLANNING

CMAP updated its *GO TO 2040* regional long-range transportation plan in 2014 and is currently working on developing its *ON TO 2050* plan, which is expected to be adopted in October 2018. The currently adopted plan includes recommendations to strengthen the link between land use and transit planning and the creation of transit-supportive development policies. It recommends coordinating state, regional, and local funding sources for land use planning activities that support transit. The plan also recommends that local transit agencies update their guidelines for transit-supportive land use and require local land use planning initiatives before making new transit investments.

The Pulse Dempster Line project is consistent with regional planning goals and objectives. Since the last formal update of *GO TO 2040* in 2014, the project has been included in CMAP's long-range transportation plan. In November 2017, the project was adopted into the fiscally constrained TIP, which includes projects to be completed in the next 5 years.

CONSISTENCY WITH LOCAL LAND USE PLANNING

The project would operate through eight municipalities, as well as some unincorporated areas of Cook County. The transit and land use components of each municipality's most recent individual planning efforts were reviewed to determine consistency between the project and other local planning initiatives. The Pulse Dempster Line project is consistent with and supports local land use planning efforts. The following summarizes major local planning efforts related to land use and transit:

- Rosemont Comprehensive Plan (2015): The plan creates a Commercial Flex District along the project corridor to provide flexibility in commercial uses and building formats. It recommends reduced parking in transit-oriented developments, investing in transit amenities, and adopting a Complete Streets ordinance.
- Niles 2030 Comprehensive Plan (2011): Recommendations include "locating higher-density residential and key destinations near existing and proposed transit routes" and supporting residents' ability to age in place through use of transit.
- City of Des Plaines Comprehensive Plan (2007): Goals include "Encourage 'transit-oriented' redevelopment along the Metra/Union Pacific Railroad corridor," which includes the proposed Des Plaines Metra station. Des Plaines is currently working with the CMAP Local Technical Assistance program to draft a revised plan.
- Village of Skokie Comprehensive Plan – Land Use Chapter (2005): Although the plan does not include specific recommendations for transit-supportive land use planning, it creates a West Dempster Street Streetscaping Improvement Project plan and recommends high concentrations of pedestrian-oriented mixed-use development near the Dempster-Skokie CTA station, and retail/service employment use near the Pulse Crawford and Lincolnwood stations.

FIGURE 2: LAND USE, O'HARE TO LEE/OAKTON

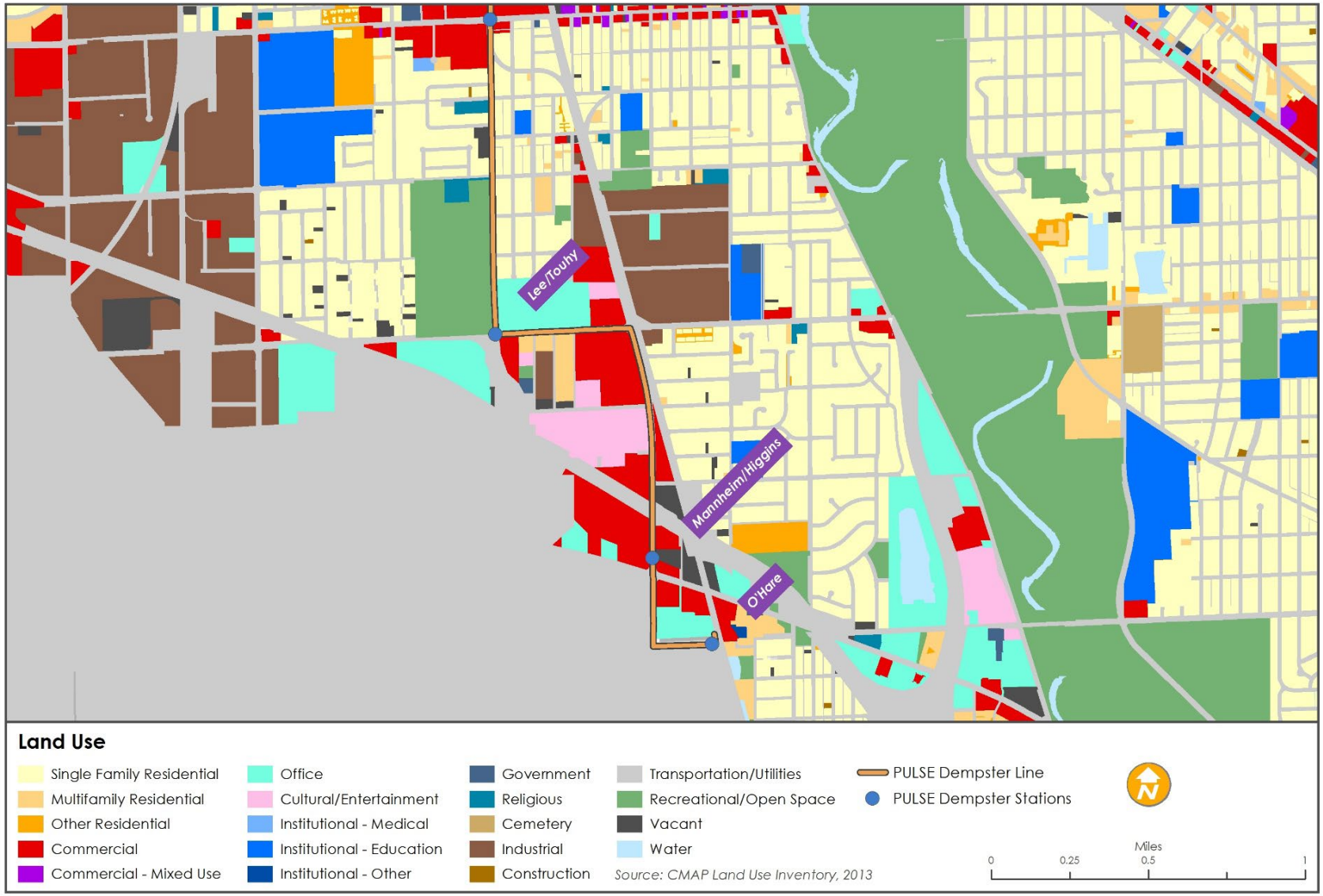


FIGURE 3: LAND USE, LEE/OAKTON TO MILWAUKEE

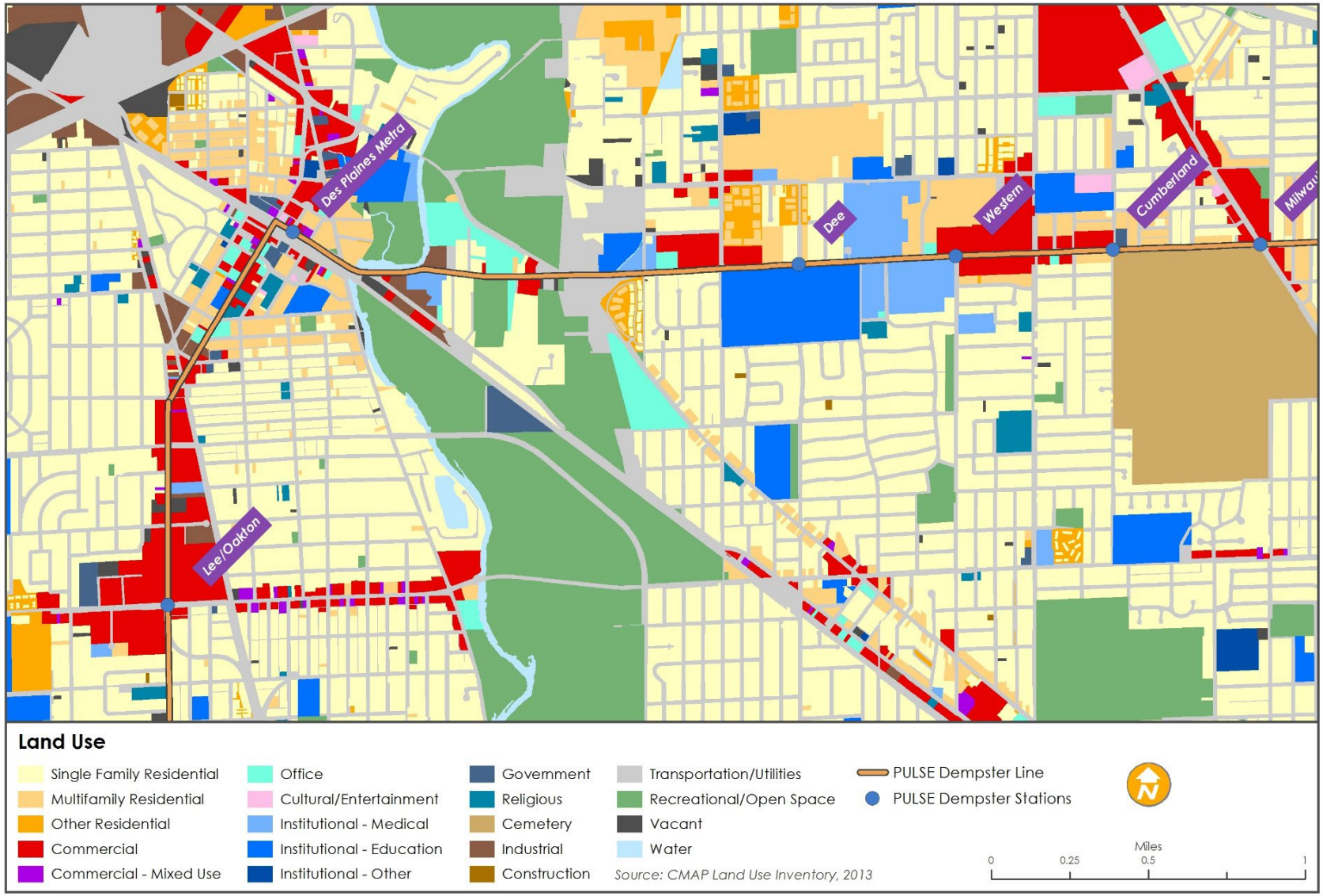


FIGURE 4: LAND USE, MILWAUKEE TO DEMPSTER-SKOKIE CTA

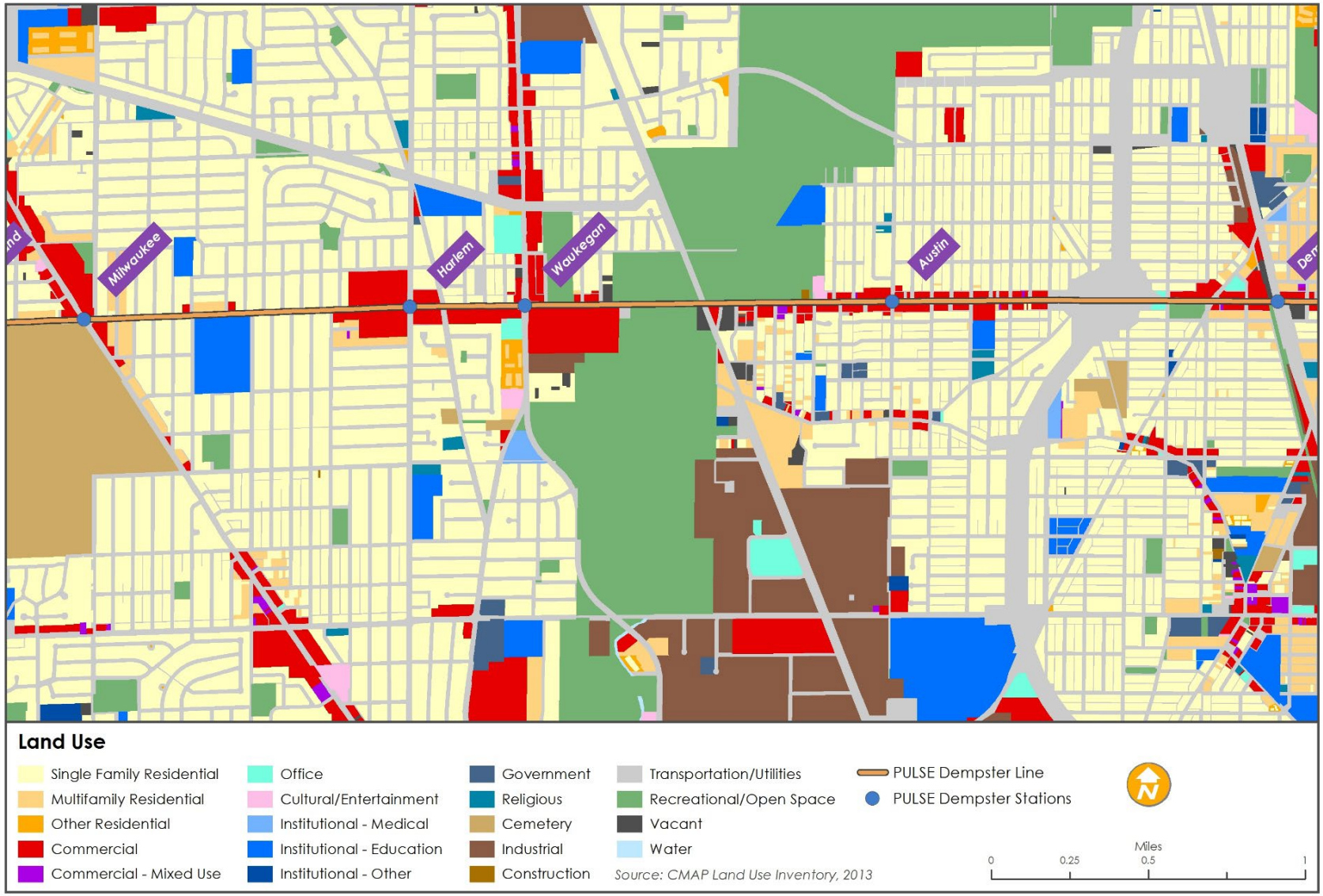
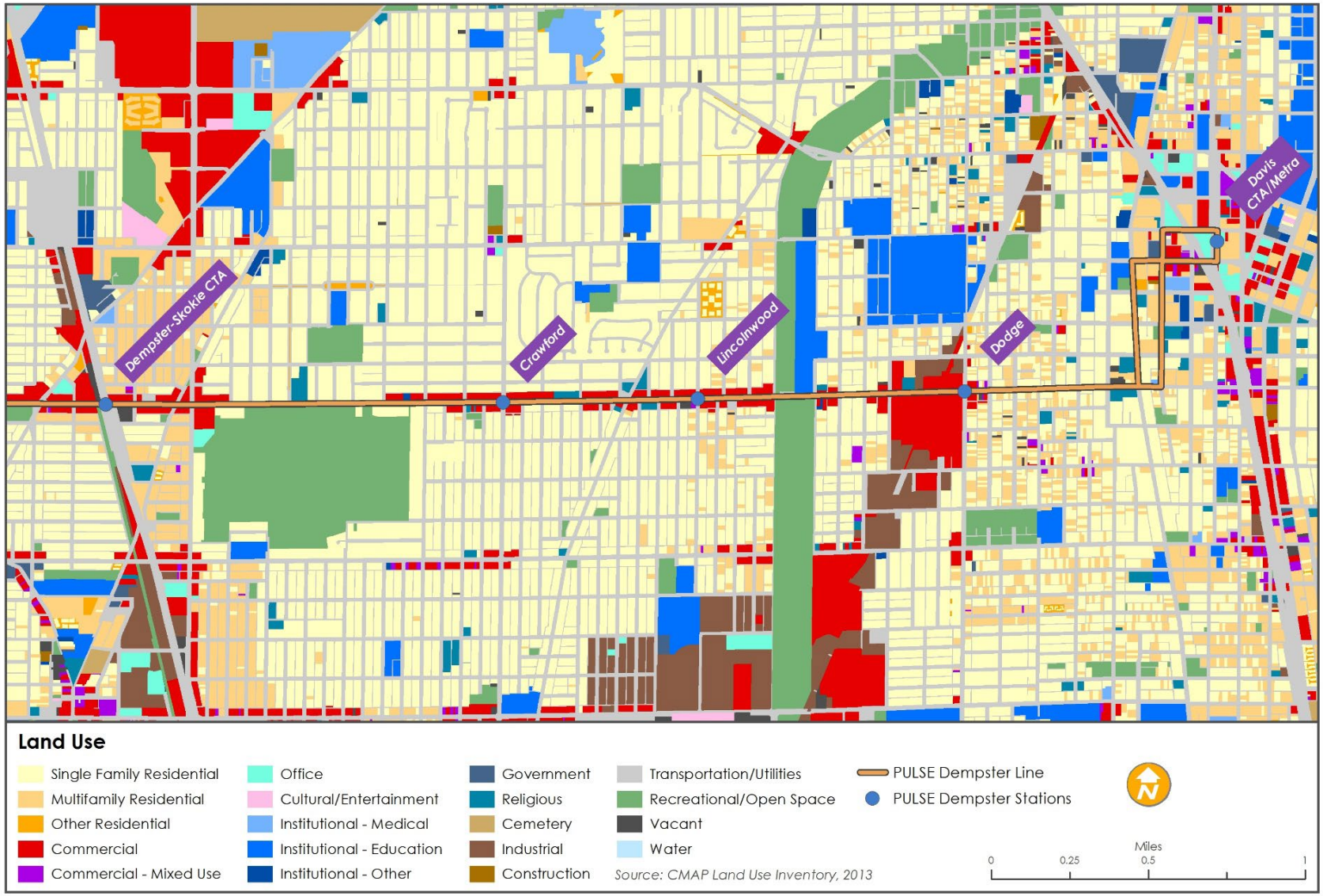


FIGURE 5: LAND USE, DEMPSTER-SKOKIE CTA TO DAVIS CTA/METRA



- Evanston Comprehensive General Plan (2000): Recommendations include ground floor commercial in new developments and redevelopments in downtown Evanston, and mixed-use developments and increased housing density oriented towards mass transit station locations.
- Comprehensive Plan Update, Village of Morton Grove (1999): The plan creates a Dempster Street Target Area and selects a preferred redevelopment plan, which would redevelop Dempster Street into a mixed-use corridor and focus on the area around the Pulse Austin station as a commercial node.
- Comprehensive Plan for the City of Park Ridge (1996): The plan recommends maintaining commercial and office designations and improving landscaping along Dempster Street, and improving pedestrian safety near Lutheran Hospital. Corridor and neighborhood plans have been created more recently than 1999, but none include the project corridor.

ZONING

All eight municipalities affected by the Pulse Dempster Line project updated their zoning maps between 2015 and 2017. Zoning designations are consistent with existing land uses, with commercial, dense residential, and institutional zones dominating station areas and less dense residential and public zones more common between station areas. **Appendix D** provides complete local zoning maps. The Pulse Dempster Line project is consistent with existing and planned zoning and land use.

E. Traffic Impacts

The Pulse Dempster Line project would provide fast, frequent, and reliable transit service on existing roadways, increasing transportation options and improving overall mobility. To achieve faster operating speeds and increased reliability, the project would include the construction of new station platforms. The installation of transit signal priority at signalized intersections along the corridor is proposed independently of the Pulse Dempster Line project, and would take place before project implementation. The project would not include closure of existing travel or turning lanes, or the conversion of existing lanes to bus-only lanes; rapid transit service would operate entirely in mixed-flow traffic lanes, except where bus-only lanes currently exist. The project would likely result in temporary traffic delays due to temporary lane closures for brief periods during construction. These impacts are further detailed in **Section V**.

The project would operate primarily on arterial roadways with four to six lanes, many of which also include existing turn lanes. **Table 3** shows average daily traffic volumes for specific locations along the alignment, obtained from the Illinois Department of Transportation (IDOT), and lane configurations. There are currently 20 roadway segments within the corridor with available average daily traffic data. Among these segments, 14 carry between 17,000 and 36,000 daily vehicles, and all but two segments carry less than 10,000 vehicles per lane each day.

TABLE 3: AVERAGE DAILY TRAFFIC AND LANE CONFIGURATION

Dempster Street Segment	Lane Configuration[5]	Average Daily Traffic[6]
Mannheim Road: Zemke Boulevard to I-90	Six through lanes, two center turn lanes	41,900
Mannheim Road: I-90 to Touhy Avenue	Four through lanes, one center turn lane	23,200
Touhy Avenue: Mannheim Road to Lee Street	Four through lanes, one center turn lane	24,800
Lee Street: Touhy Avenue to Lee Street-Mannheim Road	Two through lanes, no turn lanes	Not Applicable
Lee Street-Mannheim Road: Lee Street to Walnut Avenue	Four through lanes, one center turn lane	17,100
Lee Street-Mannheim Road: Walnut Avenue to Miner Street (northbound)	One-way, two to three through lanes	6,900
Graceland Avenue: Walnut Avenue to Miner Street (southbound)	One-way, two through lanes	21,100
Dempster/Miner Street: Lee Street-Mannheim Road to I-294	Four through lanes, no center turn lanes between River Road and Rand/NW Highway	18,200
Dempster Street: I-294 to Potter Road	Four through lanes, no center turn lane	35,100
Dempster Street: Potter Road to Greenwood Avenue	Four through lanes, center turn lane.	33,800
Dempster Street: Potter Road to Milwaukee Avenue	Four through lanes, center turn lane. Grade separation of Dempster Street through lanes at Milwaukee Avenue	35,900
Dempster Street: Milwaukee Avenue to Waukegan Road	Six through lanes, center turn lane	49,600
Dempster Street: Waukegan Road to I-94	Four through lanes, center turn lane	39,000
Dempster Street: I-94 to Skokie Boulevard	Four through lanes, center turn lane	31,100
Dempster Street: Skokie Boulevard to Crawford Avenue	Four through lanes, center turn lane	23,900
Dempster Street: Crawford Avenue to McCormick Boulevard	Four through lanes, center turn lane	28,300
Dempster Street: McCormick Boulevard to Dodge Avenue	Four through lanes, no center turn lane	22,600
Dempster Street: Dodge Avenue to Oak Avenue	Two through lanes	22,600
Oak Avenue: Dempster Street to Church Street	Two through lanes	1,700
Church Street: Oak Avenue to Benson Avenue	One way, two through lanes, bicycle lane, buffered bicycle lane	10,650
Benson Avenue: Church Street to Davis Street	Two through lanes, bus lane	Not Applicable
Davis Street: Benson Avenue to Ridge Avenue	One way, two through lanes, bicycle lane, buffered bicycle lane	Not Applicable
Ridge Avenue: Davis Street to Dempster Street	Four through lanes	20,500

[5] Lane configuration information was retrieved from Google satellite imagery and Street View in October 2017.

[6] Illinois Department of Transportation. *Average Daily Traffic Counts GIS Application.* Retrieved in October 2017 from http://www.idot.illinois.gov/transportation-system/Network-Overview/highway-system/illinois-travel-statistics

The Pulse Dempster Line project would increase the total number of buses operating along the entire project corridor during peak hours to a maximum of 15 buses per hour total, including both directions. This represents a peak hour increase over current Pace Route 250 service levels of no more than 9 buses per hour in both directions. Vehicles from other Pace routes that currently operate along limited stretches of the corridor will continue to do so, and Pace will also operate a limited number of vehicles that are not in service, which are coming from or going into service or from garage facilities. Because of the small increase in bus traffic that would be created by the project, and the arterial nature of the project corridor, the addition of these buses to existing traffic volumes would be minimal. Further, it is anticipated that the improved transit speed and reliability that would result from the project would increase transit ridership within the project corridor[7]. Over time, the Pulse Dempster Line project could result in a net decrease in vehicular traffic by encouraging a mode shift from single-occupancy private vehicles to transit vehicles.

The Pulse Dempster Line project would result in the loss of approximately five parking spots at each of three locations: Harlem EB and Harlem WB platforms. Each of these locations affects a large surface parking lot with many spaces, and impacts to associated businesses would be minor. The Milwaukee WB platform would affect a commercial driveway and parking lot. Relocation of the driveway and reconfiguration of the parking lot is proposed to allow continued access and coordination with the station area plan. The minor permanent loss of approximately 15 total parking spaces would not impair the accessibility or functionality of the business. Pace would be responsible for relocation of the affected driveway and reconfiguration of affected parking lots. Coordination with property owners related to these impacts is ongoing as design engineering is further developed.

F. Carbon Monoxide Hot Spots

Cook County is in attainment for carbon monoxide, and the project is consistent with all air quality conformity requirements. During peak hour, a maximum of 9 additional buses (total, for both directions) may be required for operation of the project. Based on this proposed operating scenario, there would be no serious traffic impacts and no carbon monoxide hot spots would be created because of the project.

G. $PM_{2.5}$ & PM_{10} Hot Spots

Cook County is designated as a non-attainment area for $PM_{2.5}$, and as a maintenance area for PM_{10}. However, the project is currently pending adoption into the region's 2017–2021 TIP, and any impacts on regional emissions from this project are accounted for in this analysis. The transportation conformity regulation (40 CFR 93, Subpart A) specifically exempts certain mass transit projects, including minor expansions to the fleet. However, this exemption only applies if the project complies with control measures in applicable implementation plans. Because the CMAQ Program is a transportation control measure designed to reduce congestion and improve air quality, this project satisfies the exemption requirements. Based on review of the TIP, CMAP has found the project is exempt from

[7] Transit Center. *Who's On Board 2016: What Today's Riders Teach Us About Transit That Works.* Accessed in January 2018 from http://transitcenter.org/publications/whos-on-board-2016/.

transportation conformity analysis, and no particulate matter ($PM_{2.5}$ or PM_{10}) hot spots would be created because of the project. In addition, the project does not meet any criteria for “projects of air quality concern” as defined in 40 CFR § 93.123(b)(1), for which a detailed hot-spot analysis is required. The project would not cause any significant changes to traffic. All new Pulse vehicles added to the corridor would operate with clean diesel technology (i.e., diesel particulate filters), which reduces particulate matter emissions by approximately 85 percent compared to uncontrolled engines.

H. Historic Resources

Section 106 of the National Historic Preservation Act requires federal agencies to consider effects on historic resources from their actions and to balance preservation needs with the need for the actions. As provided in 36 CFR § 800.1(a), the Section 106 process "seeks to accommodate historic preservation concerns with the needs of federal undertakings through consultation.” The goal of the consultation is to identify historic properties potentially affected by the undertaking, assess project effects, and seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. This section summarizes findings of the historic and cultural resource analysis and consultation process. **Appendix E** provides additional details and supporting information on this assessment and consultation. An Unanticipated Discoveries Plan (UDP) has also been developed for use in the case that archeological remnants are found on a project site. The UDP is included in **Appendix E**.

ASSESSMENT OF HISTORIC AND CULTURAL RESOURCES

For the Section 106 assessment of historic and archaeological resources, FTA and Pace conducted a three-step process following the requirements of 36 CFR § 800. The fourth step, resolution of any adverse effects, was not needed based on the findings of this assessment and consultation conducted.

1. **Define the Area of Potential Effect:** FTA first determined an area of potential effect (APE) for cultural/historic resources. The APE is defined as the geographic area within which the project may cause alterations in the character or use of historic properties. The APE for this project takes into account the station locations as well as the potential for direct and any other indirect effects (e.g. visual changes or noise and vibrational impacts) that could affect historic resources. The APE was developed based on site visits, reviews of aerial maps, and preliminary engineering details such as station locations and elevations. Because the project area is within a heavily urbanized area, the boundaries for the APE were based on the area directly affected by construction (i.e. road right-of-way and the station locations) and visual obstructions such as buildings and trees, which could block views of project construction. The APE was confined to the limits of the existing road right-of-way in the areas between the stations because project activities would be minimal in these areas, and would be limited to areas within the existing road right-of-way. For areas surrounding the station locations, the APE boundary was expanded to include adjoining parcels that would have a clear and direct view of the new stations. As buildings block the visibility and/or vacant lots or surface parking lots exist, the APE boundary is reduced or expanded at the station locations. The Illinois State Historic Preservation Office (SHPO) reviewed the proposed APE and provided concurrence on August 10, 2017. **Appendix E** contains detailed APE mapping.

2. **Identify Historic and Archaeological Resources:** The National Register of Historic Places (NRHP) is administered by the National Park Service, which has developed national evaluation criteria to guide the selection of properties determined eligible for listing. The quality of significance in American history, architecture,

archaeology, engineering, or culture may be present in districts, sites, buildings, structures, or objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association with one or more of the following four criteria, defined in 36 CFR § 60.4:

- A Events that have made a significant contribution to the broad patterns of American history on a national, state, and/or local level
- B Lives of persons significant in the history of the U.S., state, and/or city
- C Distinctive characteristics of a type, period, or method of construction, or the work of a master, or high artistic values, or a significant and distinguishable entity whose components may lack individual distinction
- D Information important in prehistory or history

Based on delineation of the APE, an architectural historian reviewed all previously recorded listed, eligible, or undetermined historic resources for potential eligibility. An architectural historian also reviewed all properties within the station APEs in the field and through further research to identify any additional recommendations on potentially NRHP-eligible historic resources. The architectural historian conducted background research to assist this process, using the Historic Architectural Resources Geographic Information System and city records, fire insurance and other historic maps, previous architectural studies in the area, and other relevant scholarly publications. Because the project would use the existing right-of-way and improvements are limited primarily to new stations along an existing Pace route, detailed historic surveys were not proposed as part of this eligibility assessment. The SHPO provided their concurrence on this approach on August 10, 2017.

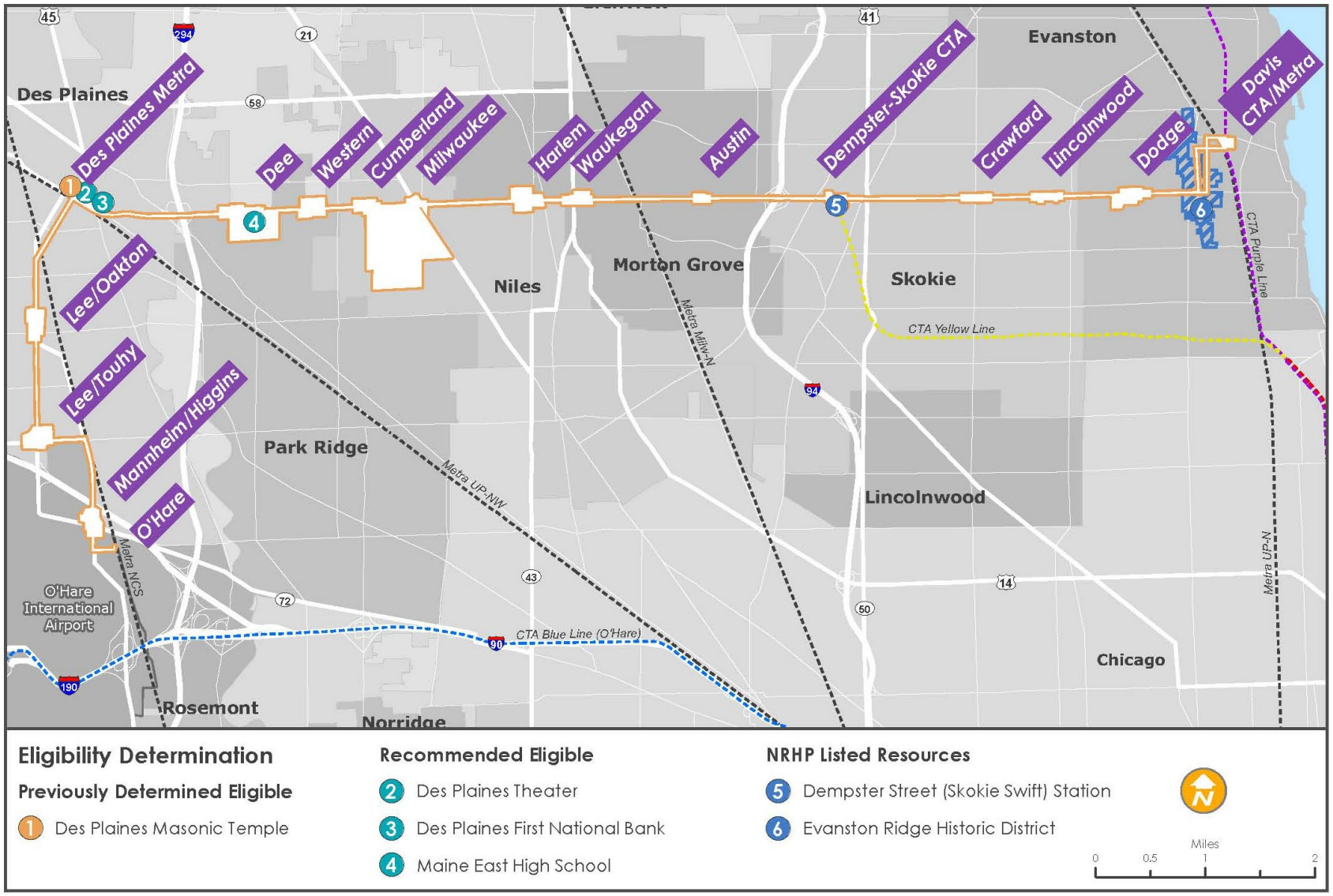
In addition, a cultural resource specialist reviewed the Historic Architectural and Archaeology Resources Geographic Information System for any known archaeological resources. No known archaeological sites exist within the proposed APE boundaries. Based on the eligibility assessments conducted and discussed above, five individual resources and one historic district were determined eligible by FTA for listing on the NRHP. **Table 4** and **Figure 6** summarize the eligibility findings. **Appendix E** contains additional details on the eligibility analysis and eligible resources.

TABLE 4: SUMMARY OF ELIGIBILITY FINDINGS

Resource ID	Resource Name	Address	Eligibility Determination	NRHP Criteria
1	Des Plaines Masonic Temple	1452 Miner Street, Des Plaines	Previously Determined Eligible	A & C
2	Des Plaines Theater	1476 Miner Street, Des Plaines	Recommended Eligible	A & C
3	Des Plaines First National Bank	1490 Miner Street, Des Plaines	Recommended Eligible	C
4	Maine East High School*	2601 Dempster Street, Park Ridge	Recommended Eligible	C
5	Dempster Street (Skokie Swift) Station	5001 Dempster Street, Skokie	NRHP-Listed	A
6	Evanston Ridge Historic District	Not Applicable – Historic District, Evanston	NRHP-Listed	A & C

**Based on prior coordination, Maine East High School administration does not intend to apply for NRHP listing.*
NRHP = National Register of Historic Places

FIGURE 6: PACE DEMPSTER LINE NRHP-ELIGIBLE RESOURCES



3 **Assess Effects on Historic and Archaeological Resources:** Pace assessed effects for each evaluated resource listed in the NRHP or determined eligible for listing. The effects analysis considered both direct and indirect effects and focused on how the project might alter the characteristics that qualify identified resources for inclusion in the NRHP. Based on the proposed improvements, FTA determined there were no adverse direct or indirect effects were identified to any of the NRHP eligible resources. **Table 5** provides a summary of these findings and **Appendix E** contains additional details on effects determinations.

TABLE 5: SUMMARY OF EFFECTS FINDINGS

Resource ID	Resource Name	Address	Preliminary Effects Determination
1	Des Plaines Masonic Temple	1452 Miner Street, Des Plaines	No Adverse Effect
2	Des Plaines Theater	1476 Miner Street, Des Plaines	No Adverse Effect
3	Des Plaines First National Bank	1490 Miner Street, Des Plaines	No Adverse Effect
4	Maine East High School	2601 Dempster Street, Park Ridge	No Adverse Effect
5	Dempster Street (Skokie Swift) Station	5001 Dempster Street, Skokie	No Adverse Effect
6	Evanston Ridge Historic District	Not Applicable – Historic District, Evanston	No Adverse Effect

SECTION 106 CONSULTATION

Based on previous work in the project study area, early Pace public and agency involvement efforts, and a search of potentially interested community groups, a list of potential consulting parties with interest in cultural resource matters was developed by the project team and coordinated with FTA and IHPA. On August 29, 2017, Pace sent invitations to all potential consulting parties inviting their participation in the Section 106 consultation for this project. Based on responses from interested parties, the consulting parties for this project included the following: Illinois Historic Preservation Agency, which acts as the SHPO for Illinois; Miami Tribe of Oklahoma; the Forest County Potawatomi Community Tribe; the Regional Transportation Authority; the City of Chicago Historic Preservation Division; the Chicago Park District; and the Niles Chamber of Commerce.

On December 8, 2017, Pace provided consulting parties with the draft Eligibility and Effects memorandum, which detailed the proposed APE and provided eligibility and effects findings and established a 45-day comment period to receive comments from consulting parties, which ended on January 22, 2018. One comment was received from consulting parties during this comment period, from the Forest County Potawatomi Community tribal consulting party. They noted that based on the low potential for impact to tribal/archaeological resources from the project, they did not desire to continue consultation on the project and requested that in they be consulted in the event that human remains or archaeological remnants are uncovered during construction. An Unanticipated Discovery Plan was included with the Eligibility and Effects Report to note the process for addressing uncovering of such materials during construction and further consultation would be undertaken with tribal consulting parties in such an event.

SHPO provided concurrence on the Eligibility and Effects findings provided on XXXX XX, 2018.

Appendix E provides all correspondence related to this Section 106 consultation process.

I. Visual Quality

The project corridor consists of an approximately 15-mile transit corridor along existing roadways. The existing visual character is typical of an urban and suburban environment, with a mixture of primarily one- or two-story commercial and residential uses. Some denser (three- to five-story) residential, commercial, and mixed-use development contribute to a more distinct visual character in the downtown Des Plaines and Evanston areas of the corridor. The dominant land use is commercial near station locations. Transit shelters and stops are already present throughout the corridor and near stations. Terminal stations at O'Hare Airport and Downtown Evanston are either planned (O'Hare Airport CRCF) or existing (CTA Davis Station / Metra UP North Line Station) transit facilities. **Figure 7** provides visuals of the existing environment near stations except for terminal stops, which are already transit facilities.

No changes to the visual character of the corridor are anticipated in this heavily used roadway and transit corridor. The primary change to the visual environment would be construction of enhanced stations along the corridor. Station footprints would be approximately 60 feet long by 12 feet wide, although individual station sites may vary in total square footage due to site-specific context and geometric constraints; more compact stations (approximately 45 feet long by 10.5 feet wide) may be considered where right-of-way is limited. **Figure 8** provides a rendering of a typical station.

Some of the more notable features along the corridor and specifically near stations that could be considered sensitive visual view sheds include the following: the Des Plaines Theater (near the Des Plaines Metra station), Maine East High School (near the Potter/Dee station), Advocate Lutheran General Hospital (near the Western station), Maryhill Cemetery (near the Milwaukee station), and the Prairie View Community Center (near the Waukegan station).

While the addition of bus shelters would create additional visual elements and slightly alter the existing streetscape, these changes would not detract from the existing visual and aesthetic setting at the locations noted above. Appropriate, context sensitive design solutions and the addition or replacement of landscaping would minimize any visual distractions imposed. These improvements would enhance the aesthetic quality of the streetscape and enhance the pedestrian environment in and around station areas.

FIGURE 7: EXISTING VISUAL ENVIRONMENT NEAR STATIONS

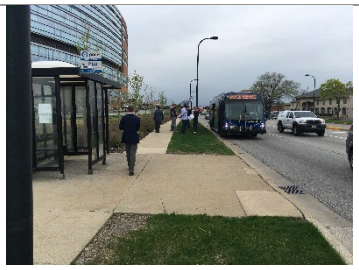
Mannheim/Higgins

Lee/Touhy

Lee-Mannheim/Oakton

Des Plaines Metra

Dee/Potter



Western

Cumberland

Milwaukee

Harlem

Waukegan

Austin

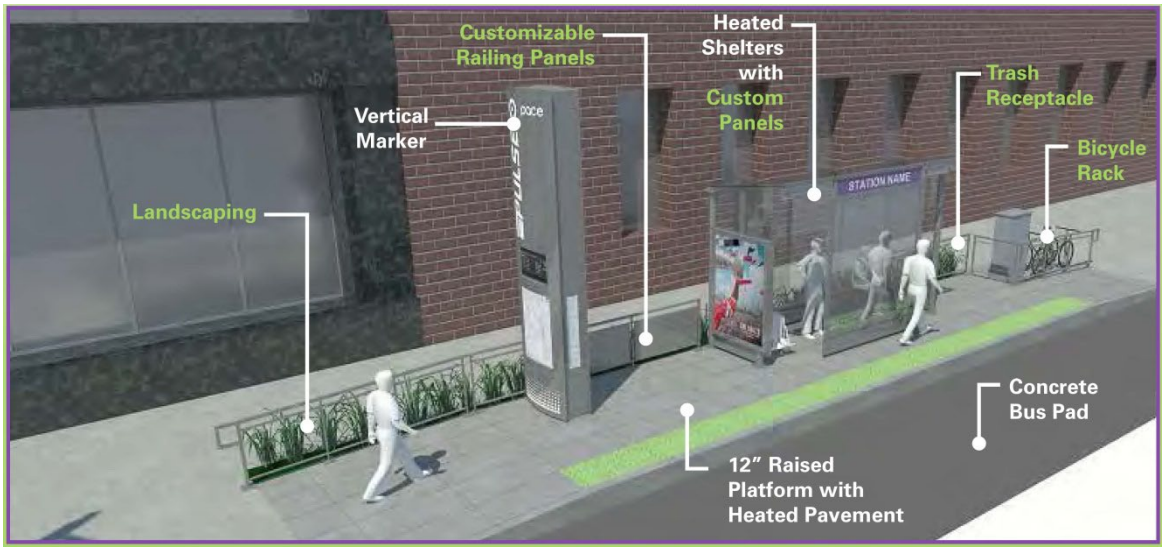
Dempster-Skokie CTA

Crawford

Lincolnwood

Dodge

FIGURE 8: TYPICAL STATION RENDERING



J. Noise

Noise is "unwanted sound" and, by this definition, the perception of noise is subjective. Several factors affect the actual level and quality of noise as perceived by the human ear and can generally be described in terms of loudness, pitch (or frequency), and time variation. The loudness, or magnitude, of noise determines its intensity and is measured in decibels (dB). The A-weighted decibel (dBA) is commonly used to describe the overall noise level from transit sources because it is an attempt to take into account the human ear's response to audible frequencies. Because the decibel is based on a logarithmic scale, a 10-decibel increase in noise level is generally perceived as a doubling of loudness, while a 3-decibel increase in noise is just barely perceptible to the human ear.

The *FTA Transit Noise and Vibration Impact Assessment Manual* provides methodologies for evaluating noise impacts of transit projects based on the type and scale of the project, the stage of project development, and the environmental setting. **Appendix F** contains additional details on this noise analysis. Based on the characteristics of this project, the general procedure (as defined in the FTA Transit Noise and Vibration Impact Assessment Manual) was determined to be the most appropriate methodology for analyzing the potential for noise impacts. This procedure is used to identify noise-sensitive land uses near a project and whether there is likely to be a perceivable noise impact. The general procedure takes into account noise impact criteria, the type of project, and noise-sensitive land uses. The procedure provides an impact distance, which is defined as the distance large enough to include all locations potentially affected by noise from this project. This distance is measured from the center of the noise-generating activity—in this case, the centerline of the project corridor.

The *FTA Transit Noise and Vibration Impact Assessment Manual* includes a spreadsheet tool to calculate the increase in project noise exposure and the total project noise exposure, based on the category of surrounding land

uses, the existing noise level, and the operational characteristics of the proposed transit service[8]. The inputs into the tool to fully identify the potential for noise impacts include the following:

- Land Use Assumptions: The three land use categories for noise impact assessment, from lowest to highest impact threshold, include outdoor quiet, residential, and institutional. Based on the 2013 CMAP Land Use Inventory, no outdoor quiet land uses are along the corridor. Therefore, the residential threshold was assumed as the most sensitive impact threshold.

- Existing Noise Levels: In areas away from major roadways, noise from local streets or in neighborhoods is generally the main source of existing noise. The manual provides the following formula to calculate existing noise levels (in decibels) based on population density: $L_{dn} = 22 + \log p$, where L_{dn} = Day-Night Average Sound Level (in dBA) and p = persons per square mile. The project corridor is a relatively densely populated urban area, with an average density of 7,558 persons per square mile, equating to an average estimated existing noise level of 61 dBA.

- Noise Impacts of the Project: The expected operating characteristics of the Pulse Dempster Line were also put into the tool to estimate noise impacts anticipated to result from the project. These characteristics assume diesel buses that pass by as often as once every 10 minutes in each direction (12 times total per hour) during the day and as often as once every 15 minutes in each direction (8 times total per hour) in the evening. The analysis also assumed that buses would travel the speed limit on along each road of operation, up to 35 miles per hour.

Buses would operate along a corridor with substantial existing general traffic noise as the predominant source of noise; the added effect of the project because of the addition of a maximum of 9 buses during peak hour on noise in the corridor would be negligible. Noise impacts were measured at distances of 50, 75, and 100 feet from the alignment measured from the center of the noise generating activity. As shown in **Table 6**, the project is not expected to result in any severe noise impacts to the project area within the existing right-of-way. Receivers within 50 feet from the project corridor measured from the center of noise generating activity would experience a moderate impact, or a 2-dB increase, which is barely perceptible to the human ear and is not expected to create disruption of normal activities. **Figure 9** shows the results of the spreadsheet tool for receivers at 50 feet, the closest any buildings along the corridor are to the project centerline. The figure shows the distance to the moderate impact contour is 63 feet, meaning that any receivers beyond this distance, including at 75 and 100 feet, would experience no noise impacts.

TABLE 6: NOISE LEVEL IMPACT SUMMARY

Distance (feet)	Project L_{dn} (dBA)	Existing L_{dn} (dBA)	Total Exposure (dBA)	Increase (dB)	Impact
50	60	61	63	2	Moderate
75	57	61	63	2	None
100	55	61	62	1	None

dB = decibel; dBA = A-weighted decibel; L_{dn} = Day-Night Average Sound Level

[8] FTA Transit Noise and Vibration Impact Assessment Manual. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf. Accessed October 2017.

The Des Plaines Metra EB station, across the street from the existing Des Plaines Metra Station on Miner Street at the corner of Pearson Street, would require a minor shift of the roadway to accommodate the Pulse station. Vehicles would operate 12 feet closer to buildings on the north side of the street, notably a pair of multi-family condominium buildings. At their closest points, the buildings are approximately 80 feet away from the roadway centerline. Because of the existing urban context of the corridor, including the presence of existing local bus service and general traffic, the slightly reduced distance of the bus station to the residences is not expected to have perceptible noise impacts on these residences.

The project would produce temporary noise impacts associated with construction activities including the construction of stations. Equipment would be used for earth removal, hauling, and paving. However, once construction of the roadway improvements is completed, no further noise impacts would occur.

Construction noise impacts for passersby and individuals living or working near the project can be expected. In some areas, construction noise impacts would be greater because of the close proximity of existing housing. However, these impacts would not be substantial because of the relatively short-term nature of construction noise. The contractor would limit times for which certain types of construction operations may be undertaken, which would minimize impacts to sensitive noise receptors, including residences.

FIGURE 9: NOISE IMPACT SPREADSHEET

Federal Transit Administration
Noise Impact Assessment Spreadsheet
Copyright 2007 HMMH Inc.
version: 7/3/2007

Project:	Pace Pulse Dempster

Receiver Parameters	
Receiver:	Receiver at 50 ft
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	61 dBA

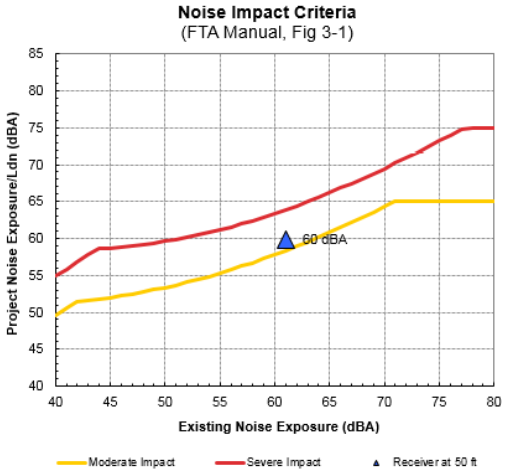
Noise Source Parameters	
Number of Noise Sources:	1

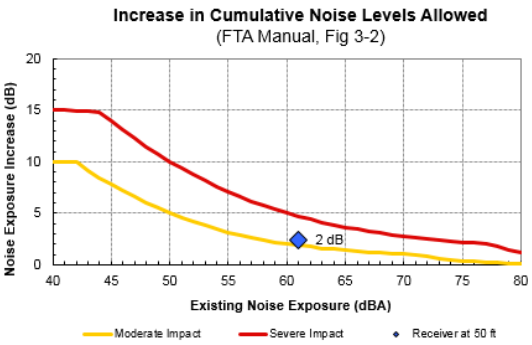
Noise Source Parameters		Source 1
	Source Type:	Highway/Transit
	Specific Source:	Buses (diesel-powered)
Daytime hrs		
	Speed (mph)	35
	Avg. Number of Events/hr	12
Nighttime hrs		
	Speed (mph)	35
	Avg. Number of Events/hr	8
Distance	Distance from Source to Receiver (ft)	50
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No

Project Results Summary	
Existing Ldn:	61 dBA
Total Project Ldn:	60 dBA
Total Noise Exposure:	63 dBA
Increase:	2 dB
Impact?:	Moderate

Distance to Impact Contours	
Dist to Mod. Impact Contour (Source 1):	63 ft
Dist to Sev. Impact Contour (Source 1):	27 ft

Source 1 Results	
Leq(day):	54.9 dBA
Leq(night):	53.1 dBA
Ldn:	59.8 dBA





K. Vibration

The project proposes to operate up to 9 new rubber-tired buses on existing roadways in an existing urban corridor. The alignment for this new service would operate on smooth, asphalt streets in shared general traffic. No ground-borne vibration impacts are anticipated from the operation of rubber-tired buses and any potential vibration impact would not likely be perceptible at sensitive receptor locations adjacent to the alignment. Therefore, no vibration impacts are anticipated because of the project.

L. Acquisitions & Relocations

The Pulse Dempster Line project would not result in the displacement of businesses or residences along the project corridor, and construction would occur predominately within existing right-of-way. A minor amount of permanent easements would need to be obtained at some stations beyond existing right-of-way for the new, enhanced station platform construction. The areas affected by permanent easements are at Mannheim/Higgins, Lee-Mannheim/Oakton, Western, Cumberland, Milwaukee, Harlem, Waukegan, Dempster-Skokie CTA, Crawford, Lincolnwood, and Dodge stations. In all, a total of approximately 0.08 acre of permanent easements would need to be obtained from 22 parcels. **Table 7** summarizes the permanent easements required.

TABLE 7: PERMANENT EASEMENTS REQUIRED

Station Location	Direction	Land Use	Affected Elements	Area (square feet)	Parcels Affected
Mannheim//Higgins	EB	Commercial	Grass and Sidewalk	96	1
Mannheim/Higgins	WB	Airport	Grass	44	1
Lee-Mannheim/ Oakton	EB	Commercial	Grass	12	1
Western	EB	Hospital	Grass/concrete pad	46	1
Cumberland	WB	Commercial	Grass	1	1
Milwaukee	EB	Cemetery	Grass	358	1
Milwaukee	WB	Commercial	Driveway	335	1
Harlem	EB	Commercial	Parking Lot	166	1
Harlem	WB	Commercial	Parking Lot	289	1
Waukegan	EB	Commercial	Grass	12	1
Waukegan	WB	Park (Prairie View Community Center)	Grass	657	1
Dempster-Skokie CTA	EB	Public/Utilities	Grass and Trail Head	128	2
Dempster-Skokie CTA	WB	Utilities	Landscaping	282	3
Crawford	EB	Commercial	Landscaping	153	1
Crawford	WB	Commercial	Landscaping	277	2
Lincolnwood	EB	Commercial	Landscaping	122	1
Lincolnwood	WB	Commercial	Landscaping	189	1
Dodge	WB	Commercial	Drive-Through Area	442	1
			Total	**3,608 (0.08 acre)**	**22**

EB = eastbound; WB = westbound

Of the approximately 0.08 acre of permanent easements required, approximately 0.04 acre would be obtained from commercial land uses on 13 parcels. Easements at these commercial properties primarily consist of existing grass and landscaping elements. The permanent loss of land would be minor and would not impair the accessibility or functionality of the associated businesses.

Permanent easements required for the project would also result in minor impacts to parking lots. Total impacts to parking lots at the Harlem EB and Harlem WB platforms would result in the loss of approximately five parking spots per platform. Each of these locations would affect a large surface parking lot with many spaces, and impacts to associated businesses would be minor. The Milwaukee WB platform would affect a commercial driveway and parking lot. Relocation of the driveway and reconfiguration of the parking lot is proposed to allow continued access and coordination with the station area plan. The Dodge WB platform would affect a small portion of a restaurant drive-

through area and associated landscape buffering. The minor permanent loss of parking would not impair the accessibility or functionality of the business.

The remaining approximately 0.04 acre of permanent easements required for the project would involve grass and landscaping at other public and private properties. The permanent loss of land would be minor and would not impair the accessibility or functionality of the properties.

- Approximately 0.008 acre of permanent easement would be obtained from the Maryhill Catholic Cemetery for the Milwaukee EB platform. Maryhill Catholic Cemetery is bordered by a fence that serves as a buffer between the cemetery and the public right-of-way. The required easement would be approximately 17 feet beyond the fence at its closest point, and well over 100 feet from the nearest marked grave site. The platform would be located adjacent to the public right-of-way, and would not include any disturbance of grave sites. Additional coordination with Maryhill Catholic Cemetery and IHPA (as needed) will be conducted prior to right-of-way acquisition and prior to construction as part of the construction management plan for the project.
- Approximately 0.015 acre of permanent easement would be obtained from the Morton Grove Park District's Prairie View Community Center for the Waukegan WB platform. Grass and landscaping which are not used as active park space would be affected. The easement would not affect park features, attributes, or amenities. The affected area qualifies as a Section 4(f) resource; see **Section P** for additional analysis.
- Approximately 0.01 acre of permanent easement would be obtained from Advocate Lutheran General Hospital for the Western EB platform. Grass and an existing concrete platform and bus shelter would be affected. The permanent easement would not impair the accessibility or functionality of the hospital.
- The remaining approximately 0.01 acre of permanent easements would be obtained from utility and airport land. Affected elements include grass and landscaping, and the permanent loss of land would be minor and would not impair the accessibility or functionality of the uses.

In addition to permanent easements, temporary easements would be required during the construction phase of the Pulse Dempster Line project. **Table 8** summarizes required temporary easements. Approximately 0.19 acre of temporary easements would be obtained from 26 parcels. Similar to the necessary permanent easements, temporary easements would be required from a variety of land uses, although the elements most commonly affected are grass, landscaping, and parking lots. The temporary easements would be needed for equipment access for station construction and yard grading.

Although 26 parcels would be affected by a temporarily loss of usable land, this temporary impact would not impair the accessibility or functionality of the associated businesses. The land included in temporary easements needed for the project would be restored to its pre-construction condition and ownership would revert to the original owners upon completion of the project. Approximately 0.016 acre of temporary easement would be needed from the Morton Grove Park District's Prairie View Community Center for the Waukegan WB platform. Grass and landscaping which are not used as active park space would be temporarily affected. The easement would not affect park features, attributes, or amenities. The affected area qualifies as a Section 4(f) resource; see **Section P** for additional analysis.

TABLE 8: TEMPORARY EASEMENTS REQUIRED

Station Location	Direction	Land Use	Affected Elements	Area (square feet)	Parcels Affected
Mannheim/Higgins	EB	Commercial	Grass	259	1
Mannheim/Higgins	WB	Airport	Grass	245	1
Lee/Oakton	EB	Commercial	Grass and sidewalk	342	1
Potter	WB	Commercial	Parking Lot	638	1
Western	EB	Hospital	Grass and Existing Bus Shelter	400	1
Cumberland	WB	Commercial	Grass	387	
Milwaukee	EB	Cemetery	Grass	398	1
Milwaukee	WB	Commercial	Driveway	508	1
Harlem	EB	Commercial	Parking lot	291	1
Harlem	WB	Commercial	Parking Lot	321	1
Waukegan	EB	Commercial	Parking Lot	393	1
Waukegan	WB	Park (Prairie View Community Center)	Grass	693	1
Dempster-Skokie CTA	EB	Public/Utilities	Grass and Trail Head	464	4
Dempster-Skokie CTA	WB	Utilities	Grass	475	3
Crawford	EB	Commercial	Landscaping	393	1
Crawford	WB	Commercial	Parking Lot and Landscape	593	4
Lincolnwood	EB	Commercial	Grass	309	1
Lincolnwood	WB	Commercial	Grass/Parking Lot	329	1
Dodge	WB	Commercial	Drive-Through Area	650	1
			Total	**8,100 (0.19 acre)**	**26**

EB = eastbound; WB = westbound

M. Hazardous Materials

The hazardous materials analysis includes identification of potential sources of hazardous materials impacts, both within and adjacent to the Pulse Dempster Line project corridor. Sites that currently or have historically handled, stored, transported, released, or disposed of hazardous or regulated waste are potential sources of hazardous material contamination.

There are no specific NEPA thresholds for determining potential adverse impacts related to hazardous materials; however, FTA's process for implementing NEPA requires an evaluation of potential impacts related to hazardous materials. For this impacts analysis, a hazardous material is any media such as soil, groundwater, or building material that contains detectable concentrations of any federal- or state-regulated contaminant. An impact would be considered adverse if it would have the potential for the following:

- Harm to human health or the environment through the routine transport, use, or disposal of hazardous materials
- Harm to human health or the environment through the accidental release of hazardous materials into the environment

Environmental Data Resources, Inc. conducted a review of federal, state, and local regulatory databases to identify sites that currently or have historically handled, stored, transported, released, or disposed of hazardous or regulated materials, as these types of sites are potential sources of hazardous material contamination. **Appendix G** contains the full list of federal, state, local, tribal, and other databases that were consulted for this analysis.

No National Priority List sites were identified within the search distance. The most common types of sites identified included Underground Storage Tank (UST), Leaking UST, Facility Index System database, Enforcement and Compliance History Online database, and Resource Conservation and Recovery Act sites. These types of sites are present along most of the Pulse Dempster Line project corridor and are typical of urban areas. Sites of the greatest concern include Comprehensive Environmental Response, Compensation, and Liability Information System, Comprehensive Environmental Response, Compensation, and Liability Information System No Further Remedial Action Planned, Resource Conservation and Recovery Act Large Quantity Generators, and Emergency Response Notification System adjacent to the Pulse Dempster Line project. These types of sites have a higher potential for wide-spread contamination based on the type and nature of activities that resulted in their listings.

There are no known contamination plumes in the project area. While the potential for contamination exists at any location that has USTs for hazardous materials, the sites identified as having USTs are regularly monitored to confirm they are not leaking and do not threaten human health and welfare.

Eleven sites of high concern were identified within 300 feet of the station locations because of their proximity to construction activities. These sites are further described in **Table 9** and shown on maps in **Appendix G**. None of these sites listed are Superfund sites. Potential impacts related to these sites of high concern would be mitigated by implementing best management practices, including following federal, state, and local laws and regulations regarding hazardous materials before and during construction.

TABLE 9: HIGH-CONCERN HAZARDOUS MATERIALS SITES WITHIN 300 FEET OF STATION LOCATIONS

Site Name	Site Location	Nearest Proposed Station	Distance to Station
Banbury Development Inc.	Intersection of Dempster Street and Dodge Street	Dodge WB	Approximately 70 feet
Louvar James and Cecelia	3460 Dempster Street	Lincolnwood WB	Approximately 92 feet
Niles Finest Cleaners	7239 Dempster Street	Harlem EB	Approximately 54 feet
Murray Cleaners	7166 Dempster Street	Harlem EB	Approximately 173 feet
Firestone	Intersection of Dempster Street and Waukegan Road	Waukegan EB	Approximately 77 feet
Shell Oil Products US	6941 Dempster Street	Waukegan EB	Approximately 77 feet
Graham Enterprise, Inc.	8801 Waukegan Road	Waukegan EB	Approximately 280 feet
Oil Express International	8430 Dempster Street	Cumberland WB	Adjacent to station location
8830 Dempster	8830 Dempster Street	Western WB	Approximately 80 feet
Unnamed	2648 Dempster Street	Dee EB	Approximately 90 feet
Ramada Inn	6600 N. Manheim Road	Mannheim/Higgins WB	Approximately 250 feet

In addition to these sites of high concern, the urban setting of the project area creates the potential for the presence of typical urban fill throughout the entire project corridor. Typical urban fill materials contain elevated concentrations of polynuclear aromatic hydrocarbons and metals because of nearby roadways, railways, and industrial and commercial land uses and activities. In addition, urban fill may include contaminated building demolition debris. This type of contamination is not necessarily associated with a release from a specific site or source. Contaminated urban fill may be encountered during excavation.

Construction of the project would include some subsurface ground disturbance activities, which could encounter contaminated soil and/or groundwater. However, most excavation would be associated with construction of the stations, such as for the slab-on-grade platforms and shelters, and excavation would be limited to the top 3 to 5 feet below ground surface; therefore, the potential for encountering hazardous materials would be limited and there would be no impacts. All construction debris would be properly disposed in construction/demolition landfills. If encountered, lead-based paint and asbestos-containing materials would be disposed in accordance with all federal, state, and local regulations.

In the limited areas where permanent easements are anticipated, Phase I Environmental Site Assessments (ESAs) would be conducted before easements are obtained. Based on the Phase I findings, a Phase II ESA could also be recommended. Should a Phase II ESA be required, site testing and additional analysis would be conducted to confirm and detail the risk of contamination at the site. If a site is contaminated and remediation is needed, the Phase II ESA would provide recommendations for remediation. Once remediation of the site has occurred, there would be no impacts.

N. Social Impacts & Community Disruption

Eight municipalities are along the Pulse Dempster Line project corridor, as well as unincorporated areas of Cook County. Pace analyzed U.S. Census Bureau data from 2011–2015 to determine the demographic profile of census block groups within ½ mile of the Pulse Dempster Line project corridor. Approximately 160,000 people reside within the project corridor, and occupy more than 58,000 households. The bulk of the population near the Pulse Dempster Line project resides in Des Plaines, Skokie, and Evanston. **Table 10** shows the population and households within the project corridor by municipality.

TABLE 10: POPULATION AND HOUSEHOLDS

Municipality	Population	Households
Chicago	1,191	442
Des Plaines	36,148	14,131
Evanston	36,636	13,138
Morton Grove	22,571	7,882
Niles	13,206	4,613
Park Ridge	5,648	2,160
Rosemont	1,883	775
Skokie	34,583	12,482
Unincorporated	8,157	3,031
TOTAL	**160,023**	**58,654**

Source: U.S. Census Bureau 2011–2015 American Community Survey

The median age of most tracts adjacent to the project corridor is 36–45 years, although the two largest 10-year age range groups within the corridor are 25–34 and 50–59 years. Approximately 51 percent of corridor residents are female. Approximately 11 percent of households are below the poverty line, and 11 percent do not have access to a personal vehicle. **Table 11** shows the racial makeup of residents in the Pulse Dempster Line project corridor.

TABLE 11: RACE AND ETHNICITY

Race/Ethnicity	Total	Percentage
White	92,567	58%
Black	10,000	6%
Asian	31,404	20%
Hispanic	22,195	14%
Other	3,857	2%

Source: U.S. Census Bureau 2011–2015 American Community Survey

According to U.S. Census Bureau data, most residents near the project corridor commute by car, while approximately 10 percent commute by public transportation.

As noted in **Section D**, the areas adjacent to stations are dominated by commercial uses. However, all station areas have multi-family and/or single-family residential uses within ¼ mile, and most station areas are one block away from residences. In addition, there are many community resources along the project corridor (e.g., parks, schools, government centers, and religious institutions), as shown in **Table 12**.

TABLE 12: COMMUNITY RESOURCES

Community Resource	Type
Des Plaines City Hall	Government
Cook County Commissioner	Government
Lutheran General Hospital	Hospital
Des Plaines Public Library	Library
Des Plaines History Center	Museum
Halim Time & Glass Museum	Museum
Morton Grove Historical Museum	Museum
Guardian Angel Orthodox Day School, Des Plaines	School
Have Dreams Transition Program, Evanston	School
Immanuel Lutheran School, Des Plaines	School
Joseph E. Hill Education Center, Evanston	School
Maine East High School, Park Ridge	School
Mosaic Early Childhood Center School, Skokie	School
Notre Dame High School for Boys, Niles	School
Plato Academy, Des Plaines	School
Roycemore School, Evanston	School
Science and Arts Academy, Des Plaines	School
Alexander Park, Evanston	Park
Elizabeth Boynton Harbert Park, Evanston	Park
Harrer Park, Morton Grove	Park
Lake Park, Des Plaines	Park
Lockwood Park, Skokie	Park
Merrick Park, Evanston	Park
North Shore Sculpture Park, Skokie	Park
Paroubeck Park, Des Plaines	Park
Rand Park, Des Plaines	Park
Barry Recreation Center	Community Center
Prairie View Community Center	Community Center
Maryhill Catholic Cemetery	Cemetery

Community Resource	Type
Beth Emet	Synagogue
Congregation Or Torah	Synagogue
Covenant Apostolic	Church
Emmanuel United Methodist	Church
Evangelical Covenant	Church
Evergreen Community	Church
Ezra-Habonim	Synagogue
First United Methodist	Church
Good Shepherd Lutheran	Church
Holy Virgin Protection Russian Orthodox Cathedral	Church
Immanuel Lutheran	Church
Los Pentecostales de Evanston	Church
Lubavich Chabad of Skokie	Synagogue
Mount Zion Apostolic	Church
North Maine Community	Church
Prayer Garden Ministries	Church
Skokie Valley Agudath Jacob	Synagogue
Sojourner Covenant	Church
St. John the Baptist Greek Orthodox	Church
St. Mark's Episcopal	Church
St. Mary's Catholic	Church
Temple Beth Israel	Synagogue
Unitarian Church of Evanston	Church
Young Israel of Skokie	Synagogue

Source: Google Maps

Permanent impacts to these community resources would be limited to a minor permanent easement from Maryhill Cemetery in Niles and Prairie View Community Center in Morton Grove. **Sections L and P** contain additional description of these impacts.

The anticipated increase in use of the Pace public transportation system associated with the Pulse Dempster Line project would result in added benefits to the project area such as better accessibility to jobs, potential for improved air quality through the reduction in commuter traffic, reduced travel times and congestion, and greater potential for economic opportunities along the corridor. The upgrades to existing sidewalks, curb ramps, and crosswalks near stations also takes the necessary steps to provide the eight affected communities with pedestrian facilities that are compliant with the Americans with Disabilities Act.

No residences or community resources would be displaced by the Pulse Dempster Line project. Permanent negative socioeconomic impacts resulting from the project include the loss of property tax base because of commercial permanent easements needed for the project. However, this impact would be minimal because of the small amount

(less than 0.06 acre) of permanent easements required. No additional permanent negative socioeconomic impacts would result from the Pulse Dempster Line project. Temporary negative socioeconomic impacts resulting from the project would include inconveniences commonly associated with construction such as noise, fugitive dust, increased travel delay, and utility disruptions. These impacts are temporary and would cease upon completion of project construction. Access to businesses and residences would be provided throughout construction.

The project would not adversely affect community cohesion as it would not change access or travel patterns. The municipalities identified above would not be segmented by the Pulse Dempster Line project, because the new service would be an expansion along existing transportation infrastructure. Opportunities provided by the Pulse Dempster Line project include the enhancement of bus frequency through the project corridor in addition to the number of stations providing easier access within the community. To that end, the project would contribute to the enhancement of the surrounding communities by adding more convenient and more accessible public transportation and potentially lowering vehicular air emissions. Therefore, the Pulse Dempster Line project is not expected to have adverse impacts on the social or community environment.

10. Environmental Justice

An EJ analysis was performed in accordance with related federal and state laws and guidance including Title VI of the 1964 Civil Rights Act, Executive Order 12898, Executive Order 13166, and FTA Circulars 4703.1 and 4702.1B. This section provides information on EJ analysis conducted for the Pulse Dempster Line project.

FTA Circulars *4703.1 EJ Policy Guidance* and *4702.1B Title VI Requirements and Guidelines for FTA Recipients* provide methods to fulfill the key goals of federal EJ policies:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To allow for the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

To establish the presence of low-income and minority populations, Pace analyzed U.S. Census data for all census block groups within ½ mile of the alignment. Year 2015 American Community Survey 5-year data products were used for analysis.

Minority populations were determined by using the combination of all persons identifying as non-white and/or Hispanic/Latino populations. This analysis used a threshold of 50 percent to identify distinct minority populations. **Figure 10** provides a map of minority populations along the Pulse Dempster Line project corridor. The map shows that distinct minority populations are in all municipalities within the project corridor, and especially high concentrations (greater than 75 percent) of minority populations are in Rosemont, Des Plaines, and Evanston.

City affiliations are likely more meaningful to residents than census block group boundaries, which often cross municipal boundaries. All block groups along the corridor within each affected municipality, as well as unincorporated

areas of Cook County, were analyzed to determine whether the section of each municipality within ½ mile of the project corridor contains a predominantly minority population. To avoid artificially diluting or inflating the presence of minority populations, the project corridor population was the compared with the total population of each affected municipality. **Table 13** shows minority populations by municipality, both as a whole and within ½ mile of the project corridor. Census block groups near the project corridor have a 42 percent minority population, and each city and unincorporated area has between 30 and 50 percent minority residents. Approximately one in five residents near the project corridor identify as Asian, while 14 percent identify as Hispanic. In Des Plaines, Park Ridge, Niles, and Evanston, minority populations represent a greater share of the total within ½ mile of the project corridor population than in each municipality as a whole, indicating a distinct minority population near the project.

FIGURE 10: MINORITY POPULATION

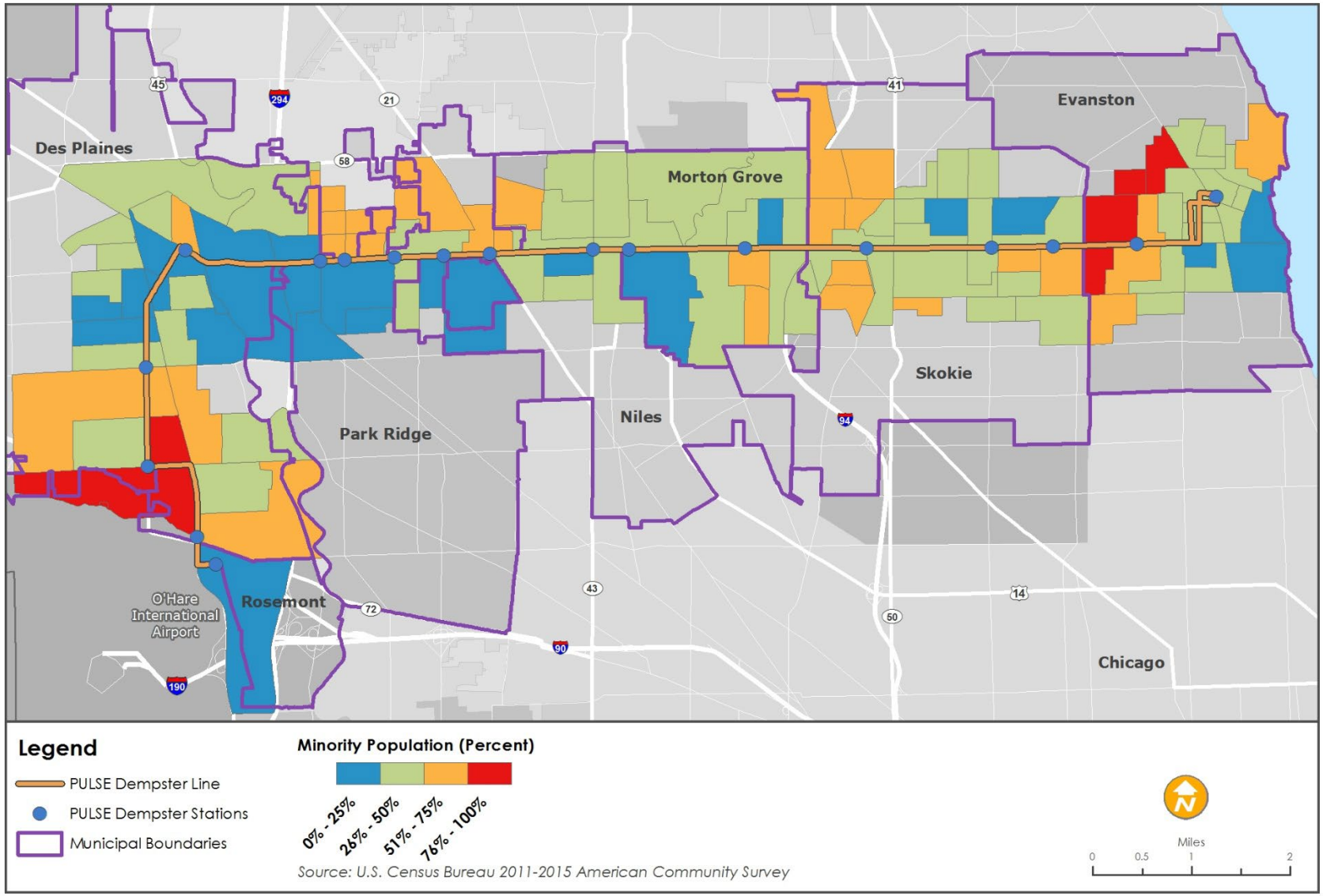


TABLE 13: MINORITY POPULATION BY MUNICIPALITY

Municipality/ County	Within Project Corridor			Municipality/County Total		
	Population	Minority Population	Percent Minority	Population	Minority Population	Percent Minority
Chicago	1,191	587	49%	2,692,241	1,829,593	68%
Des Plaines	36,148	14,021	39%	61,275	22,732	37%
Evanston	36,636	16,396	45%	71,990	28,999	40%
Morton Grove	22,571	9,575	42%	24,185	10,255	42%
Niles	13,206	4,498	34%	31,312	10,264	33%
Park Ridge	5,648	1,831	32%	37,239	5,501	15%
Rosemont	1,883	602	32%	2,539	902	36%
Skokie	34,583	15,752	46%	64,465	29,437	46%
Cook County (Unincorporated)	8,157	4,193	51%	5,236,393	2,980,391	57%
TOTAL	**160,023**	**67,456**	**42%**			

Source: U.S. Census Bureau 2011–2015 American Community Survey

Low-income populations were identified, in accordance with FTA Circular 4703.1, where the median household income of a census block group is below the poverty guideline, as established by the U.S. Department of Human Health and Services, for the average household size of that block group. Where average household size was not a whole number, the household size was rounded up to next whole number to be more inclusive. Year 2015 guidelines were used to match U.S. Census data, which was reported in 2015 dollars. No block groups within ½ mile of the project corridor had median incomes below U.S. Department of Human Health and Services poverty guidelines for their average household sizes.

To further identify potential distinct low-income populations, the share of households within ½ mile of the project corridor that fall below U.S. Census poverty thresholds was analyzed. **Figure 11** provides a map of the percentage of households below poverty thresholds by census block group. The highest concentrations of households below U.S. Census poverty thresholds are on the western end of the alignment in Chicago and Rosemont, and to the east in Evanston, indicating potential distinct low-income populations. Households near the project corridor population were also compared with the total of each affected municipality. **Table 14** shows low-income households by municipality, both as a whole and within ½ mile of the project corridor. Approximately 11 percent of households in census block groups near the project corridor have incomes below the U.S. Census poverty thresholds, compared with 16 percent of households in Cook County as a whole. Chicago, Des Plaines, Park Ridge, and Evanston were identified as municipalities in which a greater share of households fell below U.S. Census poverty thresholds than in the municipalities as a whole.

FIGURE 11: LOW-INCOME HOUSEHOLDS

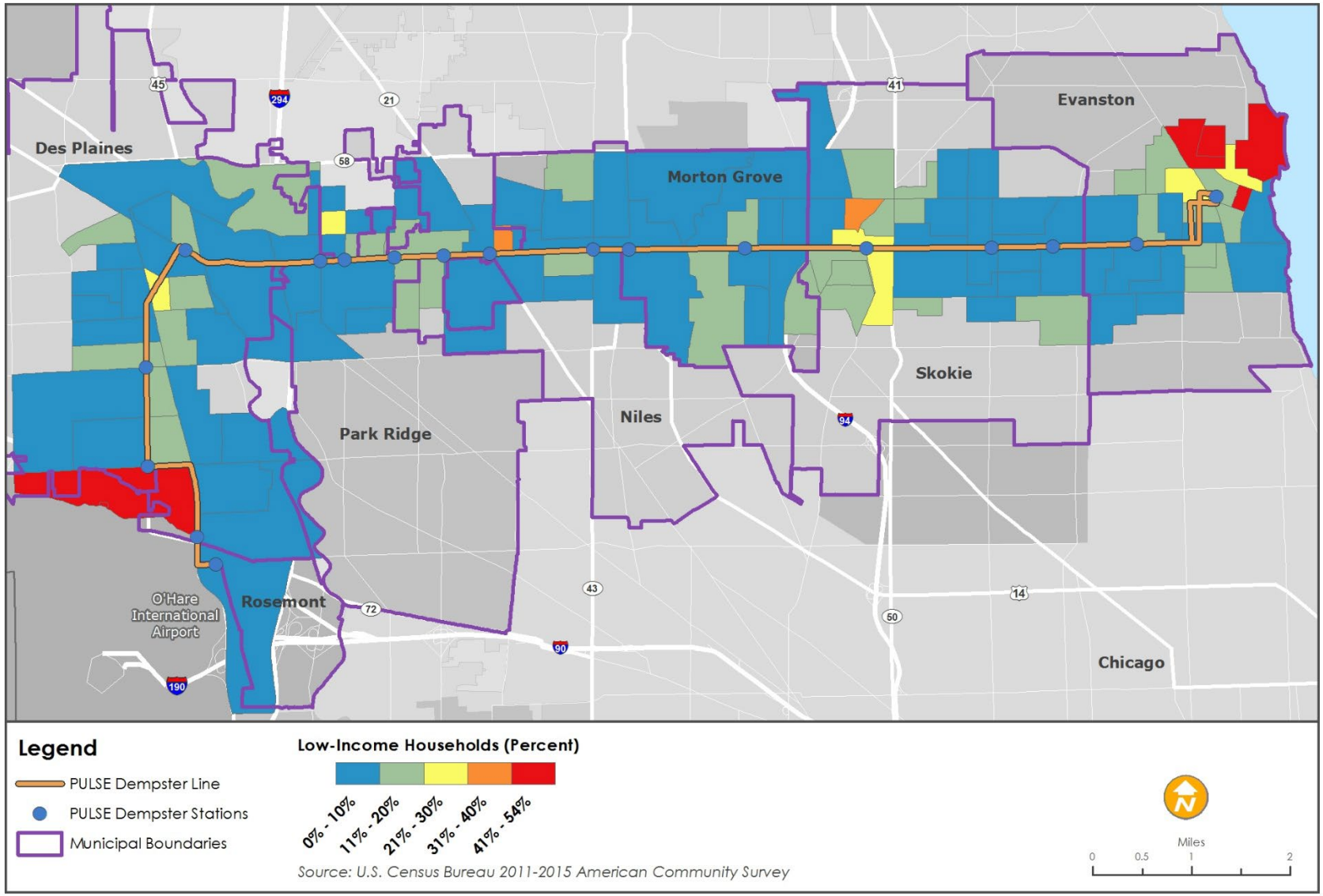


TABLE 14: LOW-INCOME HOUSEHOLDS BY MUNICIPALITY

Municipality/ County	Within Project Corridor			Municipality/County Total		
	Total Households	Low-Income Households	Percent Low-Income	Total Households	Low-Income Households	Percent Low-Income
Chicago	442	101	23%	1,021,275	205,314	20%
Des Plaines	14,131	1,204	9%	22,855	1,770	8%
Evanston	13,138	2,298	17%	28,045	3,779	13%
Morton Grove	7,882	664	8%	8,426	697	8%
Niles	4,613	476	10%	11,715	1,229	10%
Park Ridge	2,160	164	8%	13,928	698	5%
Rosemont	775	106	14%	1,059	161	15%
Skokie	12,482	1,372	11%	22,631	2,606	12%
Cook County (Unincorporated)	3,031	320	11%	1,942,959	305,633	16%
TOTAL	**58,654**	**6,705**	**11%**			

Source: U.S. Census Bureau 2011–2015 American Community Survey

All neighborhoods containing predominantly minority populations and/or high concentrations of low-income populations were classified as EJ communities. These findings were then analyzed to determine whether project-related impacts would occur disproportionately in neighborhoods with EJ populations.

No direct impacts or indirect/cumulative impacts are anticipated because of the Pulse Dempster Line project. The project would not result in displacement of residential or commercial properties. The existing Pace Route 250 will be retained, so distance to stations will not change in EJ communities. The project would result in transportation benefits to all populations within the project corridor, including EJ populations. Benefits would include shorter travel times, more frequent bus service, and improved bus stations. These transportation improvements would also contribute to potential economic development and livability improvements. Pulse bus facilities would be designed to fit within the existing urban context of the surrounding neighborhoods, thereby preserving the character of existing EJ neighborhoods. Pace's current fare policy and structure would remain at the current levels through the implementation of the Pulse Dempster Line project; no price increases that could potentially disproportionately impact EJ communities are planned.

The Pulse Dempster Line project would result in temporary adverse construction impacts on neighborhoods surrounding the stations. Construction impacts would include temporary impacts on parcels and temporary street closures during construction. In addition, construction activities would produce temporary noise, but would not result in severe impacts after mitigation. No disproportionately high and adverse impacts because of construction are anticipated because impacts would be temporary in nature and would be experienced by EJ and non-EJ communities alike. See **Section V** for additional details on construction impacts.

P. Use of Public Parkland & Recreation Areas

Section 4(f) of the USDOT Act of 1966 is a federal law that established requirements for USDOT (including the Federal Transit Administration [FTA]) consideration of publicly owned parks/recreational areas that are accessible to the general public, publicly owned wildlife/waterfowl refuges, and publicly or privately owned historic sites of federal, state, or local significance in developing transportation projects. This law, commonly known as Section 4(f), is now codified in 23 USC § 303 and 23 USC § 138, and is implemented by FTA through the regulation 23 CFR § 774. Additional guidance on the implementation of Section 4(f) may be found in FHWA's Section 4(f) Policy Paper (USDOT, FHWA 2012). FTA has formally adopted this guidance and this analysis was conducted consistent with this guidance.

In accordance with Section 4(f) of the Department of Transportation Act of 1966, the project area was examined to determine the location of such protected lands along the project corridor. To determine whether Section 4(f) applies to the proposed project, protected Section 4(f) properties were assessed to determine whether there would be a "use" of the property as defined in the statute. "Use" definitions under Section 4(f) are defined in statute and include permanent incorporations or direct uses, as well as short-term temporary uses or constructive uses due to proximity of a project to Section 4(F) protected resources. In accordance with 23 CFR § 774.17, FTA may not approve the use of a Section 4(f) property, unless it determines that (1) there is no feasible or prudent alternative to the use of that land and the project includes all possible planning to minimize harm of using the property or FTA determines that Section 4(f) use of the property would have a "*de minimis*" impact. Detailed information on the Section 4(f) regulatory requirements as well as the analysis and coordination/consultation conducted are included in **Appendix H** and are summarized in this section.

Wildlife and waterfowl refuges were investigated within a ¼ mile of the corridor; no wildlife or waterfowl refuges are within ¼ mile of the corridor and no further Section 4(f) use would occur. Therefore, no further Section 4(f) evaluation is required for these resources.

While there are ten parks adjacent to the corridor itself, no potential use or impact to these parks is anticipated, given that the improvements would be within existing right-of-way near these parks and the minimal number of additional buses proposed during peak hour (no more than 9 additional buses) would not directly or indirectly affect these parks. In addition, some parks may benefit from implementation of the Pulse Dempster Line project by providing expedited service to these park facilities.

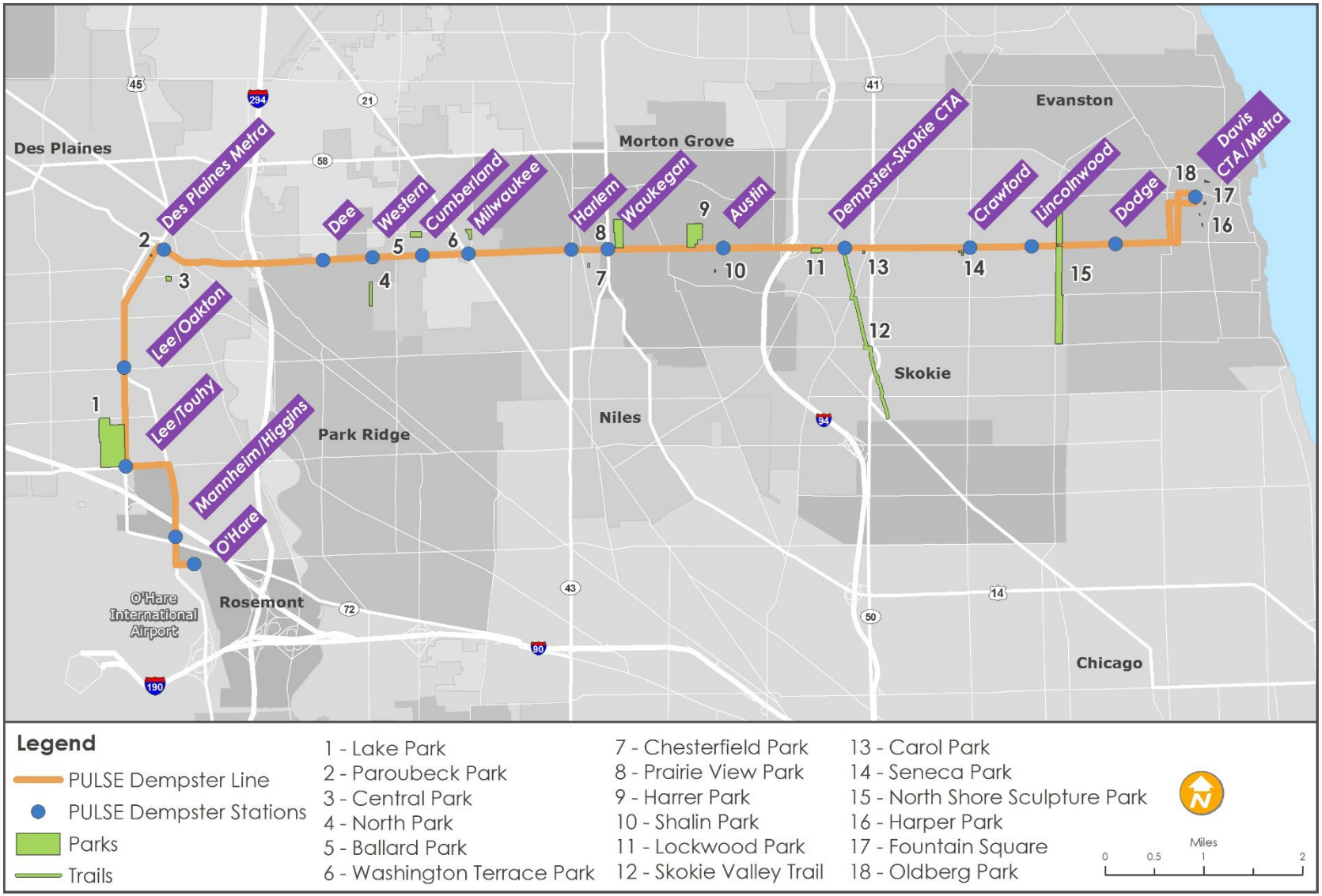
Pace evaluated a ¼-mile buffer around station areas to further identify Section 4(f) protected park resources because this buffer accounts for both permanent impacts or use of property and any temporary impacts or uses that could be caused by construction of the project. A total of 18 parks or recreational areas are within ¼ mile of stations, as shown in **Table 15** and **Figure 12**.

TABLE 15: PARKS AND RECREATIONAL FACILITIES WITHIN ¼ MILE OF STATIONS

ID	Park Name	Distance from Station (feet)	Nearest Station	Address
1	Lake Park	186	Lee/Touhy WB	6834 Dempster Street, Des Plaines
2	Paroubeck Park	582	Des Plaines Metra EB	1175 Howard Avenue, Des Plaines
3	Central Park	1,171	Des Plaines Metra WB	8720 Keystone Avenue, Des Plaines
4	North Park	1,265	Western EB	700 Davis Street, Park Ridge
5	Ballard Park	934	Cumberland WB	1398 E. Prairie Avenue, Niles
6	Washington Terrace Park	703	Milwaukee WB	8812-8884 Washington Street, Niles
7	Chesterfield Park	1,185	Harlem EB	1448 Sherman Avenue, Niles
8	Prairie View Park	1	Waukegan WB	8435 W. Ballard Road, Morton Grove
9	Harrer Park	1,064	Austin WB	8750 Niles Center Road, Morton Grove
10	Shalin Park	1,220	Austin WB	710 Elgin Road, Morton Grove
11	Lockwood Park	1,118	Dempster-Skokie CTA EB	6250 Dempster Street, Skokie
12	Skokie Valley Trail	0	Dempster-Skokie CTA EB	5027 Dempster Street, Skokie
13	Carol Park	937	Dempster-Skokie CTA WB	5230 Carol Avenue, Skokie
14	Seneca Park	284	Crawford WB	8401–9145 Bennett Avenue, Skokie
15	North Shore Sculpture Park	1,146	Lincolnwood WB	8701 McCormick Boulevard, Skokie
16	Harper Park	825	Davis CTA/Metra	7040 W. Crain Street, Evanston
17	Fountain Square	504	Davis CTA/Metra	6030 S. Park Avenue, Evanston
18	Oldberg Park	961	Davis CTA/Metra	1400 N. Western Avenue, Evanston

EB = eastbound; WB = westbound

FIGURE 12: PARKS AND RECREATIONAL FACILITIES WITHIN ¼ MILE OF STATIONS

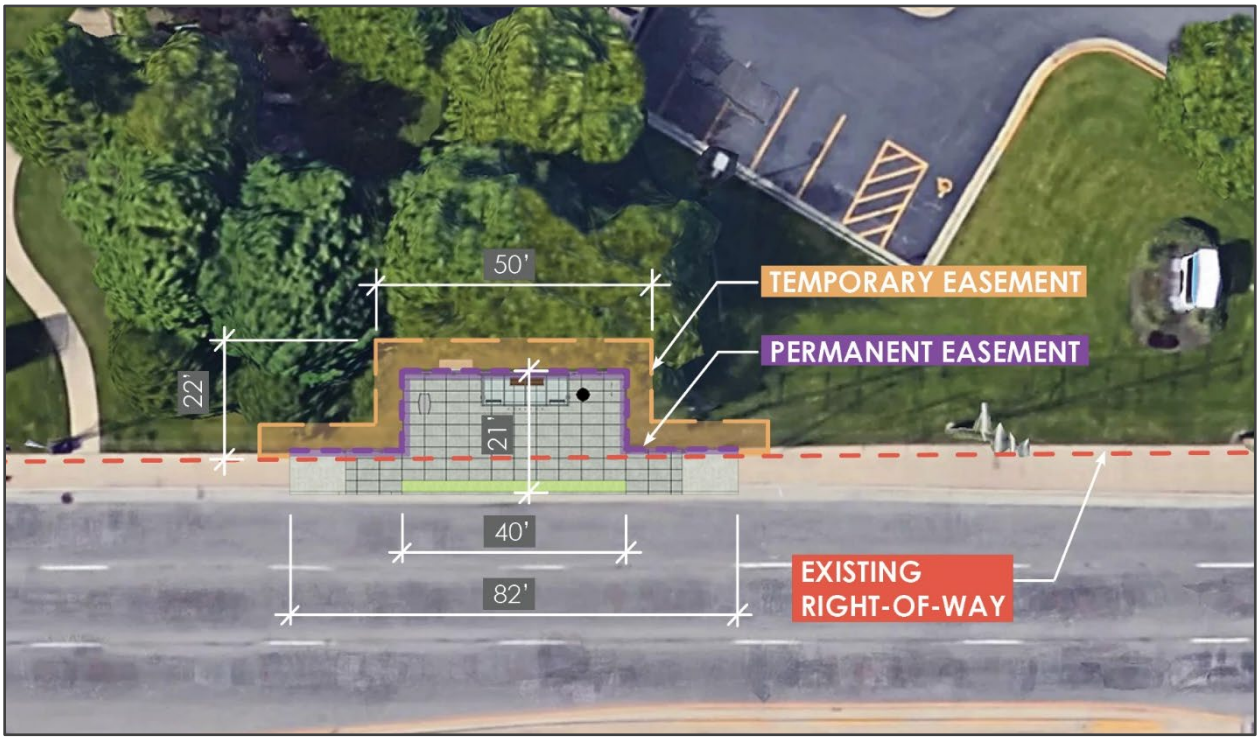


A small easement would be required from one park (Prairie View Park) at the Waukegan WB station. No permanent or temporary easement would be required for any of the other parks identified within ¼-mile of proposed stations. As such, there would be no other impacts or Section 4(f) use of parks because of the project. Additionally, public parks along the corridor could benefit from the project from better access to these parks.

While the proposed Dempster-Skokie station is located adjacent to the Skokie Valley Trail, the easement needed at this proposed station location is outside of the footprint of the trail and is located on designated utility land. Pace received confirmation from the Village of Skokie that this land is not designated as park or trail, and that there is no applicable Section 4(f) use at that location. Supporting documentation on coordination with the Village of Skokie is provided in **Appendix H**.

To accommodate the Waukegan WB station, an easement on a small amount of the designated Prairie View Park property beyond the existing right-of-way (approximately 82 feet long by 1.5 feet deep across the entire platform length, plus approximately 40 feet long by 13 feet deep at the rear end of the platform) would be needed. **Figure 13** shows a detailed plan view of this station area and park property with proposed easements. The easement would extend into the grassy buffer between the existing sidewalk and parking area, but would have no impact on park uses or amenities. The permanent easement needed for this station, however, would result in a permanent incorporation or direct use of parkland as defined by 23 CFR § 774.17. Given the minimal amount of land proposed for this easement, and because it would not impact the attributes, amenities, or features of the park, a *de minimis* finding is proposed for this Section 4(f) use. A *de minimis* impact involves the use of Section 4(f) property that is generally minor in nature. A *de minimis* impact determination requires agency coordination and concurrence with the officials having jurisdiction over the Section 4(f) property and public notice and an opportunity for public review and comment, as described by 23 CFR § 774.5.

FIGURE 13: PRAIRIE VIEW PARK EASEMENT REQUIREMENTS



Pace met with the Morton Grove Park District (the official with jurisdiction over this property) on December 18, 2017. Based on coordination and comments received, Pace adjusted the proposed station location slightly to account for concerns about sight lines from the roadway and potential for obscuring the Park District's entrance signage. The updated station layout was shared with the Morton Grove Park District on January 11, 2018 as part of the stakeholder outreach meetings conducted. Based on additional coordination with Morton Grove Park District, it was determined that two trees that would be impacted by the station layout are part of the Park District's War Memorial. The Park District was amenable to moving and replanting these trees elsewhere on the property as part of this project to avoid any adverse impact to the war memorial.

Pace sent written correspondence to the Morton Grove Park District on XXXX XX, 2018 to finalize coordination on the proposed coordination and inform the Morton Grove Park District of the intention to make a de minimis finding based on the proposed station layout and commitment to replant impacted trees. Copies of correspondence are provided in Appendix H.

A public notice was published on XXXX XX, 2018 on the Pace website, in the local newspaper, and at the Prairie View Park location requesting a 30-day public review and comment concerning the proposed station and potential impact to the park. In addition, the proposed updated station location and impacts to the park were shared with the public as part of the February 6-7, 2018 public open house meetings. The comment period for receiving comments ended on XXXX XX, 2018. Pace received X comments during this comment period. Comments related to X, Y, and Z. Comments were compiled and sent to the Morton Grove Park District along with a request for their review and concurrence on the de minimis finding. Morton Grove Park District provided their concurrence on the de minimis finding on XXXX XX, 2018.

Q. Impacts on Wetlands

Executive Order 11990 of May 24, 1977, *Protection of Wetlands*, requires an analysis of impacts on wetlands be performed for any mass transportation project that may affect a wetlands area. In addition, per Section 404 of the Clean Water Act, infrastructure development projects must document potential impacts on wetlands resulting from dredged or fill material.

The Illinois Interagency Wetlands Policy Act of 1989 (the Act [20 Illinois Compiled Statutes § 830 et seq.]) is intended to confirm that there is no overall net loss of Illinois' existing wetland acres or their functional values resulting from state-supported activities. The Act charges state agencies with a further duty to "preserve, enhance, and create wetlands where necessary to increase the quality and quantity of the State's wetland resource base." The Act uses the same definition for wetlands as in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual used by federal agencies in implementation of the federal Clean Water Act. All three parameters (hydric [wet] soils, hydrophytic [growing in water] vegetation, and wetland hydrology) are required for a location to be considered a wetland; however, areas that have been restored or created as the result of mitigation or planned construction projects, and that function as wetlands, are also defined as wetlands under the Act even when all three wetland parameters are not yet present.

Pace reviewed existing data sources to evaluate potential impacts on wetlands in the project area. Wetland data was obtained from the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (see **Appendix I**)[9]. The NWI data is very general and is intended to give the user reconnaissance-level information. To help identify wetland sites that may have been missed by the NWI, Pace used the U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey website, where available, to identify areas of potentially hydric soils (see **Appendix I**)[10]. Pace also reviewed the Illinois Ecological Compliance Assessment Tool (EcoCAT) to identify resources mapped by Illinois Department of Natural Resources (see **Appendix I**)[11].

Although the project corridor would cross several areas of potential wetlands, the project corridor is in an urbanized area, construction would be primarily within the existing right-of-way, and there are no anticipated impacts from project construction or operation on potential wetlands associated with the project. If future design determines that construction work is to be conducted in areas of potential wetlands, formal wetland delineation would be conducted and the amount and type of impact would be refined. As part of obtaining permits for work on the project before construction, mitigation would be needed if wetlands would be affected. Coordination with the local U.S. Army Corps of Engineers district would occur before construction to confirm findings.

R. Floodplain Impacts

Presidential Executive Order 11988 requires the protection of floodplains. The Executive Order directs federal agencies to avoid conducting, allowing, or supporting actions on a floodplain. The existing floodplains within the project area have been identified using the Federal Emergency Management Agency Flood Insurance Rate Maps (see **Appendix J**). Portions of the Pulse Dempster Line would cross the following flood zones:

- Zone X (shaded) is defined as the areas between the 100-year floodplain (1 percent annual chance of flooding) and 500-year floodplain (0.2 percent annual chance of flooding). These areas may have up to 6 inches of flooding during a 1 percent annual chance storm event. Zone X areas are considered to have moderate risk.
- Zone A is defined as an area within the 100-year floodplain (1 percent annual chance of flooding); however, detailed analyses are not performed for these areas and no depths or Base Flood Elevations are shown on FIRMs. Zone A areas are considered to have high risk.
- Zone AE is defined as areas within the 100-year floodplain (1 percent annual chance of flooding) where Base Flood Elevations are derived from detailed analyses and shown at selected intervals on FIRMs. Zone AE areas are considered to have high risk.

The Pulse Dempster Line would cross the following floodplains:

[9] U.S. Fish and Wildlife Service National Wetlands Inventory. https://www.fws.gov/wetlands/data/Mapper.html. Accessed 10/20/17

[10] U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed 10/20/17

[11] Illinois Department of Natural Resources EcoCAT. http://dnr.illinois.gov/EcoPublic/. Accessed 10/29/17

- Willow Creek, Zone AE and X, south of I-90 in Rosemont (encompassing the Mannheim-Higgins station platforms)Prairie Creek, Farmers Creek, Weller Creek, and Des Plaines River, Zones AE and X (shaded), near I-294 and the Metra UP Northwest Line in Park Ridge and Des Plaines (encompassing the Western station platforms)
- North Branch of the Chicago River, Zones AE and X (shaded), near the crossing of the Metra Milwaukee District North Line in Morton Grove (encompassing no station platforms)
- North Shore Channel, Zone A, in Evanston (encompassing no station platforms)

No construction activities would occur in any Zone AE areas; however, the Mannheim/Higgins and Western station platforms would be within Zone X (shaded) areas. Although the majority of these platforms would be constructed within the existing right-of-way, platform construction would increase the amount of impermeable area at each of the four platform sites. **Table 16** shows the amount of impermeable area added because of construction of each platform site. The total increase of 2,629 square feet of impermeable area (approximately 0.06 acre) would not have a significant impact on the floodplain. Construction would be minimal and would not affect base flood elevations. Flooding may have minor impacts on these two stations.

TABLE 16: IMPERMEABLE AREA INCREASE IN ZONE X

Platform	Impervious Area Added (square feet)
Higgins EB	317
Higgins WB	1,205
Western EB	370
Western WB	737
Total	**2,629**

EB = eastbound; WB = westbound

No significant impacts on floodplains are anticipated. The alignment is almost entirely within current right-of-way on existing roadways and would not affect surface contours. The addition of impervious surfaces from new construction would be minimal and would not affect base flood elevations.

5. Water Quality, Navigable Waterways, & Coastal Zones

Waterways are regulated under the Clean Water Act of 1977, as amended (33 USC § 1251). In addition, navigable waterways are regulated by Section 10 of the Rivers and Harbors Act of 1899, as amended (33 USC § 403). Pace reviewed aerial photography, United States Geological Survey topographic mapping, Cook County Soil Survey, and the NWI map to determine whether any perennial or intermittent streams occur in the project area. The project corridor would cross the following waterways: North Shore Channel, North Branch of the Chicago River, Farmer's Creek, and Willow Creek. No work below the ordinary high-water mark is expected to occur at these stream crossings; therefore, it is anticipated that there would be no direct impacts on these waterways.

Pace reviewed the 2016 Illinois Environmental Protection Agency Section 303(d) list of Impaired Waters for waterways within the project corridor[12]. The project corridor crosses two impaired waterways:

- North Shore Channel: Impaired for dissolved oxygen, pH, total phosphorus, mercury, polychlorinated biphenyls, and fecal coliform
- North Branch Chicago River: Impaired for aldrin, chlorine, DDT, hexachlorobenzene, dissolved oxygen, total phosphorus, total suspended solids, polychlorinated biphenyls, and fecal coliform

Pace would incorporate best management practices such that construction or operation of the project would not contribute to the degradation of the impaired waterways or hinder any established recovery plans.

Both the North Shore Channel and the North Branch of the Chicago River are designated as navigable waters of the United States[13]. The project would not affect the navigability of these waterways.

Groundwater is not a drinking water source in this area and there are no sole source aquifers within the project area[14]. The closest sole source aquifer is the St. Joseph Aquifer System in northern Indiana.

Generally, runoff from transportation uses can impair water quality within urban settings. Construction activities would have the potential to increase erosion and sedimentation around construction and staging areas. The project would involve some reconstruction of impervious surfaces, but would result in a minimal net change of impervious area because the project area is already heavily urbanized.

T. Impacts on Ecologically Sensitive Areas and Endangered Species

The Endangered Species Act of 1973, as amended, protects federally threatened and endangered species. The consultation that occurs between the sponsoring federal agency and USFWS to determine a project's likeliness to jeopardize a threatened or endangered species is done so under Section 7 of the Act. Pace reviewed the USFWS endangered species list and EcoCAT for listed species near the project corridor. The USFWS list presents federally listed species and EcoCAT summarizes information from the Illinois Natural Heritage Database, which contains state-

[12] 2016 Illinois Environmental Protection Agency Section 303(d) list of Impaired Waters. http://www.epa.illinois.gov/topics/water-quality/watershed-management/tmdls/303d-list/index. Accessed 10/23/17

[13] U.S. Army Corps of Engineers Navigable Waters of the United States. http://www.lrc.usace.army.mil/Missions/Regulatory/Navigable-Waters/. Accessed 10/29/17

[14] USEPA Sole Source Aquifer Map. https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b. Accessed 10/23/17

listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, and registered Land and Water reserves near the project location[15,16].

There are eight federally listed species that potentially occur in Cook County: piping plover (*Charadrius melodus*), rufa red knot (*Calidris canutus rufa*), eastern massasauga (*Sistrurus catenatus*), Hine's emerald dragonfly (*Somotochlora hineana*), rattlesnake-master borer moth (*Papaipema eryngii*), rusty-patched bumble bee (*Bombus affinis*), the eastern prairie fringed orchid (*Platanthera leucophaea*), and prairie bush clover (*Lespedeza leptostachya*). EcoCAT identified the following species in or near the project corridor: banded killfish (*Fundulus diaphanous*), bearded wheat grass (*Elymus trachycaulus*), down Solomon's seal (*Polygonatum pubescens*), eastern prairie fringed orchid (*Platanthera leucophaea*), mountain blue-eyed grass (*Sisyrinchium montanum*), and sedge (*Carex formosa*). These historic records were not necessarily within the project area; therefore, even with this more focused data, it was necessary to compare each species' habitat requirements to the existing habitats within the project area. If these species were to occur in the project corridor, they would likely appear along the North Shore Channel and the North Branch of the Chicago River. These riparian areas are narrow and surrounded by dense urban development and would likely provide limited potential habitat. If any of these species are along the project corridor, the species would be accustomed to typical activity along the streets of Cook County, including periodic roadwork and bus traffic. No construction work is anticipated near the North Shore Channel and the North Branch of the Chicago River; therefore, no impacts are anticipated to any federal- or state-listed species in the project area.

U. Impacts on Safety & Security

No impacts on safety or security are anticipated to result from the project. The Pulse Dempster Line project has the potential to enhance the safety and security of the corridor for all roadway users and pedestrians. The project would include pedestrian improvements around stations, including restriped crosswalks and enhanced accessibility through sidewalks and ramps. New crosswalks and pedestrian signals would be installed at stations, where appropriate, to enhance safety for pedestrians, motorists and other users of the roadway. The addition of new stations and safer pedestrian crossings could contribute to a safer environment by providing security measures such as more lighting at station areas.

V. Impacts Caused by Construction

Construction activities for the stations would take place along existing roads or within existing transit facilities. Construction activities include construction of shelters and other passenger amenities such as sidewalks, signage, trash receptacles, and lighting. Some minor streetscape improvements may also be included. Streetscape improvements could include plantings, lighting, or changing paving materials at crosswalks.

[15] USFWS Federally Endangered, Threatened, and Candidate Species https://www.fws.gov/midwest/endangered/lists/illinois-cty.html. Accessed 10/23/17

[16] Illinois Department of Natural Resources EcoCAT. http://dnr.illinois.gov/EcoPublic/. Accessed 10/29/17

To minimize the effects of the construction on vehicles and pedestrian circulation, construction would predominantly take place during daylight hours, and would consider peak travel hours to minimize delays wherever possible. Some nighttime work may be required where specific work activities would disrupt traffic or create safety concerns.

Construction activities would primarily be conducted within the curb lines and on sidewalks but may involve some temporary street closures for brief periods of construction of stations. Traffic delays are likely to occur during construction, but would be temporary in nature. Detours with alternative routing and appropriate signage would be provided to maintain access and detailed maintenance of traffic plans would be developed during final design. Where on-street parking exists adjacent to stations, a temporary loss of some of these parking spots may occur because of temporary construction activity. Appropriate signage would be provided to maintain safe pedestrian circulation when sidewalks are being affected by construction. No temporary impacts on access to various community facilities, businesses, or entertainment venues would occur.

General construction noise impacts for passersby and individuals living or working near the project can be expected. In some areas, construction noise impacts can be expected to be greater near existing housing and commercial structures. However, considering the relatively short-term nature of construction noise at any one location and daytime scheduling of construction activities along the Project corridor, these impacts are not expected to be substantial.

No major impacts to water resources are anticipated during construction. Stormwater Pollution Prevention Plan and wellhead coordination would occur before initiation of construction activities. Best management practices and the appropriate erosion and sediment control measures would be employed during construction to offset any potential surface run-off or soil erosion.

Before construction, procedures for identifying, characterizing, managing, handling, storing, and disposing of contaminated soil and groundwater encountered during construction activities would be developed by the construction contractor as part of the project construction plan. Contaminated material encountered during construction would be disposed of at a facility permitted to accept such material. These procedures would cover the entire project area, as it is assumed that all material has at least some level of contamination associated with it.

Several utilities exist within the project area. Most utilities are underground, including water, sewer, various fiber optics, and electric. At selected station locations, utility relocation may be required in constructing stations. Utility relocation may consist of valves, fire hydrants, and stormwater utilities, electric poles, utility boxes, and vaults. Where utility access is required underneath station areas, utility relocations may be required; however, this work would be short in duration and would be coordinated to minimize traffic impacts. Station construction may require connecting to the existing electricity lines to provide for lighting. Before any construction activities, utilities near stations would be identified and avoided to the extent practicable. Coordination with the service operators would be undertaken to determine and minimize potential disruptions in service. If disruptions in service would occur, these would be temporary and services would be restored to preconstruction levels.