

NEPA Documented Categorical Exclusion

TECHNICAL MEMORANDUM

Pulse 95th Street Line

November 2023



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1. Detailed Project Description

1.1 Overview

Pace Suburban Bus (Pace) is pursuing the Pulse 95th Street Line project ("the Project") to provide faster, more frequent, and higher-quality bus service along the 95th Street corridor (the "Project corridor") compared to service offered today. The Federal Transit Administration (FTA) and Pace 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 Project corridor is approximately 13 miles long and traverses bidirectionally east-west through the communities of Chicago, Evergreen Park, Oak Lawn, Chicago Ridge, Bridgeview, and Palos Hills. The Project will operate in mixed traffic and is planned to serve off-street terminal stations at the Chicago Transit Authority (CTA) Red Line 95th Street/Dan Ryan rail station in the City of Chicago and Moraine Valley Community College (MVCC) in the City of Palos Hills.

As shown in the Project location map in **Figure 1-1**, the Project corridor is served by several existing fixed-route bus services, primarily Pace Route 381 between MVCC in Palos Hills and the CTA Red Line 95th Street/Dan Ryan rail station in Chicago. Other Pace routes that intersect the Project corridor include Route 353 at CTA Red Line 95th Street/Dan Ryan rail station, Routes 352 and 359 at Halsted Street, Route 349 at Western Avenue, Route 383 at Cicero Avenue, Route 384 at Ridgeland Avenue, Route 386 at Harlem Avenue, and Routes 379 and 385 at MVCC. Pace Route 395 aligns with the portion of Pulse 95th Street Line along 95th Street with spans of service tailored to employee shift changes for a UPS facility on the western end of the route and accessed via Interstate 294. The east end of the Project corridor is also served by CTA Route 95. Other CTA routes that intersect or serve a smaller portion of 95th Street include Route 9 intersecting at Beverly Blvd; Routes 8A and 108 intersecting at Halsted Street; and Route 112 intersecting at Vincennes (and traveling on 95th Street between Vincennes and 95th Street/Dan Ryan Station).

The Project corridor connects to the Metra Rock Island District 95th Street-Longwood and 95th Street-Beverly Hills stations and the Metra Southwest Service Oak Lawn Patriot Station. Future Pulse Lines including the Halsted Line and Harlem Line will also intersect the Project corridor. The Pulse Halsted Line is under development, with opening of service anticipated in 2026. The Harlem Line is currently programmed as part of Pace's

Near-Term Priority Pulse network and is expected to enter Project Definition¹ in the coming years.

FIGURE 1-1: PACE PULSE 95TH STREET LINE CORRIDOR AND STATION LOCATIONS



Source: Pace, February 2023.

1.2 Proposed Improvements

The Project will construct Pulse-branded bus stations along the Project corridor, approximately every half mile to one mile apart. These new stations will use the standard or compact station design and configuration developed for the Pulse Program. The standard station typically has a 12-foot by 60-foot footprint while compact stations can potentially reduce the station depth to as little as eight feet and the length to as little as 45 feet where space is constrained. All stations have a 12-inch near-level boarding platform with Americans with Disabilities Act (ADA) accessible ramps at both ends connecting the station to the surrounding sidewalk network. The station size is determined by right-of way availability, the location of private property

¹ The Project Definition phase is a Pace-defined phase of work that conducts early planning such as defining Pulse service extents, potential station locations, existing conditions on land use, existing ridership trends and transit service, conceptual service plans for Pulse and underlying local Pace routes, Pulse service ridership estimates, and Pulse cost estimates.

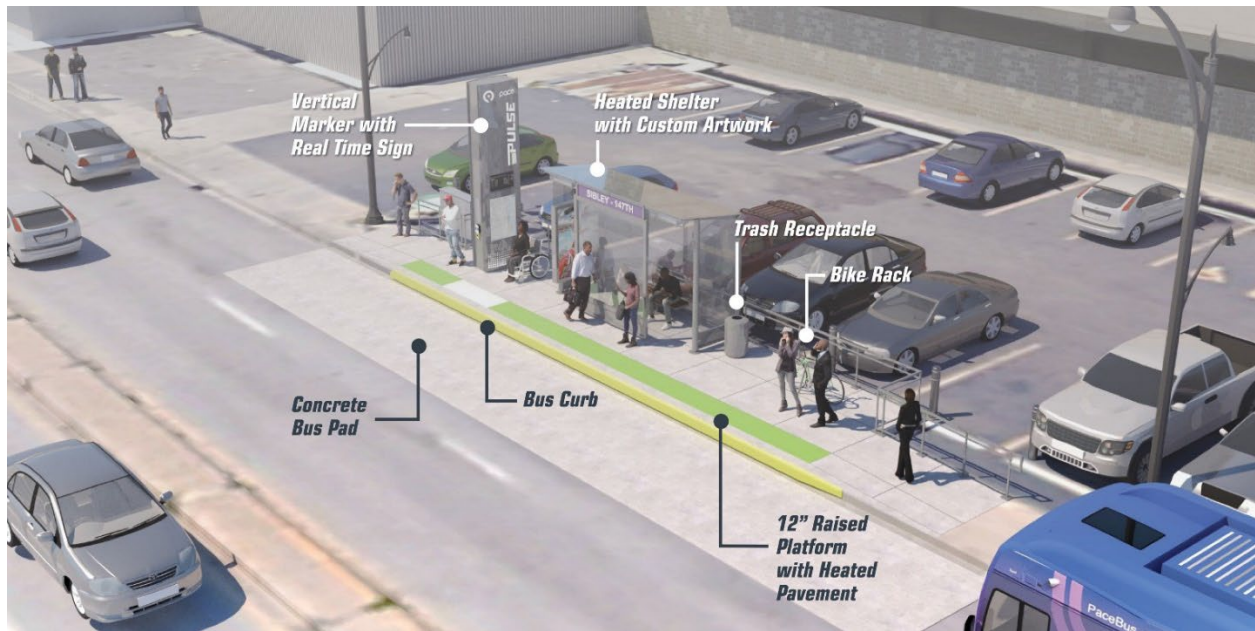
boundaries, or other unique characteristics that constrain the station site.

Proposed station amenities include the following features:

- Raised platform for near-level boarding that enables passengers to enter the bus without the need to step up or for the bus to “kneel”;
- Semi-custom branded shelters;
- Benches, trash receptacles, and bicycle racks;
- A vertical marker conveying the Pulse brand and featuring real-time next-bus signage and Pulse line information;
- Infrared heating within the shelter;
- Electric snow-melt system embedded in the pavement of the station footprint; and
- Railings along the back of the platform and along the access ramps.

A typical standard station layout is shown in **Figure 1-2**. Compact and ultra-compact station layouts reduce the overall footprint of the station to fit the available right of way (ROW) and avoid private property impacts. These alternative station layouts are designed to include all of the same amenities listed above, though site-specific constraints sometimes require omission of one or more amenities. Comparative dimensions of the three layouts are shown in **Figure 1-3**.

FIGURE 1-2: TYPICAL STANDARD SIZE STATION LAYOUT RENDERING



Source: Pace, PMO

Background image source: Southwest corner of 147th and Halsted, Harvey, IL. Google Maps, 2019

Other proposed improvements along the Project corridor include:

- A queue jump at 95th Street and Western Avenue (no other locations proposed);
- Transit Signal Priority (TSP); and
- Crosswalks, pedestrian refuges and curb extensions near select stations.

TSP allows buses to request shorter red lights or extended green lights to speed their progress through intersections. This enhancement would benefit both existing local bus service and the Pulse 95th Street Line. In addition to the automated requests to adjust signal timings in real-time, all traffic signal timings along the Project corridor will be optimized to improve the flow of general traffic by providing a pre-programmed progression of green lights that activate as vehicles approach subsequent intersections. TSP and signal optimization are anticipated to be implemented along the Project corridor as a separate project prior to the commencement of Pulse service.

Twenty Pulse station locations are proposed and shown in **Table 1-1**. Unless otherwise noted, all locations feature the construction of two station platforms (one in each direction of service). Each station will be served by the Project and other local bus services. These stations will be constructed by Pace, except for the eastern terminal at the CTA Red Line 95th Street/Dan Ryan rail station, which is an existing facility. All stations will feature the Pulse brand and will be served by local Pace bus service as well as local

CTA bus service, as applicable. Where existing bus shelters exist at or near proposed Pulse stations, those shelters will be removed. Local Pace or CTA service previously stopping at or near a Pulse station location will stop at the new Pulse station.

The Project improvements will be constructed primarily in existing ROW. Some easements and/or private land acquisition may be needed to accommodate stations, utilities, or construction activities. All proposed improvements including stations, queue jump, crosswalks, pedestrian refuges and curb extensions are shown in **Appendix A**. **Appendix A** also calls out potential additional locations for consideration of pedestrian refuges in the next design phase at the intersections of 95th Street and Pulaski Road, Kedzie Avenue, Ashland Avenue, and Vincennes Avenue. If such pedestrian refuge locations are pursued in a future phase, Pace will coordinate with FTA on any needed revisions to this Documented Categorical Exclusion.

Pace, in partnership with the Chicago Metropolitan Agency for Planning (CMAP), received a Congestion Mitigation and Air Quality (CMAQ) grant to complete final design and construction of the Project.

1.2.1 Select Station and Intersection Improvements

The following station and intersection designs are exceptions to the overall proposed Pulse improvements described above, applicable at specific locations.

The station at 95th Street and Eggleston Avenue is included in the Project's environmental analysis; however, this location may be constructed on a separate timeline from the remaining 95th Pulse Line stations due to an ongoing study of a possible grade separation project at the same location that is being led by the Chicago Department of Transportation (CDOT). The CDOT project would likely require the dismantling and removal of any ROW improvements within that project's construction limits. If the CDOT project proceeds, the Pulse station would need to be redesigned for the updated site layout, and that redesign would be included as part of the NEPA review of the CDOT project. Pace is coordinating regularly with CDOT on the status of the CDOT project to determine whether to proceed with final design and construction of the Eggleston station.

The eastbound station site at 95th Street and Halsted Street would also be served by the Pulse Halsted Line. Analysis of the station was prepared previously as part of the Pulse Halsted Line Documented Categorical Exclusion (NEPA approval received December 20, 2022) and therefore is not presented for analysis and NEPA approval in this report. Depending on the construction timelines of the Halsted Line and 95th Line projects, this station will likely be constructed as part of whichever project advances first. Nonetheless, this station site is part of the 95th Line Project operating plan.

Pending analysis and an Intersection Design Study, the proposed eastbound queue jump lane at 95th Street and Western Avenue would be achieved through modifications to traffic signals and pavement markings, with the bus using the existing right-turn lane to bypass through traffic. No modifications to the roadway and intersection geometry or lane configuration would be needed. A proposed curb extension at eastbound 95th Street and California Avenue would serve as the space for a station allowing the bus to pause in the travel lane and shorten the pedestrian crossing distance across 95th Street.

TABLE 1-1: PULSE 95TH STREET LINE STATIONS

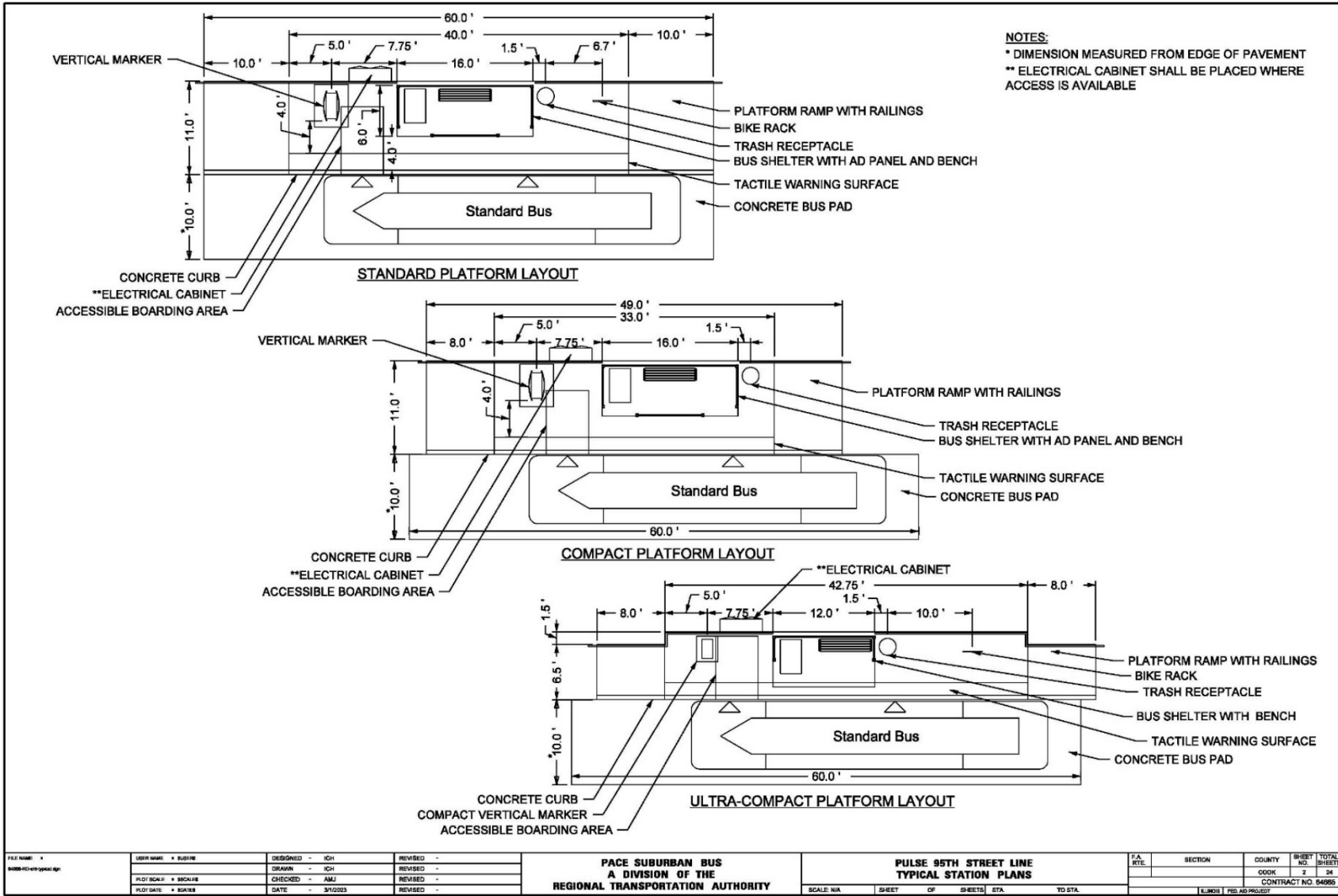
Station	Municipality
1. MVCC*	Palos Hills
2. Roberts/104th Street	Palos Hills
3. Bridgeview Courthouse	Bridgeview
4. Harlem/99th Street	Bridgeview/Chicago Ridge
5. Ridgeland	Chicago Ridge/Oak Lawn
6. SW Highway	Oak Lawn
7. Central-54th Street	Oak Lawn
8. Oak Lawn Patriot Metra	Oak Lawn
9. Cicero	Oak Lawn
10. Kostner	Oak Lawn
11. Pulaski	Oak Lawn/Evergreen Park
12. Kedzie	Evergreen Park
13. California	Evergreen Park
14. Western	Evergreen Park/Chicago
15. Wood-Beverly Hills Metra	Chicago
16. Ashland	Chicago
17. Vincennes-Longwood Metra	Chicago
18. Halsted	Chicago
19. Eggleston**	Chicago
20. 95 th Street/Dan Ryan***	Chicago

* Single new platform only

** Timing and final design of this station is dependent on related CDOT project as described above

*** No improvements planned at existing station facility

FIGURE 1-3: PULSE STATION LAYOUTS: STANDARD, COMPACT AND ULTRA COMPACT



1.3 Operating Plan

The preliminary operating plan, based on running time and ridership analysis, includes introduction of the new Pulse 95th Street Line service and corresponding changes to local Pace Route 381 service. The reduced number of intermediate stops served by the Pulse line along the Project corridor would provide time savings compared to the existing Route 381 service and provide a better service alternative to nearly all existing riders. Route 381 would continue to provide service along the Project corridor; however, it is proposed that frequencies be reduced as described in **Section 5.2**. The Pulse 95th Street Line service would be operated with a dedicated fleet of Pulse-branded vehicles. The operating plan consists of the following weekday service characteristics:

- Service span of 20 hours per weekday (5:00 am to 1:00 am the following day); 19 hours on Saturday and 18 hours on Sunday;
- 10-minute peak headways (6:00 am to 9:00 am and 1:00 pm to 5:00 pm) on weekdays;
- 15-minute off-peak headways (most of the day) on weekdays and on weekends; and
- 30-minute headways for weekday nights and Saturday and Sunday early, evening and nighttime periods.

Upon commencement of the Pulse 95th Street Line service, the following Pace Route 381 weekday service characteristics are proposed:

- Service span of 17 hours per day on weekdays and 16 hours on weekends; and
- 60-minute all-day service frequency.

Route 381 may be rerouted to follow the alignment of the Pulse 95th Street Line, which varies slightly from the existing Route 381 alignment west of Harlem Avenue. These changes would be subject to Pace's typical public hearing process and will not be finalized until closer to the start of Pulse service.

No service changes are planned for Pace Route 395, which provides limited trips through the Project corridor to connect to a UPS facility.

1.4 Project Background

Pace's current strategic vision plan, *Driving Innovation*² identified the Project as one of seven priority Pulse corridors that would provide a regional network of premium transit services across Pace's six county service area. The Project was identified as a priority for implementation due to several factors, including strength of existing transit service, benefits to local and regional transit connectivity, and existing and projected ridership. To date, Pace has initiated or completed work on six of seven priority Pulse corridors:

- Milwaukee Avenue – Jefferson Park Transit Center to Golf Mill Shopping Center (in service as of August 2019);
- Dempster Street – O'Hare Airport CRCF to CTA Davis Station/Metra UP North Line Station (under construction);
- Halsted Street - CTA Red Line 95th Street/Dan Ryan rail station to Pace Harvey Transportation Center (in architecture and engineering phase);
- 95th Street – CTA Red Line 95th Street/Dan Ryan rail station to MVCC (in environmental review phase);
- Cermak Road – 54th/Cermak CTA to Yorktown Center (in Project Definition phase); and
- Harlem Avenue – North Avenue to 95th Street (corridor studies complete).

In 2019, Pace completed a Project Definition technical memorandum³ that defined the initial features and characteristics of the Project, which included station locations, station design and amenities, vehicle specifications, technology requirements, brand elements, an operating plan, and cost estimates.⁴ The Project Definition report also identified goals for the Pulse 95th Street Line, which were used to shape the Project's purpose and need statement and to evaluate the proposed action or project.

Based on ridership and operational data, the limits of the Project were defined to be MVCC on the west and the CTA Red Line 95th Street/Dan Ryan rail station on the east.

² Pace. *Driving Innovation Plan*. September 2021:
https://www.pacebus.com/sites/default/files/2021-10/Driving%20Innovation%20Plan_September%202021.pdf

³ Pace. *95th Street Line Project Definition Technical Memorandum*. May 2019:
<https://www.pacebus.com/sites/default/files/2021-03/95th%20Street%20Line%20-%20Project%20Definition.pdf>.

⁴ 95th Street Line Project Definition Technical Memorandum. Pace. May 2019:
<https://www.pacebus.com/sites/default/files/2021-03/95th%20Street%20Line%20-%20Project%20Definition.pdf>

MVCC is a high-ridership bus stop. Prior to the COVID-19 pandemic, the MVCC bus stop ranked the fourth-highest in boardings on Route 381. It also facilitates transfer activity with connections to Pace Routes 379 and 385. On the east end of the Project corridor, the CTA Red Line 95th Street/Dan Ryan rail station and bus terminal provides connections to the CTA Red Line and numerous CTA and Pace bus routes. The CTA Red Line 95th Street/Dan Ryan rail station is the current southern terminal station of the CTA Red Line and an important connection for rapid transit serving Chicago's South Side, downtown, and North Side communities.

1.5 Purpose and Need

As documented in the *Project Definition Technical Memorandum 95th Street Line*, the purpose of the Project is to provide an enhanced and cost-effective arterial bus rapid transit (BRT) service along 95th Street through the improved frequency, reliability, and travel time of bus transit service, as well as improved bus transit facilities.

The purpose of the Project guided the following Project goals as documented in the Project Definition technical memorandum:

- Encourage transit usage through the establishment of a network of higher-quality line-haul routes;
- Improve the visibility and perception of bus transit service;
- Improve access to and efficiency of bus passenger travel; and
- Connect communities and encourage transportation, land use, and economic development objectives identified in the study corridor.

The Project Definition technical memorandum established that the Project must 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; and
- Improve the quality of bus transit facilities.

1.6 Public Involvement

Pace engaged community stakeholders (e.g., transportation agencies, municipal staff, school districts, hospitals) and the public throughout the development of the Project. Public involvement efforts included three Corridor Advisory Group (CAG) meetings, over a dozen outreach meetings, and a public meeting.

In addition to these efforts, relevant Project material and information was made available on the Project webpage.⁵

The sections below provide an overview of the activities that occurred within each public involvement outreach effort.

1.6.1 Corridor Advisory Group

Pace established the CAG to assist in the development of the Project by providing input on design, operational elements, and station locations. The CAG consisted of elected officials, municipal staff, transportation agencies, major employers and institutions, school districts, hospitals, business groups, and other stakeholder group representatives from the Project corridor.

1.6.2 Outreach Meetings

One-on-one and small group meetings were conducted with municipalities, townships, local and state departments of transportation, property owners, state and federal agencies, and large employers and institutions to discuss specific topics such as station location details and features. All outreach meetings conducted during both study phases are documented in **Appendix B**.

1.6.3 Public Meeting

A public meeting was held virtually on November 17, 2022. Pace shared an overview of the Pulse Program and an overview of the Project corridor and proposed station locations. Participants were then invited to participate in an interactive map activity to provide comments on the Project corridor map and proposed station sites. A question-and-answer session was held at the end of the public meeting. Attendees were also encouraged to submit their comments through the comment form available on the Project website.

A summary of the public meeting, including advertisements, meeting content, and public comments are included in **Appendix B**.

⁵ Pulse 95th Street Line Project webpage: <https://www.pacebus.com/project/pulse-95th-street-line>

2. Location

The Project is in Cook County in Northeast Illinois. As shown in **Figure 1-1**, the Project corridor is approximately 13 miles long, serving two termini at the CTA Red Line 95th Street/Dan Ryan rail station in the City of Chicago and MVCC in Palos Hills. In addition to the termini, the Project corridor has 18 intermediate station pairs. The Project connects the communities of Chicago, Evergreen Park, Oak Lawn, Chicago Ridge, Bridgeview, and Palos Hills, including the City of Chicago neighborhoods of Roseland, Washington Heights, and Beverly. The Villages of Hometown, Hickory Hills, and Worth are also within one mile of the Project corridor. The Pulse 95th Street Line service would connect to major transit service hubs, including the CTA Red Line 95th Street/Dan Ryan rail station, the Metra Rock Island 95th Street-Longwood and 95th Street-Beverly Hills stations, the Metra Southwest Service Oak Lawn Patriot Station, and numerous Pace and CTA bus routes.

3. Metropolitan Planning and Air Quality Conformity

3.1 Air Quality Attainment Status

This section evaluates the potential air quality impacts for the Project, located in Cook County, Illinois. It was prepared in compliance with the Clean Air Act and the 1990 Clean Air Act Amendments. The Project is located within the Metropolitan Chicago Interstate Air Quality Control Region (AQCR #67).

The National Ambient Air Quality Standards (NAAQS), established by the US Environmental Protection Agency (USEPA), set maximum allowable concentration limits for six criteria air pollutants. Areas in which air pollution levels persistently exceed the NAAQS may be designated as “nonattainment.” States where a nonattainment area is located must develop and implement a State Implementation Plan (SIP) containing policies and regulations that will bring about attainment of the NAAQS. Areas that had been designated as nonattainment, but that have attained the NAAQS for the criteria pollutant(s) associated with the nonattainment designation, will be designated as maintenance areas.

Cook County is currently in attainment of the NAAQS for five of the six criteria pollutants (particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead). The Project corridor is designated as a marginal nonattainment area for 8-hour ozone standards. Any potential impacts on regional emissions are accounted for in the CMAP Transportation Improvement Program (TIP). CMAP is designated as the region’s Metropolitan Planning Organization (MPO) and is the decision-making body for all regional transportation plans and programs for the northeastern Illinois Metropolitan Planning Area. The TIP is Metropolitan Chicago’s agenda of surface transportation projects and lists all federally funded projects and regionally significant, non-federally funded projects programmed for implementation in the next five years.

3.2 Air Quality Discussion

3.2.1 Transportation Conformity

The Project is included in the federal fiscal year 2019-2024 TIP endorsed by the Metropolitan Planning Organization Policy Committee of CMAP for the region in which the Project is located. Projects in the TIP are considered to be consistent with the 2050 regional transportation plan prepared by CMAP, and Pulse expansion is specifically

called out in the 2050 Long Range Transportation Plan (LRTP), known as *ON TO 2050*, as Regionally Significant Project (RSP) 102A.⁶

On October 17, 2022, the Federal Highway Administration (FHWA) and the FTA determined that the conformity analysis covering the *ON TO 2050 Plan Update/FY 2023-2028 TIP Conformity Determination* performed by CMAP meets the applicable criteria of 40 CFR 51 and 40 CFR 93 and that the amendments conform with the SIP.

The Project's design concept and scope are consistent with the Project information used for the TIP conformity analysis. Therefore, this Project conforms to the existing SIP and the transportation-related requirements of the 1990 Clean Air Act Amendments. The TIP number for this Project is TIP ID 17-21-0001.⁷ The Project is currently under review with the TIP 23-01 Amendment and is listed as "Not Exempt; To Be Conformed," which indicates the Amendment is not anticipated to impact to the Project. The Project is located within a designated nonattainment or maintenance area for ozone but is not a project type that is anticipated to be a "project of air quality concern" or affect the outcome of a regional emissions analysis. Project-level impacts are discussed in the next section.

3.2.2 Project-Level Analysis

2022 existing Annual Average Daily Traffic (AADT) within the Project corridor ranges from 5,650 to 38,600 vehicles per day.⁸ Based on existing data, the highest approach volume along 95th Street is approximately 1,298 vehicles per hour, and truck traffic ranges from approximately 3 to 11 percent, depending on the particular roadway section.

The current proposed service plan for the Project would add approximately 98 bus trips to the existing daily traffic. During the "worst-case" peak hour, the Project would add up to 8 buses to the existing traffic volume. Consequently, the Project will not meaningfully affect traffic volumes or vehicle mix that would result in air quality impacts.

There are typically three pollutants of interest for transportation projects: carbon monoxide (CO), fine particulate matter (PM_{2.5}) and mobile source air toxics (MSATs). The analysis of each pollutant is slightly different depending on the NAAQS, attainment status, scale of the proposed improvements, and future traffic volumes. Below is a discussion of each of the three typical pollutants.

⁶ Chicago Metropolitan Agency for Planning. Regionally Significant Projects. <https://www.cmap.illinois.gov/2050/mobility/regionally-significant-projects>

⁷ Chicago Metropolitan Agency for Planning. ETIP Database. <https://etip.cmap.illinois.gov/>

⁸ Illinois DOT Traffic Count Database System. <https://idot.public.ms2soft.com/tcds/tsearch.asp?loc=ldot&mod=>

3.2.2.1 Carbon Monoxide (CO)

CO is typically a localized air quality issue. With the continued reduction in CO emissions from motor vehicles, the potential for violations of the CO standard has decreased over the years. As of 2010, the USEPA reclassified all remaining CO nonattainment areas in the country to maintenance.

Because the Project is not located in a CO nonattainment or maintenance area, quantitative CO hot-spot analysis is not required. The Illinois EPA (IEPA) and Illinois DOT (IDOT) have a programmatic agreement titled "Agreement on Microscale Air Quality Assessment for IDOT Sponsored Transportation Projects," which exempts projects from CO analysis if the highest design-year approach volume on the busiest leg of the intersection is less than 5,000 vehicles per hour or 62,500 AADT. Although this agreement applies to Federally funded highway projects, it is referenced for this analysis in order to provide a qualitative discussion in the absence of CO criteria specific to transit projects.

Even though the Project is FTA-sponsored and not an IDOT project, Pace is following FTA procedures to be eligible for federal funding in the future; therefore, the Project traffic volumes for the build condition were compared to the IDOT-IEPA thresholds to demonstrate qualitatively that the Project will not cause or contribute to any new violation of the CO NAAQS. The highest approach volume along Halsted Street is approximately 1,298 vehicles per hour and maximum AADT is 38,600, well below the thresholds of the IDOT-IEPA programmatic agreement. Based on this qualitative analysis, the Project will not cause or contribute to any new violation of the CO NAAQS along the Project corridor and a quantitative CO hot-spot analysis is not required per the guidance of 40 CFR 93.116 and 40 CFR 93.123.

3.2.2.2 Particulate Matter (PM_{2.5} and PM₁₀)

Although Cook County was designated as a maintenance area for the 1997 annual PM_{2.5} standard, that standard was revoked effective October 24, 2016. Based on the October 24, 2016, final ruling⁹, conformity determinations for the 1997 annual PM_{2.5} NAAQS for metropolitan transportation plans, metropolitan TIPs, or transportation projects are no longer required; therefore, hot-spot analyses are not necessary. On December 27, 2018, the USEPA approved Illinois's May 8, 2018, request to revise the state's designation for the 2012 annual PM_{2.5} standard from unclassifiable to unclassifiable/attainment. As a result, the Project is not located in a nonattainment or maintenance area for PM_{2.5}, meaning a hot-spot analysis is not required.

⁹ <https://www.govinfo.gov/content/pkg/FR-2016-08-24/pdf/2016-18768.pdf#page=1>

Cook County does not have a maintenance plan for PM₁₀. Parts of Cook County (Southeast Chicago and Lyons Township) were designated as a maintenance area for the 1987 24-hour PM₁₀ standard on November 21, 2005. The very eastern end of the Project may be within the limits of Southeast Chicago¹⁰ and is outside the limits of Lyons Township. This Project is not expected to cause or contribute to any new localized PM₁₀ violations or delay attainment of NAAQS maintenance areas for PM₁₀. A hot-spot analysis is not necessary for PM₁₀.

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 add approximately 98 diesel buses to the existing daily traffic and would not meaningfully affect traffic volumes or vehicle mix. In addition, the Project would not:

- Create a major new bus or intermodal terminal;
- Increase bus arrivals at an existing bus or intermodal terminal by 50-percent or more;
- Expand a bus terminal; or
- Increase bus arrivals by 50-percent at a small terminal.

Therefore, the Project is not a “project of air quality concern” and will not cause or contribute to any new violation or increase the frequency or severity of any violations of the PM_{2.5} standard in the Project corridor.

3.2.2.3 Mobile Source Air Toxics (MSATs)

In its Interim Guidance on Air Toxics in the National Environmental Policy Act (NEPA) Documents (FHWA, October 18, 2016), FHWA presented a tiered approach for analyzing MSATs in NEPA documents. Depending on the specific project circumstances, FHWA identified three levels of analysis:

1. No analysis for projects with no potential for meaningful MSAT effects;
2. Qualitative analysis for projects with low potential MSAT effects; or
3. Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

¹⁰ The geographic boundaries of “Southeast Chicago” sourced from the Environmental Protection Agency (EPA) Green Book could not be interpreted from the description. <https://www3.epa.gov/airquality/greenbook/pmp.html#PM-10.1990.Chicago>

Projects with “no potential for meaningful MSAT effects” include projects qualifying as a categorical exclusion, or projects with no meaningful impacts on traffic volumes or vehicle mix. FTA assigned a categorical exclusion class of action under 23 CFR 771.118(d) and, as stated in the discussion on $PM_{2.5}$, the Project would not meaningfully affect traffic volumes or vehicle mix. Therefore, the Project does not require an MSAT analysis.

The purpose of the Project is to improve transit service along the Project corridor. The Project improvements will be constructed primarily in existing ROW. This Project was determined to generate minimal air quality impacts for Clean Air Act Amendments criteria pollutants and has not been linked with any special MSAT concerns. As such, this Project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts from the Project compared to existing conditions.

Moreover, USEPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with USEPA's MOVES model forecasts a combined reduction of over 90-percent in the total annual emission rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45-percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this Project.

4. Land Use and Zoning

4.1 Corridor Land Use

Pace reviewed regional CMAP land use data to assess the compatibility of the Project with surrounding land use. The latest land use inventory available from CMAP is from 2015.¹¹ **Figure 4-1** through **Figure 4-5** were developed using the latest 2015 CMAP Land Use Inventory data and show land use along the Project corridor. CMAP data was used for this review because it improves upon the Cook County, Illinois parcel dataset, and clearly separates public ROW from parcel boundaries.

Land uses fronting the Project corridor are a mix of commercial, residential, medical, and educational uses. Non-residential uses are concentrated along 95th Street and along intersecting, arterial streets. Land uses along the route are described in detail in the five segments listed below. The five segments correspond with **Figure 4-1** through **Figure 4-5**.

- Dan Ryan Expressway to Wood Street:

At the eastern end of the Project corridor, between the Dan Ryan Expressway and Wood Street, land uses consist of commercial, institutional, single family residential, with some mixed-use commercial/residential and multi-family residential (**Figure 4-1**).

- Wood Street to Pulaski Road:

Between Wood Street and Pulaski Road, land uses primarily consist of commercial, with a large shopping and retail area on Western Avenue, surrounded by single-family residential and some multi-family residential near Kedzie Avenue. Little Company of Mary Medical Center is also on 95th Street in this segment (**Figure 4-2**).

- Pulaski Road to Ridgeland Avenue:

Between Pulaski Road and Ridgeland Avenue, land uses along 95th Street include commercial with some mixed-use commercial/residential and multi-family residential. There are many institutional land uses including Advocate Christ Medical Center and Oak Lawn Community High School (**Figure 4-3**).

¹¹ Chicago Metropolitan Agency for Planning. Land Use Inventory. Retrieved July 2022. <https://www.cmap.illinois.gov/data/land-use/inventory>

- Ridgeland Avenue to 76th Avenue:

Between Ridgeland Avenue and Harlem Avenue, land uses along 95th Street are primarily commercial with some residential multifamily. The proposed alignment along Harlem Avenue consists of industrial and residential multifamily and single-family. Industrial land uses, commercial mixed-use, and governmental land uses are between Harlem Avenue and 76th Avenue, on 100th PI (**Figure 4-4**).

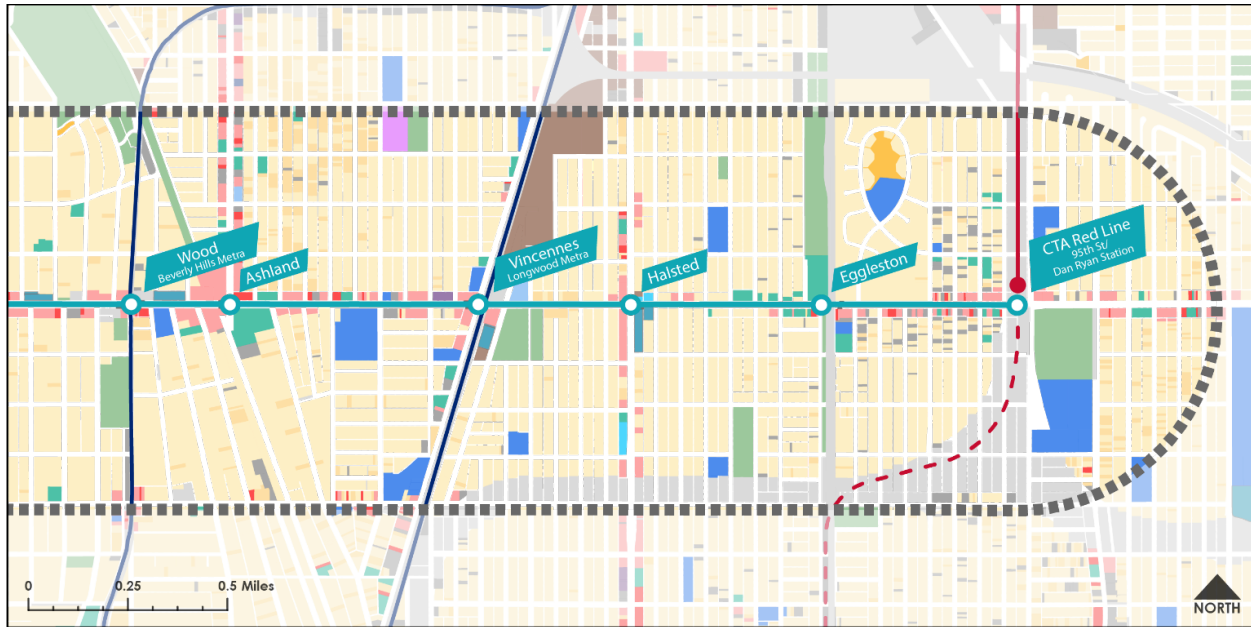
- 76th Avenue to MVCC:

Between 76th Avenue and Roberts Road, there are institutional, commercial, and single-family residential land uses. On Harlem Avenue, the Project corridor has industrial, multi-family and commercial land uses. This section of the Project corridor also includes the Interstate 294 overpass. On 110th Place, between Harlem Avenue and 76th Avenue, predominant land uses include industrial, institutional, and commercial uses. On 103rd Street between 76th Avenue and Roberts Road, land use is a mix of commercial, multi-family and single family residential, an elementary school, and governmental uses.

Land uses on Roberts Road between 103rd Street and 107th Street consists of commercial, single-family and multi-family residential, office uses, a health care facility, and a fire department. Between Roberts Road and 88th Avenue along 107th Street, land use is predominantly single family residential, some multi-family residential, and the large MVCC campus, which is the Project corridor's western terminus. The campus is surrounded by open space and some multifamily and single-family residential land use (**Figure 4-5**).

All stations would be constructed in areas that are primarily commercial, office, institutional, and residential and where there are existing Pace bus stops. The Project is consistent with existing land uses. The construction necessary for the Project would not alter or change the character of current land uses; therefore, no significant or adverse environmental impacts are anticipated.

FIGURE 4-1: LAND USE BETWEEN CTA RED LINE 95TH STREET/DAN RYAN STATION AND WOOD STREET



Land Use

- | | |
|---------------------------|--------------------------|
| Residential Single Family | Transportation/Utilities |
| Residential Multifamily | Vacant |
| Residential Other | Water |
| Commercial | Recreational/Open Space |
| Commercial - Mixed Use | |
| Office | |
| Hotel | |
| Cultural/Entertainment | |
| Institutional - Medical | |
| Institutional - Education | |
| Institutional - Other | |
| Government | |
| Religious | |
| Cemetery | |
| Industrial | |
| Construction | |

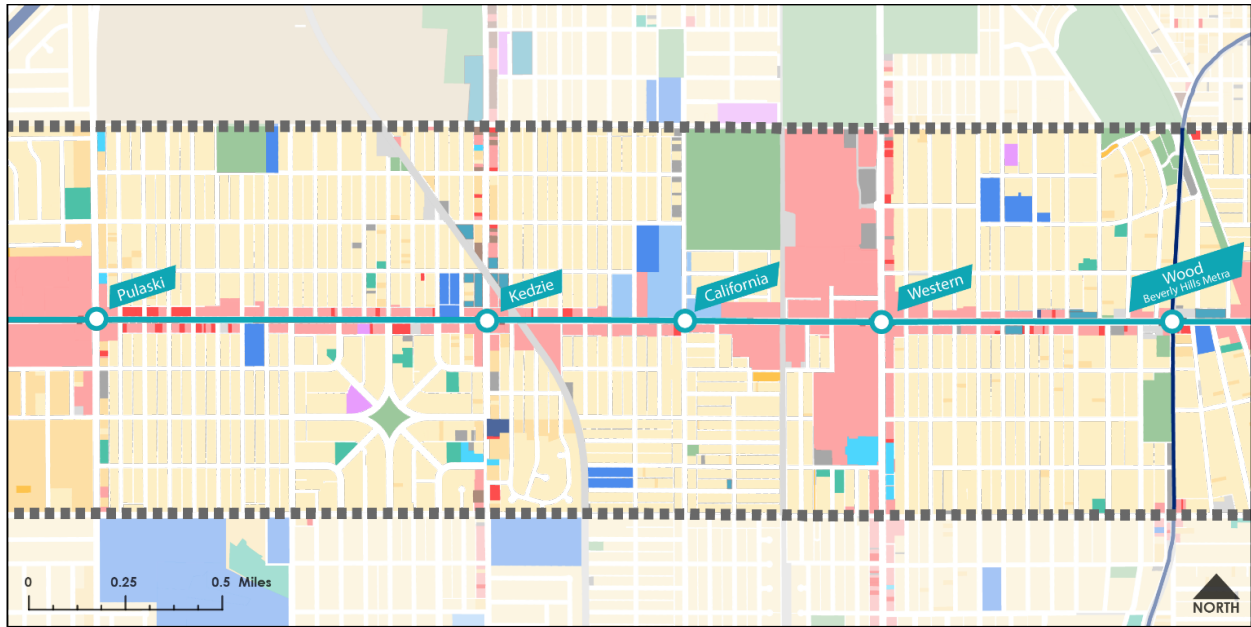
Project Elements

- Proposed Pulse Station
- Pulse 95th Line
- 1/2 Mile Buffer
- CTA Rail Station
- CTA Red Line
- Proposed CTA Red Line Extension
- Metra Commuter Rail

Full Corridor



FIGURE 4-2: LAND USE BETWEEN WOOD STREET AND PULASKI ROAD



Land Use

- | | |
|---------------------------|--------------------------|
| Residential Single Family | Transportation/Utilities |
| Residential Multifamily | Vacant |
| Residential Other | Water |
| Commercial | Recreational/Open Space |
| Commercial - Mixed Use | |
| Office | |
| Hotel | |
| Cultural/Entertainment | |
| Institutional - Medical | |
| Institutional - Education | |
| Institutional - Other | |
| Government | |
| Religious | |
| Cemetery | |
| Industrial | |
| Construction | |

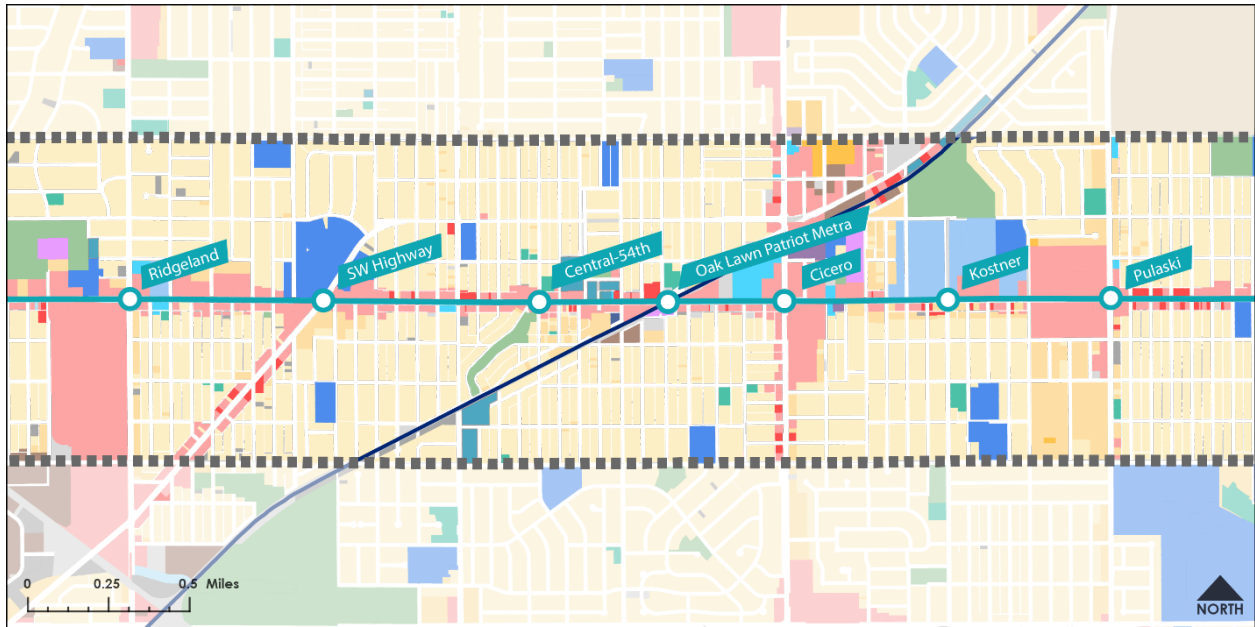
Project Elements

- Proposed Pulse Station
- Pulse 95th Line
- 1/2 Mile Buffer
- Metra Commuter Rail

Full Corridor



FIGURE 4-3: LAND USE BETWEEN PULASKI ROAD AND RIDGELAND AVENUE



Land Use

- | | |
|---------------------------|--------------------------|
| Residential Single Family | Transportation/Utilities |
| Residential Multifamily | Vacant |
| Residential Other | Water |
| Commercial | Recreational/Open Space |
| Commercial - Mixed Use | |
| Office | |
| Hotel | |
| Cultural/Entertainment | |
| Institutional - Medical | |
| Institutional - Education | |
| Institutional - Other | |
| Government | |
| Religious | |
| Cemetery | |
| Industrial | |
| Construction | |

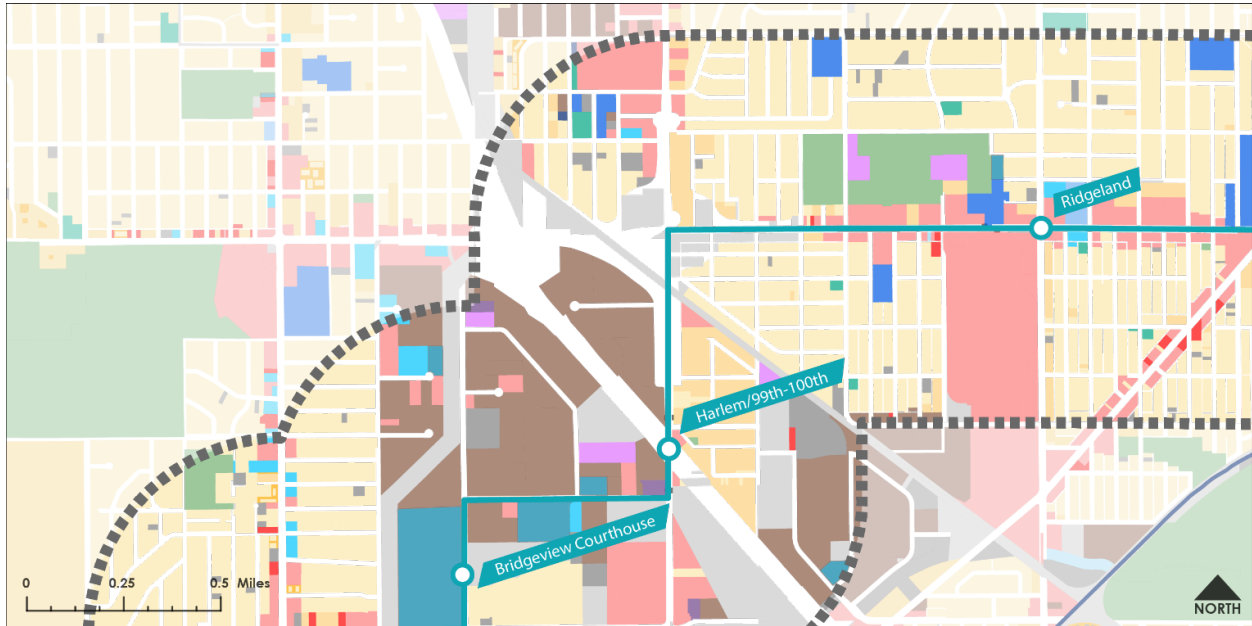
Project Elements

- Proposed Pulse Station
- Pulse 95th Line
- 1/2 Mile Buffer
- Metra Commuter Rail

Full Corridor



FIGURE 4-4: LAND USE BETWEEN RIDGELAND AVENUE AND 76TH AVENUE



Land Use

- | | |
|---------------------------|--------------------------|
| Residential Single Family | Transportation/Utilities |
| Residential Multifamily | Vacant |
| Residential Other | Water |
| Commercial | Recreational/Open Space |
| Commercial - Mixed Use | |
| Office | |
| Hotel | |
| Cultural/Entertainment | |
| Institutional - Medical | |
| Institutional - Education | |
| Institutional - Other | |
| Government | |
| Religious | |
| Cemetery | |
| Industrial | |
| Construction | |

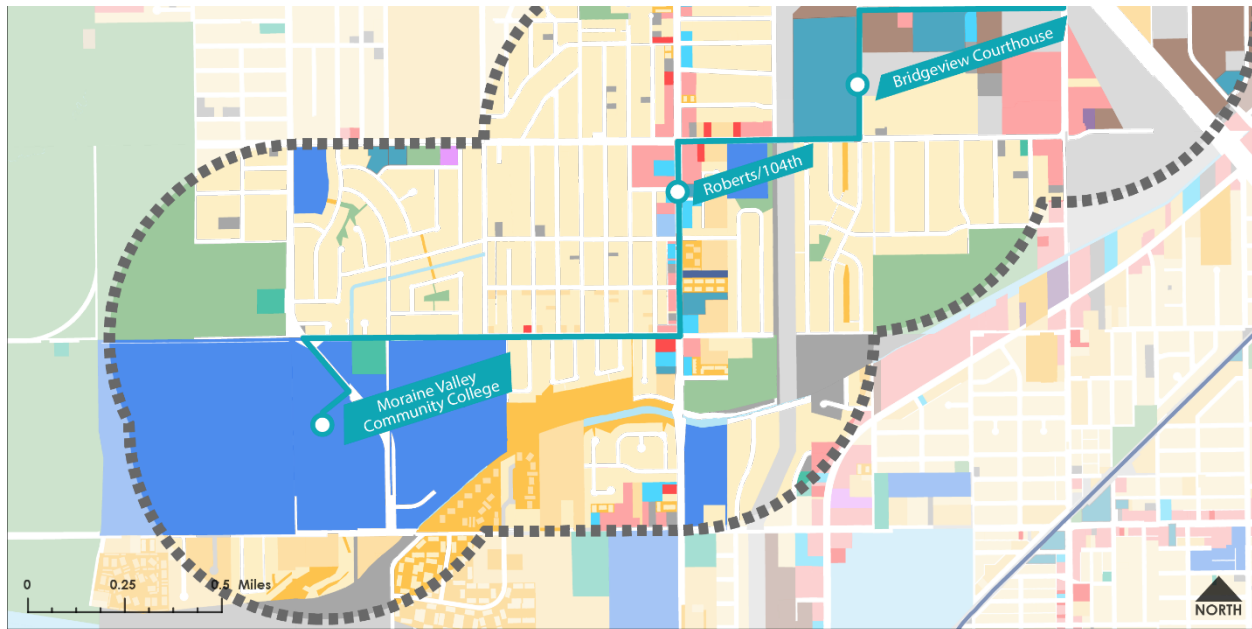
Project Elements

- Proposed Pulse Station
- Pulse 95th Line
- 1/2 Mile Buffer
- Metra Commuter Rail

Full Corridor



FIGURE 4-5: LAND USE BETWEEN 76TH AVENUE AND MVCC



Land Use

- | | |
|---------------------------|--------------------------|
| Residential Single Family | Transportation/Utilities |
| Residential Multifamily | Vacant |
| Residential Other | Water |
| Commercial | Recreational/Open Space |
| Commercial - Mixed Use | |
| Office | |
| Hotel | |
| Cultural/Entertainment | |
| Institutional - Medical | |
| Institutional - Education | |
| Institutional - Other | |
| Government | |
| Religious | |
| Cemetery | |
| Industrial | |
| Construction | |

Project Elements

- Proposed Pulse Station
- Pulse 95th Line
- 1/2 Mile Buffer
- Metra Commuter Rail

Full Corridor



4.2 Consistency with Regional Planning

CMAP adopted the *ON TO 2050* regional transportation plan in October 2018 and the plan update in October 2022 with approval by FTA and FHWA on October 17, 2022. It guides transportation investments and discusses various regional priorities such as the environment and economy that affect quality of life. The Project is located within CMAPS's *ON TO 2050* planning boundaries.

ON TO 2050 establishes three principles regarding mobility:

- Promote inclusive growth by improving mobility options that spur economic opportunity for low-income communities, people of color, and people with disabilities;

- Improve resilience by ensuring that infrastructure can adapt to changes in climate and technology; and
- Prioritize investment of limited resources to efficiently maintain existing infrastructure while securing new revenues for needed enhancements.

ON TO 2050 highlights transit projects that will provide more frequent, comfortable, and reliable service to increase transit ridership. It also emphasizes other policy and land use planning actions that will make these transit investments successful and build the framework for future transit enhancements. The Project is in CMAP's LRTP as a RSP and advances planning principles highlighted in ON TO 2050 by proposing to improve transit service.

4.3 Consistency with Local Land Use Planning

The Project would operate through six municipalities: Chicago, Evergreen Park, Oak Lawn, Chicago Ridge, Bridgeview, and Palos Hills; and three Chicago neighborhoods: Roseland, Washington Heights, and Beverly. Three additional municipalities are within one mile of the Project corridor including Hometown, Hickory Hills, and Worth. The transit and land use components of each municipality's most recent individual planning efforts were reviewed to determine consistency between the Project and local planning initiatives. Based on this review, the Project is consistent with and supports local land use planning efforts. The following summarizes major local planning efforts related to land use and transit:

- City of Chicago *We Will Chicago*¹²
 - *We Will Chicago*, adopted in February 2023, includes a goal to attract and retain residents and increase density to strengthen neighborhood vibrancy, especially on the South and West sides. To achieve this goal, the plan calls for focusing future growth and density in and around transit hubs, key commercial corridors and/or anchors.
- *Village of Evergreen Park Comprehensive Plan*¹³
 - The *Village of Evergreen Park Comprehensive Plan*, established in 1999, promotes the need to develop and redevelop sites to support long-term economic stability and meet the educational, social, employment, and lifestyle needs to residents. Commercial areas are to be supported to reinforce existing uses and promote

¹² City of Chicago. *We Will Chicago*. Retrieved February 2023 <https://wewillchicago.com/plan>

¹³ Village of Evergreen Park *Comprehensive Plan*. Retrieved July 2022 <https://evergreenpark-ill.com/294/Village-Map-and-Comprehensive-Plan>

high quality new development. The plan promotes continuing Pace services with support to providing mobility to the elderly population. Street improvements on the 95th Street corridor are also a priority with pedestrian improvements included.

■ *Village of Oak Lawn Comprehensive Plan*¹⁴

- The *Village of Oak Lawn Comprehensive Plan*, established in 1997, emphasizes protecting and enhancing 95th Street corridor due to its economic significance locally and regionally. Resources will be made available to improve the streetscape and parking availability. Residential areas are also to have access to high quality public services. The plan supports continuing and expanding bus service to meet the needs of those who are transportation deprived, particularly senior citizens and continued development of Metra facilities is encouraged.

■ *Village of Chicago Ridge Comprehensive Plan*¹⁵

- The *Village of Chicago Ridge Comprehensive Plan*, established in 1997 and updated in 2012, has the goal of a transportation system that supports the needs of residents and businesses by working with county and state agencies on road improvements.

■ Village of Bridgeview

- The Village of Bridgeview does not currently have a comprehensive plan.

■ City of Palos Hills¹⁶

- The City of Palos Hills does not have a comprehensive plan, but refers to planning guidance within CMAP *GO TO 2040* (the predecessor plan to *ON TO 2050*).

■ City of Hometown [Within 1 mile of Project corridor]

- The City of Hometown does not currently have a comprehensive plan.

■ City of Hickory Hills [Within 1 mile of Project corridor]

¹⁴ Village of Oak Lawn. Comprehensive Plan. Retrieved July 2022. <https://www.oaklawn-il.gov/home/showpublisheddocument/480/635209232291930000>

¹⁵ Village of Chicago Ridge. Comprehensive Plan. Retrieved July 2022. <https://chicagoridge.org/DocumentCenter/View/201/Comprehensive-Plan-2012?bidId=>

¹⁶ City of Palos Hills Planning Department. Retrieved July 2022. <https://www.paloshillsweb.org/index.php/economic-development/index.html>

- The City of Hickory Hills is developing a comprehensive plan and published a draft 2022 existing conditions report¹⁷. The report describes current transportation and mobility conditions, and identifies 95th Street as a key corridor. 95th Street's designation as a Strategic Regional Arterial (SRA) by the Illinois Department of Transportation (IDOT) makes traffic calming and mitigation efforts a challenge, but public feedback has identified increased transit as one tool to improve corridors across the City.
- Village of Worth [Within 1 mile of Project corridor]
 - The Village of Worth's 2014 *Planning Priorities Report* identifies Transit-Oriented Development (TOD) as a priority by redeveloping available parcels and government owned property near the Worth Metra station¹⁸.

The Project advances economic development, transit-oriented development, and transit goals identified in these plans by proposing to improve transit service.

4.4 Zoning

The six municipalities directly served by the Project and the three municipalities within one mile of the Project corridor all updated their zoning codes and/or maps between 1997 and 2021. 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 C** provides local zoning maps of Chicago, Evergreen Park, Oak Lawn, Chicago Ridge, Bridgeview, and Palos Hills, and the nearby municipalities of Hometown, Hickory Hills, and Worth. The Chicago zoning map shows the Roseland, Washington Heights, and Beverly neighborhoods. All stations would be constructed in areas that are primarily commercial, office, institutional, and residential, and where there are existing Pace bus stops. The construction necessary for the Project is not in conflict with zoning ordinances in their respective municipalities; therefore, no significant or adverse environmental impacts are anticipated.

¹⁷ Hickory Hills Draft Existing Conditions Report. Retrieved July 2022.

<https://engage.cmap.illinois.gov/10947/widgets/35774/documents/31404>

¹⁸ Worth Planning Priorities Report. Retrieved July 2022.

https://www.cmap.illinois.gov/documents/10180/301705/CMAP_Worth_Priorities_Report_Final.pdf/b0a91eed-8254-4873-ac3a-5a785194df2d

5. Traffic Impacts

As previously described, the Project would include the construction of new station platforms and one queue jump in the eastbound direction at Western Avenue and 95th Street; installation of TSP at signalized intersections along the Project corridor (to be implemented independently of and prior to the Project); and introduction of new Pulse service.

5.1 Travel Lanes

The Project would not include closure of existing travel or turning lanes, or the conversion of existing lanes to bus-only lanes. Bus service would operate entirely in mixed-flow traffic lanes except in the shared queue jump-right turn lane in the eastbound direction at Western Avenue and 95th Street. The Project would likely result in temporary traffic delays during construction due to temporary lane closures. These impacts are further detailed in **Section 19**.

The Project would operate primarily on arterial roadways with four to six lanes, including the segments on 95th Street and on Harlem Avenue. West of Harlem Avenue, the project would operate primarily on two- and four-lane arterial roadways. Major intersections on 95th Street include turn lanes. Turn lanes are also present on 103rd Street and Roberts Road, west of Harlem Avenue. **Table 5-1** shows 2022 average daily traffic (ADT) volumes, lane configurations, and parking for select locations along the alignment. ADT ranges from 16,000 to 36,000 on the 95th Street portion of the Project alignment. The Harlem Avenue portion of the Project corridor has the highest volume of close to 39,000 vehicles where one station pair is proposed. West of Harlem Avenue, ADT ranges from 4,000 to 16,000.

TABLE 5-1: 95TH STREET LINE LANE CONFIGURATION, AVERAGE DAILY TRAFFIC, AND ON-STREET PARKING

Segment	95 th Street Line Segment	Lane Configuration ¹⁹	2022 Average Daily Traffic ²⁰	On-Street Parking
A	95 th Street: Dan Ryan Expressway to Halsted Street	Four through lanes	19,700	Both sides
B	95 th Street: Halsted Street to Ashland Avenue	Four through lanes	22,600	Both sides
C	95 th Street: Ashland Avenue to Western Avenue	Four through lanes east of Leavitt, five through lanes West of Leavitt	24,000	South side only from Leavitt to Western, then both sides
D	95 th Street: Western Avenue to Kedzie Avenue	Six through lanes, center turn lane	28,300	Partial on both sides
E	95 th Street: Kedzie Avenue to Pulaski Road	Six through lanes	36,400	Partial on both sides
F	95 th Street: Pulaski Road to Cicero Avenue	Six through lanes	36,200	Partial on both sides
G	95 th Street: Cicero Avenue to Central Avenue	Six through lanes, center turn lane	32,100	Partial on south side
H	95 th Street: Central Avenue to Ridgeland Avenue	Six through lanes, center turn lane	16,600	None
I	95 th Street: Ridgeland Avenue to Harlem Avenue	Six through lanes until 69 th Street, then four through lanes	16,600	None
J	Harlem Ave: 95 th Street to 100 th Place	Four through lanes and six lanes in a central segment	38,600	None
K	100 th Place: Harlem Ave to 76 th Avenue	Two through lanes	No data	South side only in front of U.S. Postal Service building
L	76 th Avenue: 100 th Place to 103 rd Street	Two through lanes	10,150	None

¹⁹ Lane Configuration, On-Street Parking, and Sidewalk information was retrieved from Google satellite imagery and Street View in July 2016.

²⁰ Illinois Department of Transportation. 2022 Average Daily Traffic Counts GIS Application. Retrieved January 2023. <http://www.idot.illinois.gov/transportation-system/Network-Overview/highway-system/illinois-travel-statistics>

Segment	95 th Street Line Segment	Lane Configuration ¹⁹	2022 Average Daily Traffic ²⁰	On-Street Parking
M	103 rd Street: 76 th Avenue to Roberts Road	Two through lanes, center turn lane	15,100	None
N	Roberts Road: 103 rd Street to 107 th Street	Two through lanes, center turn lane	16,100	None
O	107 th Street: Roberts Road to 88 th Avenue	One through lane	5,650	None
P	88 th Avenue: 107 th Street to MVCC	Two through lanes in the southbound direction, one through lane in the northbound direction	3,700	None

5.2 Bus Volume

The Project increases the total number of buses operating along the entire length of the Project corridor during peak hours to a maximum of 14 buses per hour total. This vehicle count is inclusive of bidirectional service using 12 Pulse vehicles and two local Route 381 vehicles. This represents an increase over current Pace Route 381 service levels of no more than 8 net buses per hour in both directions. A total of 158 Pulse trips would be made per weekday, 116 Pulse per Saturday and 116 per Sunday. The existing Route 381 service would be reduced from 92 to 32 trips per weekday, from 60 to 32 trips per Saturday, and from 40 to 32 trips per Sunday.

Buses serving other Pace and CTA routes that currently operate along limited stretches of the Project corridor will continue to do so, and Pace will also operate a limited number of vehicles that are not in service, traveling to or from garages and terminal facilities. The expected net addition of weekday bus trips is 98 out of 3,700 - 38,600 ADT trips in the Project corridor. This represents between three-tenths (0.3) of a percent on the highest ADT segment, approximately 95th Street to 100th Place on Harlem Avenue, and two (2) percent on the lowest ADT segment, approximately 107th Street to MVCC on 88th Avenue. Because of this small portion of total ADT 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 have a negligible impact on total traffic volumes and therefore is not anticipated to create an adverse or significant traffic impact.

5.3 Parking

The Project would result in the loss of approximately 31 parking spots: eight at California eastbound, five at Wood westbound, five at Eggleston eastbound, and 13 at Eggleston westbound. No impacts are anticipated due to lost parking to adjacent properties because the parking reduction would be minor and because of the continued availability of on- and off-street parking at these locations as described below.

California – The California eastbound platform would affect approximately eight on-street spots east of the intersection to accommodate the proposed curb extension. The property immediately fronting the curb extension and bus station is a gas station that has an adjacent off-street parking lot.

Wood – The Wood westbound platform would affect approximately five on-street parking spots; however, these spots are adjacent to a paid parking lot.

Eggleston Eastbound – The Eggleston eastbound platform would affect approximately five on-street parking spots adjacent to a daycare center (ABC Learning Center) and one residential building; however, there is additional on-street parking adjacent to the ABC Learning Center on Eggleston Avenue.

Eggleston Westbound – The Eggleston westbound platform would affect approximately 13 parking spots in front of multi-family residences. These parking spots are free with two-hour time limits permitted on weekdays from 10 a.m. to 6 p.m. The residences that immediately border these parking spaces have access to a private parking lot on the rear (north) side of their residences with direct entrances. Additionally, there is access to free on-street parking on Harvard Avenue, which is an intersecting street approximately 150 feet east of the residences furthest from that street. From Harvard Avenue, there are pedestrian facilities leading to entrances to the front or back sides of these residences. Coordination with property owners related to these impacts will be ongoing as design engineering is further developed.

5.4 Queue Jump and Signal Optimization

A queue jump will be implemented eastbound only at 95th Street and Western Avenue. Operation of the eastbound queue jump would take green time away from eastbound through traffic, which, absent other adjustments to signal timing, would increase travel time and delay and worsen level of service (LOS) for those vehicles. To mitigate these delays, the overall intersection will be optimized allocating additional green time to the eastbound direction from phases on other approaches. The result of optimizing the intersection will improve the overall intersection delay as compared to existing timings. An analysis of the 95th Street and Western Avenue intersection was performed to determine the LOS for the design year of 2050. LOS is based on average delay per

vehicle and is expressed in seconds per vehicle (s/veh), with and A through F designation. LOS A represents free-flow conditions with no delay, and LOS F represents “traffic jam” traffic conditions, with a roadway or intersection operating well above its capacity. Analysis of the existing condition LOS and intersection delay resulted in a LOS of D, 53.4 s/veh, for the morning peak hour and LOS of E, 74.9 s/veh, for the evening peak hour. The result of optimizing and incorporating the queue jump resulted in a LOS of D, 50.0 s/veh for the morning peak hour and LOS of E, 62.3 s/veh, for the evening peak hour. On two intersection approaches during the PM Peak, northbound and southbound, the LOS worsens from LOS D to LOS E. This slight increase is a byproduct of the signal optimization and is offset by significant decreases in delay on the other intersection approaches, as reflected in the overall reduction in delay for the intersection as a whole. Additional details regarding LOS for each approach can be found in **Table 5-2** shown below.

TABLE 5-2: LEVEL OF SERVICE EXISTING AND FUTURE FOR QUEUE JUMP AT 95TH STREET AND WESTERN AVENUE

95 th and Western Ave	AM Peak			PM Peak		
	2022 Existing	2050 No Queue Jump	2050 Queue Jump	2022 Existing	2050 No Queue Jump	2050 Queue Jump
EB Approach Delay, s/veh	40.6	47.8	45.5	91.8	122.1	49.7
EB Approach Delay, LOS	D	D	D	F	F	D
WB Approach Delay, s/veh	41	45	51.5	58.6	72.2	64.6
WB Approach Delay, LOS	D	D	D	E	E	E
NB Approach Delay, s/veh	51.6	55.5	50.7	44	44.8	66.3
NB Approach Delay, LOS	D	E	D	D	D	E
SB Approach Delay, s/veh	53.9	61	52.8	43.1	50.2	71
SB Approach Delay, LOS	D	E	D	D	D	E
Overall Intersection Delay, s/veh	46.5	53.4	50	60.8	74.9	62.3
Overall Intersection Delay, LOS	D	D	D	E	E	E

5.5 TSP

The implementation of TSP at select intersections along 95th Street will enable green phase time extensions by taking time from the green signal phase of intersecting side

streets and applying it to the 95th Street through lanes in the direction of Pulse bus travel. TSP will give additional green time to all through vehicles when enabled for the bus. The impacts of TSP are being studied as part of a separate project that Pace is pursuing on several corridors throughout the region, and is described here for informational purposes as a Pulse program feature.

6. 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 D** provides the full Historic Properties Eligibility and Effects Analysis and supporting attachments. Included in the memo is an Unanticipated Discoveries Plan (UDP) developed for use in the case that archeological remnants are found on a Project station site.

6.1 Summary of Findings

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 in the NRHP. The NRHP identifies buildings, districts, sites, structures, and objects worthy of preservation. The full definition and criteria for being included in the NRHP is in **Appendix D**. Architectural historians reviewed all previously recorded (NRHP)-listed, eligible, or undetermined properties for continued or potential NRHP eligibility. In addition, all properties within the Area of Potential Effects (APE) were researched and surveyed to identify any additional potentially NRHP-eligible historic properties. Based on the eligibility assessments conducted, one NRHP-listed district is located within the APE. In addition, nine other properties are recommended NRHP-eligible based on this assessment. **Table 6-1** provides a summary of the preliminary effects findings for previously listed and recommended eligible properties within the APE for the Project.

TABLE 6-1: SUMMARY OF EFFECTS FINDINGS

Property ID	Property Name	Address	Municipality	Preliminary Effects Determination
1	South Halsted Street Historic District	East side of Halsted Avenue between 94 th Street and properties along 95 th Street	Chicago	No Adverse Effect
2	South Green Street Historic District	East side of Green Street between 94 th Street and a parking lot just north of 95 th Street	Chicago	No Adverse Effect
3	South May Street Historic District	Between 94 th and 95 th Streets	Chicago	No Adverse Effect
4	Country Club Estates Historic District	94 th Place, 94 th Street, 93 rd Place, Washtenaw Avenue, and Country Club Drive	Chicago	No Adverse Effect
5	Classical Revival Commercial Building	1556 95 th Street	Chicago	No Adverse Effect
6	Park Lawn Apartments	4309 95 th Street	Oak Lawn	No Adverse Effect
7	Contemporary Apartment Complex	4325 95 th Street	Oak Lawn	No Adverse Effect
8	Wolf's Bakery Sign	3241 95 th Street	Evergreen Park	No Adverse Effect
9	Petey's Bungalow Sign	4401 95 th Street	Oak Lawn	No Adverse Effect
10	Ridge Historic District	87 th Street, Penn Central and Rock Island Railroads, Prospect, 115 th Street, Longwood, Lothair, Bell, Hoyne, Damen, Hamilton, and Leavitt	Chicago	No Adverse Effect

No adverse effects are anticipated for the South Halsted Street Historic District, the South Green Street Historic District, the South May Street Historic District, the Country Club Estates Historic District, the Classical Revival Commercial Building at 1556 95th Street, the Park Lawn Apartments, the Contemporary Apartment Complex at 4325 95th Street, the Wolf's Bakery Sign, the Petey's Bungalow sign, or the Ridge Historic District.

Construction would primarily consist of milling of pavement, repaving, striping, the placement of shelters and other Pulse station features, and the installation of new signal equipment. General construction noise for passersby and individuals living or working near construction can be expected; however, considering the relatively short-term nature of construction noise for the Project and daytime scheduling of construction activities, no substantial noise impacts are anticipated as described in **Section 8**. Construction activities would not impede transit or pedestrian access. Alternative access for pedestrians would be provided, as needed, for any temporary changes in access during construction so that pedestrian access would not be impeded. Construction activities would be temporary in nature and not affect the characteristics that qualify any eligible properties for inclusion in the NRHP.

While there could be some visual changes due to construction of new stations and changes to some landscaped medians, these effects would not affect the characteristics that make these properties eligible for inclusion in the NRHP. Noise and vibrational changes are anticipated to be minor because the Project corridor has substantial existing general traffic noise as the predominant source of noise, and the added effect of the Project on noise in the Project corridor would be negligible as described in **Section 8**.

6.2 Consultation on Findings

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider effects on historic properties from their actions and to balance preservation needs with the need for the actions. As provided in 36 CFR Part 800, the Section 106 process "seeks to accommodate historic preservation concerns with the needs of federal undertakings through consultation" (36 CFR § 800.1(a)). 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.

As part of the Section 106 consultation process, several parties were identified, and outreach was conducted to ascertain consulting parties' interest in this Project in a notification letter distributed on October 5, 2022. A 30-day period was established to obtain responses from consulting parties, which ended on November 4, 2022. Parties who accepted the invitation to be a consulting party included IDOT, Openlands, the Regional Transportation Authority (RTA), CTA, Village of Evergreen Park, Illinois Historic Preservation Agency (IHPA) and State Historic Preservation Office (SHPO), and the Miami Tribe of Oklahoma (see **Appendix D**). These consulting parties were provided a copy of the draft historic resources findings for review and input on February 23, 2023. Concurrence on FTA's determination of no adverse effects was received from the SHPO on May 15, 2023 (found in **Appendix D**), and no other responses were received from consulting parties.

7. Visual Quality

Transit shelters and stops for local Pace and CTA bus services are already present throughout the Project corridor. **Figure 7-1** provides examples of the existing visual quality near existing Pace bus shelters and stops.

The existing visual setting of the Project corridor is typical of an urban and suburban major arterial street. Moving east to west along the Project corridor, the visual character begins urban and becomes more suburban. Segments along the Project corridor with similar visual character are discussed below.

No mitigation is planned for stations close to residences with the exception of the proposed station at eastbound Kostner. This station is in front of a multifamily building with a small setback from the ROW. The Project team is seeking direct coordination with the property owner on future design. For other stations along the Project corridor that are not directly in front of a residence but close to the ROW, the station amenities are designed to be aesthetically pleasing and visually unintrusive. For example, three of the four shelter walls are transparent polycarbonate panels allowing individuals to see through them. Compact station shelters, typically used in more constrained locations closer to adjacent properties, have one fewer wall as they are open in the front, and two of three remaining walls are fully transparent. Many stations are located on the site of, or near, existing bus shelters that will be removed as part of the project. These are identified in the conceptual design plans (see **Appendix A**).

The Project may also be viewed as an improvement to the streetscape where existing bus shelters will be replaced with new Pulse stations, enhancing the existing built environment. Pace works with communities to customize shelter panels to include logos, emblems or other artwork. The artwork is requested from the host municipality, aldermanic ward or major institution such as a school or hospital that the station serves. Pace also offers assistance in designing the artwork and putting it into the correct format for manufacturing. Additionally, Pace offers flexibility on the selection of other station furniture and amenities such as bicycle racks, trash receptacles, railings, and benches; while there is a standard Pulse design for these items, Pace will consider substituting a locally preferred model to match existing streetscape or design palettes on a case-by-case basis, as long as costs are similar, and they meet the functional requirements of the Project.

The reconstruction of curbs, sidewalk space, and ADA ramps will also offer the aesthetic benefits of new infrastructure. The proposed stations are also maintained by Pace, receive regular cleaning, emptying of trash, and other maintenance in the case of vandalism or station elements in disrepair; whereas existing local bus stops, particularly

those without shelters, receive minimal maintenance, and lack of trash receptacles can lead to accumulation of litter.

CTA Red Line 95th Street/Dan Ryan Station to 95th Street and Western Avenue

Beginning at the CTA Red Line 95th Street/Dan Ryan Station, the viewshed along the Project corridor are mostly one-story commercial properties as well as one-to-two story residential and institutional properties. Some parts of the Project corridor viewshed are surface parking lots and vacant parcels. Most commercial buildings are built to the lot line. Larger north-south streets, such as Halsted Street and Western Avenue, typically serve as breaks from residential areas and have one-to-two story commercial buildings. 95th Street has wide sidewalks that often include tree plantings. Between the 95th Street/Dan Ryan Station and Western Avenue, there is a planted median with trees on most blocks. Planted medians with trees continue west of Western Avenue with less frequency along 95th Street.

95th Street and Western Avenue to 95th Street and Pulaski Street

West of Western Avenue, the Project corridor leaves the City of Chicago and enters Evergreen Park, accompanied by a shift in visual character from urban to suburban. Between Western Avenue and Pulaski Road, the visual character consists of one-to-two story commercial buildings. The commercial buildings have large footprints and are typically set further back on the lot with parking lots adjacent to the Project corridor. In this section, the sidewalks and crosswalks have brick pavers; the sidewalks have tree plantings; and the planted median is not continuous.

95th Street and Pulaski Road to Harlem Avenue and 100th Place

This segment of the Project corridor has larger parcels with large one-story commercial and institutional buildings. Commercial buildings tend to be set further back from the lot line with parking adjacent to the road. There are sidewalks throughout the Project corridor with no plantings or planted medians. There are one-to-two story residential buildings built to the lot line. The Advocate Christ Medical Center-Oak Lawn medical campus is located in this segment, with buildings ranging in height from one to nine stories. The western portion of this segment contains more one-story commercial buildings on smaller lots built to the lot lines. Harlem Avenue between 95th Street and 100th Place is sparsely developed, with a large low-rise multifamily residential complex and several industrial uses; the viewshed of this stretch of Harlem Avenue is dominated by the I-294 tollway overpass that crosses between 99th Street and 100th Place.

FIGURE 7-1: EXISTING VISUAL ENVIRONMENT

CTA Redline 95th Street/Dan Ryan Station to Western Station



View EB on 95th Street at 95th Street and Wentworth Avenue

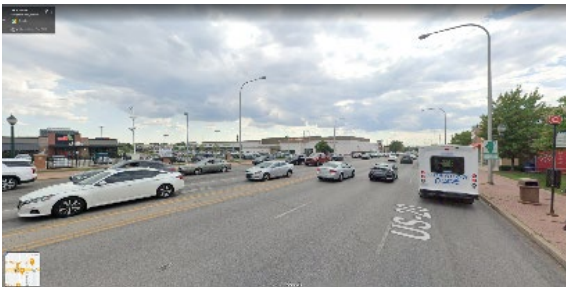


View WB on 95th Street at 95th Street and Wallace Avenue



View WB on 95th Street at 95th Street and Seeley Avenue

Western Station to Pulaski Station



View WB on 95th Street at 95th Street and Western Avenue



View WB on 95th Street at 95th Street and Richmond Avenue



View EB on 95th Street at 95th Street and Pulaski Road

Pulaski Station to Harlem/99th Station



View EB on 95th Street at 95th Street and Kilbourn Avenue



View EB on 95th Street at 95th Street and Ridgeland Avenue



View NB on Harlem Avenue at Harlem Avenue and 99th Street

Harlem/99th Station to Roberts/104th Station



View NW on Harlem Avenue of Harlem Avenue and 100th Place



View looking north at 103rd Street and Kathy Court



View WB on 103rd Street at 103rd Street and Roberts Road

Roberts/104th Station to MVCC



View WB on Roberts Road at Roberts Road and 106th Street



View WB on 107th Street at 107th Street and 81st Court



View looking south at driveway into Moraine Valley Community College from 88th Avenue

Source: Google Streetview 2019-2022

Harlem Avenue and 100th Place to Roberts Road and 104th Street

Along 100th Place between Harlem Avenue and 76th Avenue, there are no sidewalks. Sidewalks return partially along 76th Avenue and are on both sides of 103rd Street. The segment overall is characterized by larger industrial and commercial buildings. The buildings are typically set back on the lot, one-story, and have parking adjacent to the street. There are two-three story apartments buildings set back from 103rd Street. There are sidewalks along 103rd Street throughout this section. Roberts Road contains one- and two-story commercial buildings that are set back from the lot line with sidewalks and tree plantings in the front. The commercial buildings have a much more suburban feel with their brick facades and setbacks.

Roberts Road and 104th Street to MVCC

At Roberts Road and 104th Street and west, there are sidewalks and tree planting along the street. Roberts Road consists of attached commercial one-story buildings with parking in the front. Beginning at 107th Street, the section becomes mainly residential with one-to-two story detached homes. These are single family homes set back on the lot with a front yard. The end of this section terminates at MVCC, a large campus with multi-story buildings and large parking lots spread throughout the campus.

Figure 1-2 shows a rendering of a typical Pulse station. Proposed Pulse stations vary in size due to site-specific context and geometric constraints. Station platforms range from 33 to 42.75 feet long (parallel to the roadway); station depths range from 8 to 17 feet (perpendicular to the roadway). The platforms and adjoining ramps together create station lengths that are typically about sixty feet. The two stations that are longer are designed for two or more buses to dwell at a time.

One exception to the typical station size is the station proposed for eastbound 95th Street and Halsted Street. Multiple routes converge at this location, including two Pulse routes and many Pace and CTA local routes. Therefore, this station was designed to accommodate up to three buses at once, including an articulated bus, and will be 147 feet long by 12.5 feet wide. Another atypical station size is the terminal station at MVCC, which will be 80 feet long by 10 feet wide to accommodate the multiple routes that serve this location, including Pulse and Route 381 buses that terminate there and will remain at the station during a layover period of several minutes.

A curb extension, which is proposed at one station location, will change the visual appearance of the intersection of 95th Street and California Avenue by adding more sidewalk and pedestrian space on the southeast corner of the intersection, which shortens the crossing distance across 95th Street. This station is shown in **Figure 7-2** and in the conceptual design plans in **Appendix A**. Similarly, pedestrian refuges, where they are proposed or will be proposed in the next design phase, will change the visual

appearance of intersections by adding more pedestrian space. The pedestrian refuge area will be cut into median areas for a street-grade, small section of pavement or sidewalk protected by curbed medians on either side. No landscaped medians would be impacted.

The addition of a queue jump lane in the eastbound direction at Western Avenue and 95th Street will not change the visual quality of the intersection. The queue jump will convert an existing right turn lane into a shared right-turn and queue jump lane indicated by white pavement markings, signage and the addition of a queue jump traffic signal on the existing traffic mast.

Resources identified in the Section 106 analysis that could be considered as having sensitive visual viewsheds include the following: the South Halsted Street Historic District, the South Green Street Historic District, the South May Street Historic District, the Country Club Estates Historic District, the multiple-use property at 1556 95th Street, the Park Lawn Apartments, the apartment complex at 4325 95th Street, the Wolf's Bakery Sign, the Petey's Bungalow Sign, and the Ridge Historic District. No mitigation is necessary for these buildings as the visual changes due to construction of new stations and changes to some landscaped medians, would not affect the characteristics that make these properties eligible for inclusion in the National Register of Historic Places (NHRP). While the addition of bus shelters would create additional visual elements and slightly alter the existing streetscape, the changes would not detract from the existing visual and aesthetic setting at the locations noted above nor obstruct any sensitive views from these resources. Station sites were selected to avoid any adverse visual impacts both to and from historic buildings and their settings. Further, through the use of clear shelter panel walls, narrow mullions, and handrails and railings that do not have walls or panels supporting them or in between them, the project elements are designed to minimize sight obstruction. Station design can be seen in **Figure 1-2**. Therefore, no significant or adverse visual impacts are anticipated. More details on Section 106 resources are discussed in **Section 6**.

FIGURE 7-2: RENDERING OF 95TH STREET AND CALIFORNIA AVENUE PULSE STATIONS (LOOKING WEST), FEATURING A CURB EXTENSION ON THE EASTBOUND STATION



BACKGROUND IMAGE SOURCE: INTERSECTION OF 95TH STREET & CALIFORNIA AVENUE, EVERGREEN PARK, IL. GOOGLE MAPS, 2022

Background image source: 95th Street and California Avenue, Evergreen Park, IL. Google Maps, 2022

8. Noise and Vibration

The full technical memorandum for Noise and Vibration is in **Appendix E**. A summary is provided below.

8.1 Noise

8.1.1 Methodology and Assumptions

The FTA's Transit Noise and Vibration Impact Assessment Manual (FTA Manual), updated in September 2018, has three levels of analysis that may be used to evaluate noise impacts of a transit project, depending on the type and scale of the project, the stage of project development, and the environmental setting. The three levels of analysis are:

- Screening procedure
- General assessment
- Detailed analysis

A noise screening procedure was first performed for the Project in accordance with the procedures outlined in the FTA Manual. The screening procedure is used to identify noise- and vibration-sensitive land uses in the vicinity of a project and whether there is likely to be an impact. The screening procedure takes into account the noise impact criteria, the type of project, and noise-sensitive land use.

The screening procedure for a busway was deemed most appropriate for this noise analysis. The screening procedure provides an impact distance, which is the distance from the street centerline of the Project route alignment to where noise-sensitive receivers would be impacted. This distance is great enough to include all probable noise impacted locations. This distance is calculated using a worst-case scenario for the Project and the lowest threshold of impact (50 dBA) from the criteria curves in **Figure 8-2**. Based on FTA's guidelines, the screening distances for a busway system are 500 feet (unobstructed) and 250 feet (intervening buildings). The majority of the Project corridor includes intervening buildings between the street centerline of the Project route alignment and noise-sensitive receivers beyond the first row.

Land uses within the screening distances were reviewed to determine the category types to be analyzed as they correspond with **Table 8-1**. Land use maps of the Project corridor, based on the 2015 CMAP Land Use Inventory, are provided in the Project Definition Technical Memorandum. The category types associated with this Project are primarily Land Use Categories 2 (residential) and 3 (institutional). No outdoor quiet land uses (Category 1) were identified along the Project corridor. Therefore, the residential threshold was assumed as the most sensitive impact threshold.

Properties along 95th Street, Harlem Avenue, 100th Place, 76th Avenue, 103rd Street, Roberts Road, and 107th Street within 250 feet of the Project corridor centerline are a mixture of commercial, industrial, residential, and institutional land use. Noise-sensitive land use includes:

- Scattered residential properties
- Scattered places of worship
- Hospitals including Little Company of Mary Hospital and Advocate Christ Medical Center
- Institutions including Woodson Regional Library, CICS Loomis-Longwood Charter School, Vanderpoel Humanities Academy, Beverly Branch of the Chicago Public Library, Oak Lawn Public Library, Children's Museum in Oak Lawn, Papoose Children's Center, Oak Lawn Community High School, Simmons Middle School, Sorrick Elementary School, MVCC, Nico's Playhouse daycare, The Little Bird Day Care, and Sandbox Learning Center
- Several parks including Abbott (Robert) Park, Oakdale Park, Lakeshore Park, McVicker Park, Krasowski Park, and Palos Fen Nature Preserve

The FTA Manual and Noise Impact Assessment Spreadsheet were used to develop existing and future noise levels for the nearest residential receiver to the Project corridor centerline in four sections of the Project:

- 95th Street between Kostner Avenue and Pulaski Road, where traffic volumes are the highest in the Project corridor (outside of Harlem Avenue which is included below) and traffic/bus speeds are 30 mph
- 95th Street between Princeton Avenue and Yale Avenue, where traffic volumes are the lowest on 95th Street and traffic/bus speeds are 30 mph
- Harlem Avenue between 95th Street and the Tri-State Tollway (I-294), where traffic volumes are the highest in the Project corridor traffic/bus speeds are 40 mph
- 107th Street between 88th Avenue and Roberts Road, where traffic volumes are lowest in the Project corridor and traffic/bus speeds are at 35 mph

These sections cover the range of existing and future noise scenarios for the Project corridor, including the lowest traffic volume section and highest traffic volume section, as well as the lowest and highest speed sections of the Project corridor; therefore, these sections are representative for the entire Project corridor. Existing noise levels were calculated using the existing IDOT traffic volumes in each section combined with the existing bus services in each section. Future noise levels were calculated using the existing IDOT traffic volumes in each section combined with the future bus services in each section including the Project and any changes to existing bus service with the Project.

8.1.2 Findings

The current proposed service plan for the Project would add approximately 98 buses to the existing weekday traffic per day. During the “worst-case” weekday peak hour, the Project would add up to 8 buses to the existing traffic volume. The Project proposes to operate these new buses along a Project corridor with substantial existing traffic noise as the predominant source of noise; therefore, the added effect of the Project buses on noise in the Project corridor would be negligible. As shown in **Table 8-1**, which includes the increase thresholds for impact based on existing noise levels, the Project is not expected to create noise impacts in the area of analysis. Receivers within 80 feet from the Project corridor, measured from the street centerline of the Project route alignment, would experience a minimal noise increase. Below is a summary of noise levels for each area of analysis:

- The existing L_{dn} noise level at 50 feet, the closest residence on 95th Street between Kostner Avenue and Pulaski Road, is 71.5 dBA. The future L_{dn} noise level for this same residence is 71.7 dBA, resulting in a 0.2 dBA increase, which is below the increase threshold for moderate noise impact of 0.9 dBA for this location.
- The existing L_{dn} noise level at 50 feet, the closest residence on 95th Street west of the Princeton Avenue to Yale Avenue intersection, is 71.9 dBA. The future L_{dn} noise level for this same residence is 72.1 dBA, resulting in a 0.2 dBA increase, which is below the increase threshold for moderate noise impact of 0.8 dBA for this location.
- The existing L_{dn} noise level at 80 feet, the closest residence on Harlem Avenue between 95th Street and I-294, is 74.3 dBA. The future L_{dn} noise level for this same residence is 74.5 dBA, resulting in a 0.2 dBA increase, which is below the increase threshold for moderate noise impact of 0.5 dBA for this location.
- The existing L_{dn} noise level at 45 feet, the closest residence on 107th Street between 88th Avenue and Roberts Road, is 67.6 dBA. The future L_{dn} noise level for this same residence is 68.3 dBA, resulting in a 0.7 dBA increase, which is below the increase threshold for moderate noise impact of 1.2 dBA for this location.

In all cases, the predicted noise increases from the Project would be below the applicable thresholds for moderate impacts. Therefore, the Project is not anticipated to create a significant or adverse noise impact.

TABLE 8-1. NOISE LEVEL IMPACT SUMMARY

Section	Distance (ft) to Nearest Residence	Existing L _{dn} (dBA)	Future L _{dn} (dBA)	Increase (dBA)	Increase Threshold for Moderate Impact (dBA) ¹	Impact
95 th – Kostner Avenue and Pulaski Road (30 mph)	50	71.5	71.7	0.2	0.9	None
95 th – Princeton Avenue to Yale Avenue (30 mph)	50	71.9	72.1	0.2	0.8	None
Harlem Avenue – 95 th Street to I-294 (40 mph)	80	74.3	74.5	0.2	0.5	None
107 th Street – 88 th Avenue to Roberts Road (35 mph)	45	67.6	68.3	0.7	1.2	None

¹ Increase Impact Criteria are based on Figure 4-3 of the FTA Manual, with further equations behind the FTA Transit Noise Impact Criteria given in Appendix C, Section C.3. The Increase Threshold for Moderate Impact was calculated based on the addition of the existing L_{dn} and the Threshold of Moderate Impact calculated with Eq. C-12, minus the existing L_{dn}.

The Project will produce temporary noise impacts associated with construction activities including the construction of stations and related sidewalk infrastructure. Equipment will be used for earth removal, hauling, and paving and may cause annoyance due to temporary increases in noise levels. However, once construction of the proposed roadway improvements is complete, no further noise impacts will occur. Installation of TSP equipment and its use after installation is complete will not have any noise impacts.

Construction noise impacts for passersby and individuals living or working near the Project can be expected. Construction noise varies greatly depending on the type of activity, equipment, staging process, site layout, and the distance to sensitive receivers. In some areas, construction noise impacts can be expected to be greater due to the close proximity of existing housing. However, these impacts are not expected to be substantial due to the relatively short-term nature of construction noise. The contractor can limit times for which certain types of construction operations may be undertaken, including limiting construction activity to daytime hours. This would assist in minimizing impacts to noise-sensitive receivers, including residences. Other construction impacts are discussed in **Section 19**.

8.2 Vibration

A screening procedure for vibration impacts was conducted. Pace buses with rubber tires and suspension systems create significant vibration isolation that seldom causes ground-borne vibration or ground-borne noise issues. Any potential vibration effect is not likely to be perceptible at sensitive receiver locations adjacent to the proposed transit route. The proposed route alignment for this new service would operate on smooth asphalt streets shared with general traffic. The FTA Manual Vibration Screening Procedure, Section 6.3, states that three specific conditions should be reviewed to determine if there could be a potential vibration impact from a bus (rubber-tire vehicle) project. If the project does not meet the following conditions, vibration impact is unlikely, and no further analysis is needed:

1. **Roadway irregularity** – expansion joints, speed bumps, or other design features that result in unevenness in the road surface.
2. **Operation close to vibration-sensitive buildings** – buses, trucks, or other heavy vehicles operating close to a building that performs vibration-sensitive activities, such as research using electron microscopes or manufacturing of computer chips.
3. **Vehicles operating within buildings** – Special considerations are often required for shared use facilities where vehicles operate inside or directly underneath buildings, such as bus stations located inside an office building complex.

None of these specific conditions exist along the Project corridor; therefore, the Project would not create a significant or adverse vibration impact and no further analysis is required.

9. Acquisitions & Relocations

Implementation of the Project would not result in the physical displacement of any businesses or residences along the Project corridor, and construction would occur predominately within existing ROW. Acquisitions via permanent easements would need to be obtained at 12 of the 36 proposed intermediate station platforms, where the platforms would extend beyond existing ROW. **Table 9-1** summarizes the permanent easements required for the Project. A total of approximately 0.077 acres of permanent easements would need to be obtained affecting 15 parcels.

Almost all permanent easements needed are from private commercial properties, where the easement areas primarily consist of narrow strips of sidewalk or parkway. The permanent loss of land would be minor and would not impair the accessibility or functionality of the associated businesses.

The remaining approximately 0.015 acres of permanent easements required for the Project would affect grass and landscaping at other public properties, none of which are identified 4(f) resources. The permanent loss of land would be minor and would not impair the accessibility or functionality of the properties.

- Approximately 0.015 acres of permanent easement would be obtained from the commercial property owner for the southbound platform at Harlem Avenue and 99th Street. The surrounding sidewalk and parkway would be impacted. There will be no impact to ADA accessibility at any adjacent property or through the station.
- Approximately 0.004 acres of permanent easement would be obtained from two commercial properties and approximately 0.001 acres of permanent easement from the Ridgeland School District 122 for the Ridgeland Avenue and 95th Street eastbound and westbound platforms. The surrounding sidewalk would be impacted. There will be no impact to ADA accessibility at any adjacent property or through the station.
- Approximately 0.015 acres of permanent easement would be obtained from the commercial property owner and approximately 0.005 acres from School District 229 for the Southwest Highway and 95th Street eastbound and westbound platforms. The surrounding sidewalk and parkway would be impacted. There will be no impact to ADA accessibility at any adjacent business or through the station.
- Approximately 0.003 acres of permanent easement would be obtained from the commercial property owner for the westbound platform at 95th Street and the Metra Southwest Service Station. The surrounding sidewalk and parking spot bumpers would be impacted likely requiring some restriping. There will be no impact to ADA accessibility at any adjacent business or through the station.

- Approximately 0.010 acres of permanent easement would be obtained from the commercial properties for the eastbound and westbound (Alternate #2) platforms at 95th Street and Cicero Avenue. The surrounding sidewalk would be impacted. There will be no impact to ADA accessibility at any adjacent business or through the station.
- Approximately 0.004 acres of permanent easement would be obtained from the commercial properties for the eastbound and westbound platforms at 95th Street and Kostner Avenue. The surrounding sidewalk would be impacted. There will be no impact to ADA accessibility at any adjacent business or through the station.
- Approximately 0.003 acres of permanent easement would be obtained from the commercial property owner for the westbound platform at 95th Street and Pulaski Avenue. The surrounding sidewalk and parkway would be impacted. There will be no impact to ADA accessibility at any adjacent business or through the station.
- Approximately 0.004 acres of permanent easement would be obtained from the commercial property owner for the westbound platform at 95th Street and Kedzie Avenue. The surrounding sidewalk and parking spot bumpers would be impacted likely requiring some restriping. There will be no impact to ADA accessibility at any adjacent business or through the station.
- Approximately 0.003 acres of permanent easement would be obtained from the Little Company of Mary Medical Center for the westbound platform at 95th Street and California Avenue. The surrounding sidewalk and parkway would be impacted. There will be no impact to ADA accessibility at any adjacent business or through the station.
- Approximately 0.011 acres of permanent easement would be obtained from the commercial property owner for the eastbound platform at 95th Street and Western Avenue. The surrounding sidewalk would be impacted. There will be no impact to ADA accessibility at any adjacent business or through the station.

TABLE 9-1: PERMANENT EASEMENTS REQUIRED

Station Location	Direction	Land Use	Affected Elements	Permanent Easement (sf)	Permanent Easement (acres)	Parcels Affected
Harlem/99th	SB	Parkway	Grass	633	0.015	1
Ridgeland	WB	Commercial	Sidewalk	236	0.005	3
Southwest Highway	EB/WB	Parkway	Sidewalk, Grass	870	0.020	2
Oak Lawn Patriot Metra	WB	Commercial	Sidewalk, Parking Lot	132	0.003	1
Cicero	EB/WB	Commercial	Sidewalk, Grass	419	0.010	2
Kostner	WB	Commercial	Sidewalk	176	0.004	2
Pulaski	WB	Commercial	Sidewalk	136	0.003	1
Kedzie	WB	Commercial	Sidewalk	156	0.004	1
California	WB	Commercial	Sidewalk	135	0.003	1
Western	EB	Commercial	Sidewalk	479	0.011	1
Total				3,372	0.077	15

EB = eastbound; NB = northbound; SB = southbound

Table 9-2 summarizes temporary easements that would be needed during the construction phase of the Project. In total, 0.093 acres of temporary easements would be obtained from 15 parcels in addition to the 0.077 acres of permanent easements. Similar to the necessary permanent easements, temporary easements would be required from a variety of land uses, although the elements most commonly affected include sidewalks, parkway, and the parking lots at Kedzie and California stations. The temporary easements would be needed for equipment access and excavation pertaining to station construction and site grading.

Although 15 parcels would be affected by a temporary loss of usable land, this temporary impact would not impair the accessibility or functionality of the associated properties. The land required for temporary easements needed for the Project would be restored to its pre-construction condition.

The temporary and permanent easements proposed for the Project will not result in a significant change in the functional use or accessibility of impacted properties, and ADA accessibility will be maintained or enhanced.

TABLE 9-2: TEMPORARY EASEMENTS REQUIRED

Station Location	Direction	Land Use	Affected Elements	Temporary Easement (sf)	Temporary Easement (acres)	Parcels Affected
Harlem/99th	SB	Parkway	Grass	1700	0.039	1
Ridgeland	WB	Commercial	Sidewalk	479	0.011	3
Southwest Highway	EB/WB	Parkway	Sidewalk, Grass	469	0.011	2
Oak Lawn Patriot Metra	WB	Commercial	Sidewalk, Parking lot	212	0.005	1
Cicero	EB/WB	Commercial	Sidewalk, Grass	390	0.009	2
Kostner	WB	Commercial	Sidewalk, Grass	356	0.008	2
Pulaski	WB	Commercial	Sidewalk, Grass	208	0.005	1
Kedzie	WB	Commercial	Sidewalk, Parking lot	184	0.004	1
California	WB	Commercial	Sidewalk, Grass, Parking lot	214	0.005	1
Western	EB	Commercial	Sidewalk, Grass	246	0.006	1
Total				4,458	0.102	15

EB = eastbound; NB = northbound; SB = southbound

10. Hazardous Materials

A technical memorandum with the complete analysis and findings on hazardous materials can be found in **Appendix H**.

10.1 Methodology

The methodology for gathering and presenting information on the possible presence of hazardous materials along the corridor followed American Society of Testing and Materials 1527-13 Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process (ASTM Phase 1 ESA) with certain limitations. Those limitations included inability to acquire access to building interiors along the corridor and no personal interviews conducted.

Though there are no specific NEPA thresholds for determining potential adverse impacts from hazardous materials, FTA's process for implementing NEPA requires an initial review of potential impacts from hazardous materials. A hazardous material is any media such as soil, groundwater, or building material that contains detectable concentrations of any federal- or state regulated contaminant. Sites that currently or historically generated, handled, stored, transported, released, or disposed of hazardous or regulated waste are potential sources of hazardous material contamination.

Environmental Risk Information Services (ERIS) was contacted to provide critical risk and historical information along the Project corridor. ERIS provides on-demand regulatory database research and reports that meet criteria set by the American Society for Testing and Materials (ASTM). Table 1 in **Appendix H** contains a listing of the databases searched by ERIS and a count of sites from each database within defined distances of the Project.

Upon receipt of the ERIS report, a field review of the Project was completed on March 17, 2022. The purpose of this field review was to cross-reference the reported information with field observations. As expected, the field review confirmed that the Project extends through an aging mixed-use area that includes undeveloped, residential, and commercial properties. As indicated in the ERIS report, many current and historic underground storage tank (UST) and leaking underground storage tank (LUST) sites and other similar locations line the Project corridor. Aside from the UST/LUST sites, the most common type of sites identified along the Project corridor included Facility Registry Service (FINDS/FRS) and Resource Conservation and Recovery Act (RCRA) sites that are common in urban areas. A review of online historical aerial

imagery found on the USGS EarthExplorer site²¹ and a review of more recent data through Google Earth Pro does not appear to indicate any additional areas of concern that are not present in the ERIS dataset.

Some select areas have been extracted from downloaded imagery and are provided in **Attachment 3** of **Appendix H**.

10.2 Findings

Based on an examination of the data provided by ERIS, a review of online aerial imagery and field visit notes, the following were found:

- No National Priority List (NPL) sites were identified within approximately 300 feet of the 20 station locations (19 proposed stations and the one potential future station).
- The most common types of sites identified included Underground Storage Tanks (UST), Leaking USTs (LUST), Facility Registry Service (FINDS/FRS) and Resource Conservation and Recovery Act (RCRA) sites which are common in urban areas.

Based on the ERIS data, 121 sites were identified as possible areas of concern, having met ATSM standards (see methodology above) within approximately 300 feet of the 20 station locations (19 proposed stations and one potential future station). No additional areas of concern were noted during the field review that were not identified in the ERIS data. Potential impacts related to these sites and others along the Project corridor will be mitigated by implementing best management practices, including following federal, state, and local laws and regulations regarding hazardous materials before and during construction.

In addition to the sites listed in the ERIS data, the urban setting of the Project creates the potential for the presence of typical urban fill throughout the entire Project corridor. These urban fill materials can 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 and therefore, would not be included in the ERIS data. Based on the type, location, and proposed depth of excavations, urban fill is not anticipated to be encountered.

Construction of the Project currently includes some subsurface ground disturbance activities, which could encounter contaminated soil and/or groundwater. Most Project-

²¹ USGS EarthExplorer site accessed at earthexplorer.usgs.gov

related excavation would be associated with the construction of the stations and curbs, such as for the slab-on-grade platforms and shelters. Based on the discussed construction, excavation would be limited to the top three to five feet below ground surface. The first five feet below ground surface is unlikely to have hazardous materials because historically they have been graded and backfilled with sand and other materials to provide a stable base for existing structures (e.g. sidewalk and street). Therefore, there are no anticipated adverse or significant hazardous materials impacts.

All urban fill, construction debris, lead-based paint, asbestos-containing materials, excavated soil, and ground-/surface-water will be properly disposed of following federal, state, and local laws and regulations. Furthermore, construction teams will be informed of the possibility of contamination and that if any concerns (smells, discolored soil, liquids, etc.) are encountered, they will escalate the finding to their field supervisor. An approach will be further detailed in the final design phase of study.

There are several small, proposed easements (permanent and temporary) located adjacent to the Project. These areas were included in the database report and field review, and no additional hazardous material concerns were noted within these areas. If it is determined that additional ROW needs to be purchased, the area(s) to be acquired will be reviewed closer to determine if a more in-depth ESA should be conducted. If it is determined that a Phase II ESA is needed, it will be completed prior to purchase/acquisition.

Based on the ERIS report and field review, the Project is located along an urban corridor through mixed-use areas, including undeveloped, residential, and commercial properties. Pulse stations and other construction activities are often located in the vicinity of major intersections that are typically adjacent or in close proximity to USTs, LUSTs or similar sites. Based on the type of proposed construction activities, no significant or adverse hazardous material impacts are anticipated. However, construction teams will be informed of the possibility of contamination and that if any concerns (smells, discolored soil, liquids, etc.) are encountered, they will escalate the finding to their field supervisor. An approach will be further detailed in the final design phase of the study.

11. Social Impacts & Community Disruption

The U.S. Census Bureau American Community Survey data for 2016-2020 was analyzed for census block groups within ½ mile of the Project corridor to determine the demographic profile of these municipalities. The Project corridor is composed of six municipalities, plus a seventh municipality within ½ mile of the Project corridor (Hickory Hills). Approximately 112,531 people reside within the Project corridor and occupy more than 42,000 households. **Table 11-1** shows the population and households within the Project corridor by municipality.

TABLE 11-1: POPULATION AND HOUSEHOLDS

Municipality	Population	Households
Bridgeview	7,780	2,739
Chicago	40,722	14,970
Chicago Ridge	3,405	1,350
Evergreen Park	16,414	6,168
Hickory Hills	1,544	743
Oak Lawn	29,710	11,076
Palos Hills	12,956	5,406
TOTAL	112,531	42,452

Source: U.S. Census Bureau 2016-2020 American Community Survey Table IDs B03002 and B11001

Note: Hickory Hills is not within the immediate Project corridor, but is within ½ mile

In addition to population and household data, demographic data including age, gender, poverty, and race/ethnicity were also analyzed. The largest age groups are 30-39 years, 40-49 years, and 50-59 years. Approximately 53 percent of Project corridor residents are female.²² Approximately 21 percent of individuals are below the poverty line.²³ **Table 11-2** shows the racial/ethnic makeup of residents in the Project corridor.

²² U.S. Census Bureau. 2016-2020 American Community Survey Table ID B01001 for Census Block Groups within ½-mile buffer of the Project corridor.

²³ U.S. Census Bureau. 2016-2020 American Community Survey Table ID C17002 for Census Block Groups within ½-mile buffer of the Project corridor.

TABLE 11-2: RACE AND ETHNICITY

Race/Ethnicity	Total	Percentage
White	52,489	47 percent
Black	41,756	37 percent
Hispanic	13,241	12 percent
Other*	5,045	4 percent

Source: U.S. Census Bureau 2016-2020 American Community Survey Table ID B03002 for Census Blocks within ½-mile of the Project Corridor

*Other includes American Indian and Alaska Native, Asian alone, Native Hawaiian and Other Pacific Islander, Two or More races, and Some other race alone

According to U.S. Census Bureau data, most workers within ½ mile of the Project corridor commute by car (79 percent). Workers also commute by public transportation (13 percent), work from home (5 percent), and less than 2 percent of workers commute by taxi/motorcycle or by walking.²⁴ Ten percent of households do not have access to a personal vehicle.²⁵

As discussed in **Section 4**, the areas immediately adjacent to stations are primarily composed of residential and/or commercial uses. There are also many community resources along the Project corridor (e.g., parks, schools, government centers, and religious institutions), as shown in **Table 11-3** and sourced from Google Maps.

TABLE 11-3: COMMUNITY RESOURCES

Community Resource	Type
95 th – Longwood Manor	Metra Station
ABC Learning Center	Day Care Center
Adva Med Advanced Medical Care Group	Medical Clinic
Advanced Orthopedic and Spine Care	Medical Center
Advocate Medical Center	Medical Center
Advocate Medical Group Primary Care	Doctors Office
Alzein Pediatric Urgent Care	Urgent Care Center
American Muslims for Palestine	Foundation
Aspen Dental	Dentist

²⁴ U.S. Census Bureau. 2016-2020 American Community Survey Table ID S0801 for Census Tracts within ½-mile of the Project corridor.

²⁵ U.S. Census Bureau 2016-2020. American Community Survey Table ID B08201 for Census Tracts within ½-mile buffer of the Project corridor.

At Home Adult Day Care Center	Day Care Center
Be Whole Christian Center	Church
Bennet Park	Park
Beverly Branch – Chicago Public Library	Public Library
Beverly Smiles Family Dental	Dentist
Bridgeview Fire Department	Fire Department
Care Station	Medical Clinic
Centennial Park	Park
Center for Reconstructive Surgery	Medical Center
Chicago Fire Department Engine 121 / Truck 40	Fire Department
Chicago Housing Authority	Government
Christ Temple MB Church	Church
CICS Loomis – Longwood	School
Columbus Manor Elementary School	School
Comfort Family Dental	Dentist
Covid-19 Testing Center	Health Counselor
Creative Little Ones School	School
Department of Water Management	Government
Disciples Church	Church
Discovery Academy 2	Day Care Center
DK Healthcare Services	Medical Clinic
Easterseals Child & Family Connections #8	Social Services Organization
Ernest F Kolb Elementary School	School
Eye Ear Nose & Throat Center, SC	Health Center
Family Dental Care – Evergreen Park	Dentist
Family Eye Physician	Optometrist
For Women Only	Doctors Office
Girls of Grace Youth Center	Non-profit Organization
HHYBS Fields	Park
Inside the Smile – Oak Lawn	Dentist
Jen Care Senior Medical Center	Medical Center
Justin Slaughter State Representative	State Government Office
K.A.M Alliance, Inc.	Health Clinic
Krasowski Park	Park

Lakeshore Park	Park
Lawn Medical Center	Medical Clinic
Lilydale Outreach	Church
Little Company of Mary Hospital	Hospital
Loveland Park	Park
Lowden Homes	Housing Authority
Magnificent Home Health Care	Health Care Service
McVicker Park	Park
Medical Imaging	Medical Clinic
MidAmerica Orthopedics	Orthopedic Surgeon
Moraine Community College	Community College
New Life Ministries	Religious Institution
Nico's Playhouse	Day Care Center
North Palos Fire Protection District	Fire Department
O'Donnell Richard E DO	Doctors Office
Oak Lawn Bible Church	Church
Oak Lawn Fire Department	Fire Department
Oak Lawn Park District Community Pavilion	Park
Oak Lawn Patriot Metra	Train Station
Oak Lawn Police Department	Police Department
Oak Lawn Public Library	Public Library
Oakdale Christian Academy	School
Oakdale Covenant Church	Church
Oakdale Park	Park
Oaklawn Respiratory and Rehabilitation Center	Rehabilitation Center
Occupational Medical Center At District	Therapist
OSF Little Company of Mary Medical Center	Hospital
OSF ON Call Urgent Care	Urgent Care Center
Pain Treatment Centers of Illinois	Doctors Office
Palos City Hall	City Hall
Palos Fen Natural Preserve	Park
Palos Hills Christian Assembly	Church
Papoose Children's Center	Children's Center
Pearle Vision	Optometrist
Pediatric Associates Urgent Care	Pediatrician

Petty and Bielik Orthodontics	Orthodontist
Pierce Raymond a DDS	Dentist
Purchased Church of God	Church
Roy B. Guster DDS PC	Dentist
Salem United Church of Christ	Church
Sertoma speech and Hearing Center	Medical Center
Simmons Middle School	School
Smith Jerrold w DDS	Dentist
Sms Health Care Clinic	Dentist
Social Security Administration	Government Organization
Sorrick Elementary School	School
Southpoint Nursing and Rehabilitation Center	Nursing Home
Southwest Urgent Care	Urgent Care Center
St Lawrence Social Services Center	Social Services Organization
St. Gerald Catholic Church	Church
St. Mary's Malankara Orthodox Syrian Church	Church
The Temple of God in Jesus Christ	Church
The Universal Church	Church
Third Baptist Church	Church
Trinity Evangelical Lutheran Church	Church
Trinity United Church Child	Church
Trinity United Church of Christ	Church
Trinity United Church of Christ Child Care Centers, Inc	Health Care Center
United Ahepa Home	Non-Profit Organization
United States Postal Service	Post Office
Vanderpoel Elementary School	School
Village of Oaklawn Village Hall	Village Hall
WellNow Urgent Care	Urgent Care Center
Women's Health institute of Illinois	Medical Clinic
Woodson Regional Library	Public Library

Source: Google Maps, accessed May 2022.

Permanent impacts to community resources would be limited to removal of on-street parking adjacent to ABC Learning Center at the proposed eastbound Eggleston station. The parking impact is discussed in **Section 5**.

The increase in transit service with the new Pulse service will benefit the Project corridor population and community resources by improving mobility through greater service frequency and longer hours of service (see operating plan in **Section 1**); increasing access to jobs through more reliable travel times in the Project corridor; improving air quality through the reduction in car commuter traffic; and greater potential for economic opportunities along the Project corridor. The upgrades to existing sidewalks, curb ramps, and crosswalks near stations also provides the affected communities with newly constructed pedestrian facilities and improved access to transit service. Some pedestrian facilities, including sidewalks, curb ramps and crosswalks, have deteriorated over time throughout the Project corridor and will be brought into a state of good repair as a result of the Project. Additionally, transit facilities at proposed Pulse station locations will be newly constructed and replace older assets such as shelters, signs, and benches.

No residences or community resources would be displaced by the Project. Permanent negative socioeconomic impacts resulting from the Project include a reduction in the property values because of easements needed for the Project. However, this impact is anticipated to be negligible because of the small area (approximately 0.077 acres) of easements required.

Existing local Pace Route 381 would have a reduction in service frequency and therefore less frequent access to the local route bus stop locations that are spaced more frequently along the Project corridor compared to the new Pulse 95th Street Line stations. This may be an inconvenience to those who would choose a slower transit trip in favor of using a stop that is closer to their origin or destination. Likely, this would be preferred by those living or traveling somewhere further from a Pulse station or those with difficulty traveling longer distances such as the elderly, individuals with disabilities, or the very young. This potential impact is partially mitigated by the continued availability of Route 381.

Additionally, upon implementation of the Pulse 95th Street Line, Route 381 will be modified to follow the same alignment as Pulse. This change will eliminate Route 381 service at some current bus stops in Hickory Hills and Bridgeview. The impact affects very few riders who board along the impacted section of the Route 381, and these riders will still be served by other local Pace routes 379, 385 and 386. This impact is further mitigated by the benefits of simplifying local Route 381 to mimic the route of the Pulse service, which benefits the majority of riders of Route 381 that will not lose access to the route. Service will be easier for customers to comprehend by following the precedent that a local route follows the Pulse route. Additionally, Pace is planning a

major systemwide restructuring initiative, to begin in 2023, which may identify other opportunities to provide service to those stops that would no longer be served by Route 381.

No additional permanent negative socioeconomic impacts are anticipated to result from the Project. Temporary negative socioeconomic impacts resulting from the Project would include inconveniences commonly associated with construction such as noise, dust, increased travel delay, and utility disruptions. These impacts are temporary and would cease upon completion of construction. Access to businesses and residences would be maintained throughout construction. See **Section 19** for a discussion of construction impacts.

The Project would not adversely affect community cohesion as it would not change access to businesses, hospitals, schools, or other individual properties within the community. The municipalities identified above would not be segmented by the Project, because the new service would be an expansion of service and amenities along an existing transportation corridor. Some on-street parking spaces would be removed as a result of constructing some stations as discussed above in the case of the community resource (ABC Daycare) and in **Section 5**; however, parking removal is limited to four station sites. Where removed, other off-street and on-street parking options are available in the immediate area.

Based on the above analysis, the Project is not expected to adversely impact the local population or community resources and cohesion.

12. Environmental Justice

An Environmental Justice (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, U.S. DOT Order 5610.2(a), and FTA Circulars 4703.1 and 4702.1B. This section provides information on the EJ analysis that was conducted for the 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 ensure 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 minority and low-income populations, U.S. Census data for all census block groups within ½ mile of the alignment was analyzed, with data summarized by municipality. Data from the American Community Survey 5-Year Estimates from 2016-2020 was used for the analysis.

Minority populations were determined by using the combination of all persons identifying as non-white and/or Hispanic/Latino populations. **Figure 12-1** provides a map of minority populations along the 95th Street Line Project corridor. The map shows that minority populations are present in all census block groups within the Project corridor.

FIGURE 12-1: MINORITY POPULATION IN PROJECT CORRIDOR

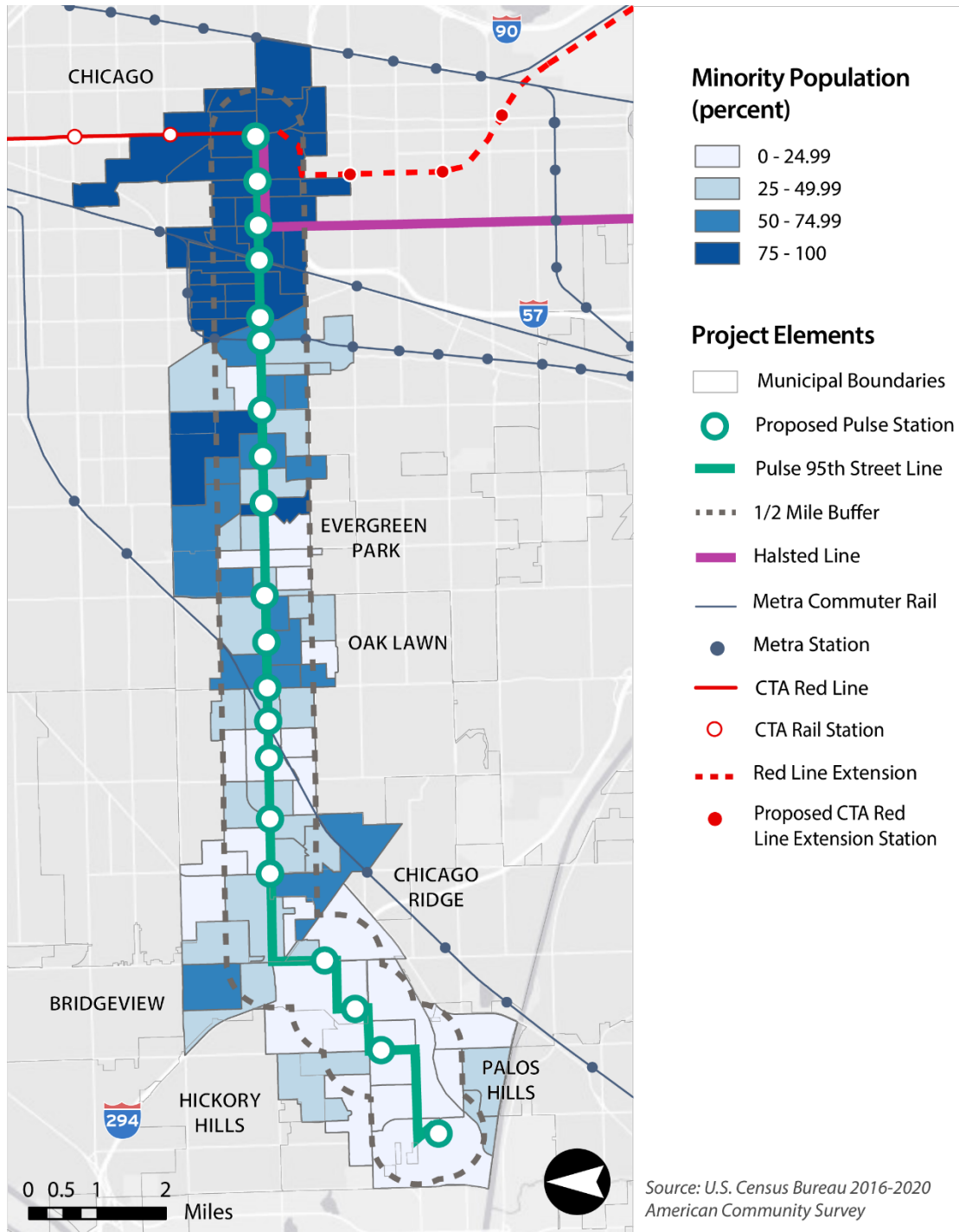


Table 12-1 compares the minority populations located in census block groups within ½ mile of the Project to Pace’s six-county Service Area, which includes suburban Cook (excludes City of Chicago), DuPage, Lake, Kane, McHenry and Will Counties. The ½ mile buffer around the Project corridor is 53 percent minority population. Each municipality’s block groups within the Project corridor have between 15 and 87 percent minority residents, with the Project corridor total at 53 percent. Compared to 30 percent for Pace’s entire service area, this indicates a distinct minority population near the Project. The largest minority group in the Project corridor is Black, with 37 percent of the Project corridor identifying as such and the next largest minority group is Hispanic with 12 percent identifying as such. Other racial and ethnic groups are less than five percent.

TABLE 12-1: CORRIDOR AND SERVICE AREA MINORITY POPULATION BY JURISDICTION

Jurisdiction	Population	Minority Population	Percent Minority
Corridor Block Groups in			
<i>Bridgeview</i>	7,780	2,689	35 percent
<i>Chicago</i>	40,722	35,379	87 percent
<i>Chicago Ridge</i>	3,405	1,362	40 percent
<i>Evergreen Park</i>	16,414	8,336	51 percent
<i>Hickory Hills</i>	1,544	595	39 percent
<i>Oak Lawn</i>	29,710	9,693	33 percent
<i>Palos Hills</i>	12,956	1,988	15 percent
95 th Street Corridor Total	112,531	60,042	53 percent
Pace Six-County Service Area*	5,679,849	1,707,223	30 percent

Source: U.S. Census Bureau 2016–2020 American Community Survey, Table ID B03002

*Six-County Service Area includes suburban Cook, DuPage, Kane, Lake, McHenry and Will Counties

Low-income populations were identified, in accordance with FTA Circular 4703.1, where individuals in a census block group have an income that is below a selected ratio of income to the official poverty threshold as established by the U.S. Census Bureau based on family size and configuration. In accordance with its Title VI program, Pace selected individuals with incomes representing 150 percent of the official poverty threshold as its definition of low-income individuals. Within ½ mile of the Project corridor, 21 percent of individuals have incomes that are 150 percent of the U.S. Census Bureau’s poverty

threshold as published in the American Community Survey 5-Year Estimates for 2016 – 2020.²⁶

Figure 12-2 provides a map of the percentage of individuals within census block groups that are below 150 percent of the poverty threshold. Most census block groups within the Project corridor are less than 25 percent low income. Areas with a greater presence of low-income individuals are at the eastern and western ends of the Project corridor. Poverty status for census block groups within the Project corridor were compared by municipality with the total of Pace's service area as shown in **Table 12-2**. Each municipality's block groups within the Project Corridor are between 12 to 24 percent low income. Overall, approximately 21 percent of individuals within the Project corridor have incomes below the U.S. Census poverty threshold compared with 14 percent of individuals in Pace's service area.

TABLE 12-2: LOW-INCOME INDIVIDUALS

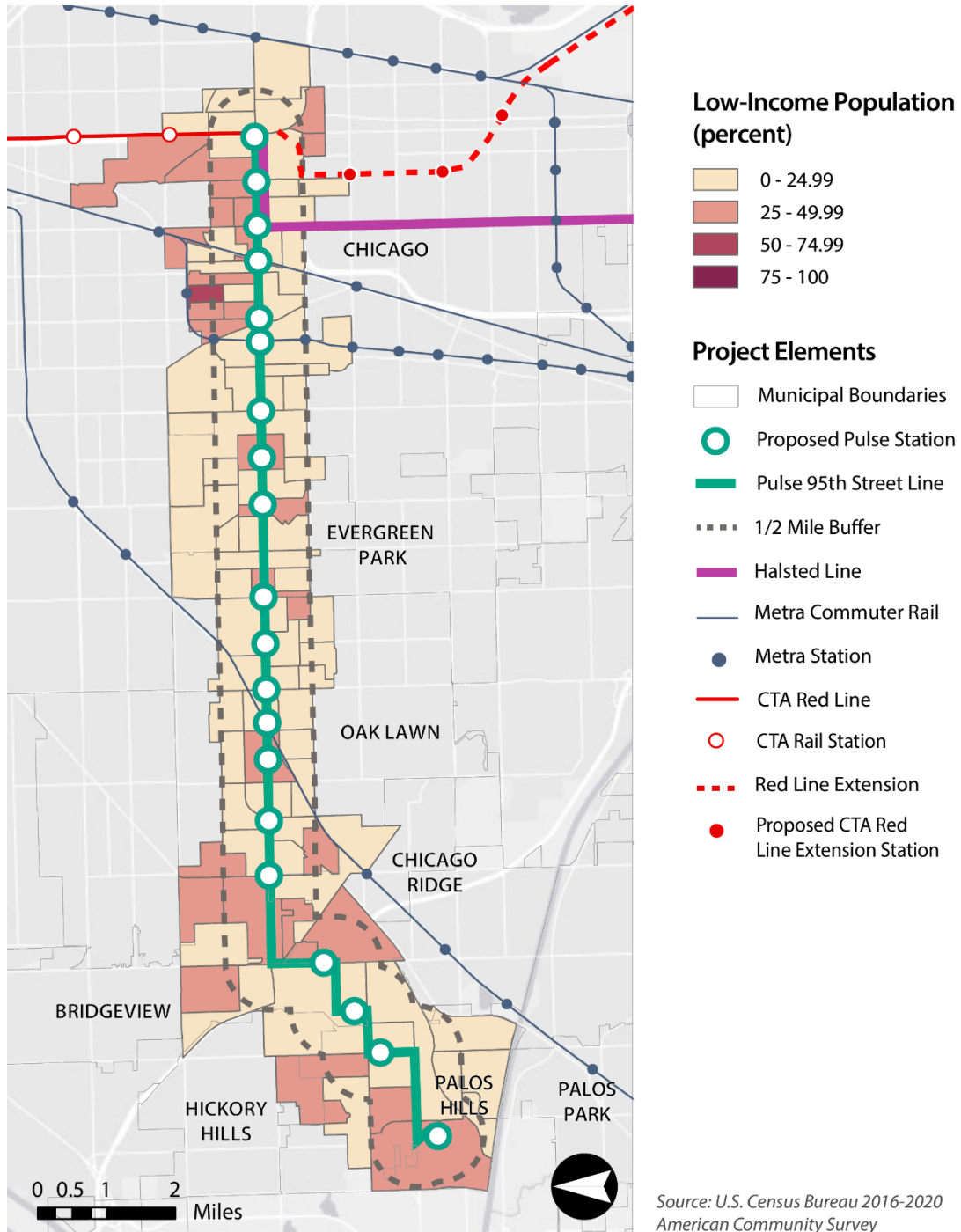
Jurisdiction	Total Individuals	Low-Income Individuals	Percent Low-Income
Corridor Block Groups in			
<i>Bridgeview</i>	7,744	1,708	22 percent
<i>Chicago</i>	40,193	9,504	24 percent
<i>Chicago Ridge</i>	2,979	687	23 percent
<i>Evergreen Park</i>	16,352	2,012	12 percent
<i>Hickory Hills</i>	1,544	386	25 percent
<i>Oak Lawn</i>	28,892	5,837	20 percent
<i>Palos Hills</i>	12,814	2,682	21 percent
95 th Street Corridor Total	110,518	22,816	21 percent
Pace Six-County Service Area*	5,542,311	784,462	14 percent

Source: U.S. Census Bureau 2016-2020 American Community Survey, Table ID C17002

*Six-County Service Area includes suburban Cook, DuPage, Kane, Lake, McHenry and Will Counties

²⁶ Table C17002. Ratio of Income to Poverty Level in the Past 12 Months. American Census Survey.

FIGURE 12-2: LOW-INCOME INDIVIDUALS IN PROJECT CORRIDOR



Outreach to EJ populations included all outreach activities described in **Section 1**. No special targeting was done for minority populations. However, the Project team took a comprehensive approach to reaching diverse populations in the Project corridor, including advertising the public meeting on physical boards at local libraries, at major transit transfer locations, and posted flyers onboard buses routed through the Project corridor. The Project team also set up a phone line to receive comments through voicemail.

Table 12-3 lists the impacts that would result from the Project as identified throughout this document. No disproportionately high or adverse impacts were found for EJ populations identified in this Section. Each impact below is presented with a summary of the analysis conducted and how it was determined that no disproportionately high or adverse impacts result from the Project.

TABLE 12-3: IMPACTS AND BENEFITS TO EJ POPULATIONS

Project Component	Impact or Benefit	Description	Determination Measure for Non-Adverse Impact
Reduction in Pace Route 381 Service	Impact	The existing Pace Route 381 will be retained with less frequency and the route will be modified to follow the same route as Pulse 95 th Street Line. For the portion of Route 381 that does not have a route change, EJ communities will have less frequent Route 381 service, which has bus stops spaced at more frequent intervals than the Pulse 95 th Street Line service. EJ communities west of Harlem Avenue and north of the route terminus at MVCC, including Hickman Hills and a portion of Bridgeview, will no longer be served by Route 381.	EJ populations will experience overall increased service frequency and hours of service through the new Pulse 95 th Street Line stations that are spaced every ½-mile to 1-mile apart with the exception of populations living west of Harlem Avenue and north of MVCC. Stations will continue to be served by all other local bus routes operated by Pace and CTA that use the Project corridor. Hickory Hills and a portion of Bridgeview will no longer have access to Route 381 in their communities; however, Pace Routes 379, 385 and 386 still serve these communities.
Reduction in Parking along 95 th Street	Impact	The Project will result in the loss of approximately 31 on-street parking spaces.	All affected businesses and parcels have available on-street parking as well as adjacent parking lots.
Construction	Impact	The Project would result in temporary construction impacts on residences, businesses, and travelers through the construction zones surrounding the stations. Construction impacts would include temporary easements and temporary street closures during construction. In addition, construction activities would produce temporary noise.	No disproportionately high and adverse impacts from construction are anticipated because impacts would be temporary in nature and would be experienced by EJ and non-EJ communities alike. The impacts are akin to those of a routine roadway reconstruction project.
Easement Requirements	Impact	A total of 0.077 acres of temporary easements and 0.093 acres of permanent easements will be required for the Project stations.	The Project would not result in displacement of residential or commercial properties. Easements are limited to small areas of sidewalks or parkways to accommodate the back sides of Pulse stations that stretch beyond the ROW parcel limits.

Traffic	Benefit	The Project results in transportation benefits to all populations within the Project corridor, including EJ populations. Benefits would include shorter transit travel times, improved transit schedule reliability, more frequent bus service, and improved bus stations. The one queue jump location and associated signal optimization would improve the overall intersection LOS compared to existing LOS.	No impacts.
Station and Rider Amenities	Benefit	The Project results in improvements to station and rider amenities, including raised platforms for near-level boarding; custom branded shelters; benches, trash receptacles, and bicycle racks; a vertical marker conveying the Pulse brand; real-time next-bus signage and route information; infrared heating within the shelter; electric pavement snow-melt system; railings along the platform and access ramps; and landscaping.	No impacts.
Social Impacts	Benefit	Pulse bus facilities would be designed to fit within the existing urban context of the surrounding neighborhoods, thereby preserving the character of existing EJ communities. Both Pace's and CTA's fare policy and structure would remain at the current levels through the implementation of the Project; no price increases that could potentially create a disproportionate impact EJ communities are proposed as part of this Project.	No impacts.

13. Section 4(f) / Section 6(f)

13.1 Section 4(f) Properties – Use of Public Parkland, Recreation Areas, and Historic Sites

Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 is a federal law that established requirements for USDOT (including FTA) consideration of publicly owned parks and 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 49 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.²⁷ FTA formally adopted this guidance, and this analysis was conducted consistent with this guidance.

In accordance with Section 4(f) of the USDOT Act of 1966, the Project corridor was examined to determine the location of such protected lands along the Project corridor. To determine whether Section 4(f) applies to the Project, protected Section 4(f) properties were assessed to determine whether there would be a “use” of the property as defined in the statute. “Uses” 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 (2) Section 4(f) use of the property would have a “*de minimis*” impact. Analysis and coordination/consultation conducted are summarized in this section.

Pace evaluated a ¼-mile buffer around Project station areas to identify Section 4(f) protected park and recreation resources because this buffer accounts for potential permanent impacts or use of property and any temporary impacts or uses that could be caused by construction of the Project. A total of 19 parks, trails, preserves, or recreation facilities are within ¼ mile of Project stations, as shown in **Table 13-1** and **Figure 13-1**.

²⁷ “Section 4(f) Policy Paper,” Federal Highway Administration. 2012.

No potential use or impact to the properties listed in **Table 13-1** are anticipated. No permanent or temporary easements will be acquired from these properties. In addition, the improvements would be within existing transportation ROW and the minimal number of additional buses proposed during peak hour (no more than eight additional buses) would not directly or indirectly affect these recreational areas. In addition, some recreational areas may benefit from the Project by providing faster and higher-quality transit service to them.

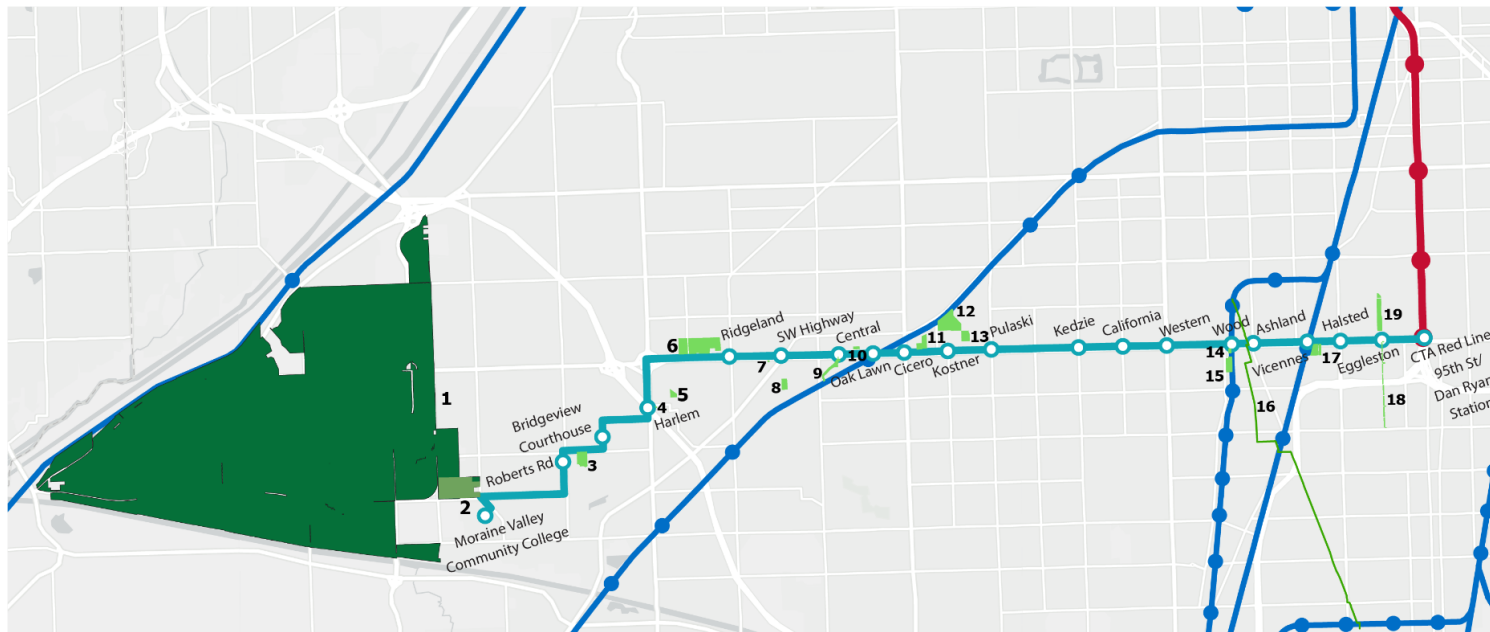
TABLE 13-1: PARKS, TRAILS, PRESERVES, AND RECREATIONAL FACILITIES WITHIN ¼ MILE OF PROJECT STATIONS

Resource ID	Resource Name	Distance from Station (ft)	Nearest Station	Location/Address
1, 2	Crooked Creek Woods Forest Preserve containing Palos Fen Nature Preserve*	1,276	MVCC	NW Quadrant of 107 th St. & 88 th Ave., Palos Hills
3	Krasowski Park	626	Roberts/104 th (NB)	W. 104 th Pl., Palos Hills
4	O'Connell Tot Lot	310	Harlem 99 th (EB)	O'Connell Dr. and 99 th Pl., Chicago Ridge
5	Frontier Park	1,197	Harlem 99 th (WB)	9801 S. Sayre Ave., Chicago Ridge
6	Centennial Park	416	Ridgeland (WB)	9401 S. Oak Park Ave., Oak Lawn
7	McVickers Park	609	SW Highway (EB)	9500 S. McVicker Ave., Oak Lawn
8	Columbus Manor Park	1,272	SW Highway (EB)	9700 S. Mayfield Ave., Oak Lawn
9	Lakeshore Park	88	Central (WB)	9610 East Shore Dr., Oak Lawn
10	Village Green Park	752	Central (EB)	53 rd Ave. & Oak St., Oak Lawn
11	Central Park and Pool	286	Cicero (WB)	9400 S. Kenton Ave., Oak Lawn
12	Oak Lawn Spartan Athletic Complex	1,298	Kostner (WB)	4400 W. 93 rd St., Oak Lawn
13	Keeler Park	890	Kostner (EB)	4201 W. 93 rd Pl., Oak Lawn
14	Ridge Park Wetlands	131	Wood (Beverly Hills Metra) (EB)	9516 S. Wood St., Chicago
15	Ridge Park	641	Wood (Beverly Hills Metra) (EB)	9625 S. Longwood Dr., Chicago
16	Major Taylor Trail	139	Ashland (WB)	Crosses Project corridor at S. Charles St., Chicago

Resource ID	Resource Name	Distance from Station (ft)	Nearest Station	Location/Address
17	Oakdale Park	446	Vincennes (Longwood Metra) (EB)	965 W. 95 th St., Chicago
18	Fernwood Parkway Park	48	Eggleson (EB)	9501 S. Eggleson Ave., Chicago
19	Robichaux Park	605	Eggleson (WB)	9247 S. Eggleson Ave., Chicago

*Palos Fen Nature Preserve is within the Crooked Creek Woods Forest Preserve shown in Figure 13-1

FIGURE 13-1: PARKS, TRAILS, PRESERVES, AND RECREATIONAL FACILITIES WITHIN ¼ MILE OF PULSE STATIONS

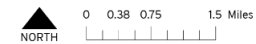


Section 4(f) Properties

- Trail
 - Park
 - Nature Preserve
 - Forest Preserve
- 1 Crooked Creek Woods Forest Preserve
 - 2 Palos Fen Nature Preserve
 - 3 Krasowski Park
 - 4 O'Connell Tot Lot
 - 5 Frontier Park
 - 6 Centennial Park
 - 7 McVickers Park
 - 8 Columbus Manor Park
 - 9 Lakeshore Park
 - 10 Village Green Park
 - 11 Central Park And Pool
 - 12 Oak Lawn Spartan Athletic Complex
 - 13 Keeler Park
 - 14 Ridge Park Wetlands
 - 15 Ridge Park
 - 16 Major Taylor Trail
 - 17 Oakdale Park
 - 18 Fernwood Parkway Park
 - 19 Robichaux Park

Project Elements

- Pulse 95th Street Line Stations
- Pulse 95th Street Line
- CTA Rail Station
- CTA Red Line
- Metra Rail Station
- Metra Rail Line



Source: Pace

One trail, the Major Taylor Trail, crosses the Project corridor at approximately Charles Street, one block west of the proposed Pulse station at 95th Street and Ashland Avenue. The trail is off-street and paved north of 95th Street, jogs to the west on 95th Street, then continues on-street along Charles Street south of 95th Street. No permanent or temporary easement would be required from the Major Taylor Trail, and trail users would not be impacted by the Project or its construction. The Chicago Park District (CPD) is the Official with Jurisdiction (OWJ) over the Major Taylor Trail where it intersects the Project corridor, and was sent an early coordination letter on October 13, 2022. CPD did not provide any comments on the Project. The Forest Preserve District of Cook County (FPDCC) also has jurisdiction over nearby portions of the Major Taylor Trail and was sent an early coordination letter on August 22, 2022. The FPDCC responded via email on October 21, 2022, indicating the Major Taylor Trail is a multi-jurisdictional trail managed between the FPDCC and CPD. They affirmed that the Trail crosses 95th Street between Wood Street and Ashland Avenue along the Project corridor, and suggested the Project incorporate information (wayfinding signage and maps) about the Major Taylor Trail for Pace commuters at nearby bus shelters. Pace responded via email on October 24, 2022, stating they are studying the Major Taylor Trail and investigating how to best align the Project with their suggestions. Pace added, the proposed Ashland station is likely to become the nearest station to the trail, with the current proposal for both east- and west-bound stations just west of Ashland Avenue, at the existing CTA/Pace bus stops. Both stations are anticipated to include a vertical marker containing real-time bus arrival information and a large local area map that will depict the Major Taylor Trail as a nearby point of interest. Pace mentioned they will consider including additional wayfinding signage at the proposed Ashland stations and at the proposed Wood stations as mentioned by the FPDCC.

The Major Taylor Trail is approximately 140 feet west of the proposed westbound Ashland station, the closest station to the trail. The proposed eastbound Ashland station, across from the westbound station, is approximately 280 feet from where the Major Taylor Trail crosses to the south side of 95th Street. The proposed Wood Street stations are approximately 800-1000 feet west of the trail.

The trail will remain open, and access will be maintained at all times during construction. A commitment is included in this Documented Categorical Exclusion requiring that the Project provide pedestrian and bicycle access across 95th Street at all times during construction to maintain access to the Major Taylor Trail.

Section 4(f) applies when there is a "use" of NRHP-eligible historic resources. Under analysis and consultation required by Section 106 of the National Historic Preservation Act and regulations of 36 CFR 800, FTA and Pace identified a total of 10 NRHP-eligible or listed historic properties within the APE for the Project: one previously identified district as well as nine recommended eligible properties. No known archaeological resources

were identified within the APE (see **Appendix D** for Section 106 Report and Attachments).

Based on the Section 106 cultural resources assessment and coordination conducted, no adverse effects to historic resources are anticipated from the implementation of the Project. The State Historic Preservation Officer (SHPO) concurred with the No Adverse Effect finding on May 15, 2023 (see Appendix D, Attachment E).

The Project would have No Adverse Effect on all 10 of the NRHP- listed/recommended eligible resources within the APE. Although stations are proposed within the Ridge Historic District, they are within the existing transportation ROW and would not require permanent or temporary easements or ROW acquisition from this historic district. The remaining nine resources are outside the construction footprint. Additionally, the Project would have no adverse indirect effects to any of the NRHP-listed/eligible resources within the APE. The Project would not alter the architectural significance of the individually listed historic buildings or the historic district, nor would it restrict access to these resources. The audible and visual changes resulting from the Project would not substantially interfere with the use of these historic resources; therefore, they would maintain their significance and continue to portray the characteristics that rendered them eligible for the NRHP. The Project would not substantially impair or diminish the aesthetic features or attributes of these resources.

Each of the NRHP-listed or -recommended eligible resources were reviewed to determine whether further Section 4(f) evaluation would be required. Because there would be no adverse effects and no proposed easements or ROW are required from these historic resources, they are not further evaluated for Section 4(f) use. In addition, since the threshold for an “adverse effect” under Section 106 is lower than that of a “constructive use” as defined under Section 4(f), there is no need to evaluate these resources for a constructive use under Section 4(f). The Project would not result in a Section 4(f) use of these historic resources.

13.2 Section 6(f) Properties - Land & Water Conservation Fund Sites

The U.S. Land and Water Conservation Fund Act of 1965 established the Land and Water Conservation Fund (LWCF), which was created to preserve, develop, and assure accessibility to outdoor recreation resources. Section 6(f) of this Act prohibits conversion of lands purchased with LWCF monies to a non-recreation use.

No permanent or temporary easements will be acquired from recreational properties; therefore, the Project will have no impacts to Section 6(f) properties.

14. 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 corridor. Wetland data was obtained from the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (see **Appendix F**).²⁸ The NWI data is general and is intended to give the user desktop 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 F**).²⁹ Pace also reviewed the Illinois Ecological Compliance Assessment Tool (EcoCAT) to identify resources mapped by Illinois Department of Natural Resources (see **Appendix F**).³⁰

The nearest freshwater emergent wetland is located within approximately 550 feet of Project construction, the nearest freshwater pond is located within approximately 850

²⁸ U.S. Fish and Wildlife Service National Wetlands Inventory. Accessed 8/25/22. <https://www.fws.gov/wetlands/data/Mapper.html>

²⁹ U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey. Accessed 8/25/22. <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.

³⁰ Illinois Department of Natural Resources EcoCAT. Accessed 8/25/22. <http://dnr.illinois.gov/EcoPublic/>.

feet of Project construction, and the Project Corridor crosses three riverine; however, no Project construction is proposed within approximately 400 feet of a riverine. The Project corridor is in an urbanized area, the construction would be primarily within existing ROW, which is where construction will take place. 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, a 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.

15. 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 corridor were identified using the Federal Emergency Management Agency Flood Insurance Rate Maps (FIRM) 17031C0607J, 17031C0606J, 17031C0608J, 17031C0604J (August 19, 2008) (see **Appendix G**). FIRM areas 17031C0630J and 17031C0635J, between 52nd Avenue and I-94, are available for review and analysis in FEMA's National Flood Hazard Layer (NFHL) Viewer; however, they were unavailable for print. Therefore, these FIRM areas could not be printed and included in the Appendix. No flood zones were identified in the unavailable-for-print FIRM areas of the NFHL Viewer. Portions of the Project would cross the following flood zones:

- Zone AE is defined as areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies. Base Flood Elevations (BFEs) or flood depths are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.
- Zone X (unshaded): Area of minimal flood hazard. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.
- Zone X (shaded): Area of 0.2-percent-annual-chance flood; areas of 1-percent-flood with average depths of less than 1 foot or with drainage areas less than 1-square-mile, and areas protected by levees from 1-percent-annual-chance-flood.
 - Special Flood Hazard Area (SFHAs): SFHA areas are those that are subject to flooding by the 1-percent-annual-chance flood. The Project borders a SFHA that is overlaid on top of a shaded Zone X area where the Project alignment is immediately south of 103rd Street along Roberts Road.

The Project would cross the following regulatory floodway:

- Lucas Ditch Cut-Off Tributary, Zone AE, 103rd Street and Michael Dr, and 107th Street and Avon Ct, Palos Hills, IL. A "Regulatory Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

No construction activities would occur in Zone A, Zone AH, Zone AO, Zone AR, Zone A99, Zone V, or Zone VE; however, construction is proposed to occur in Zone X (shaded and unshaded) areas and Zone AE. Most Project elements, including stations, would be constructed within the existing ROW. However, through overlaying the proposed design plan footprints with Zones X and AE, the Project team anticipates construction would

increase the amount of impermeable area in these zones by a total of 6,939 square feet. The total increase (approximately 0.16 acre) would not have a significant impact on the floodplain. Construction would be minimal and would not affect base flood elevations or surface contours.

The Illinois Department of Natural Resources (IDNR) Office of Water Resources (OWR) responded to an early coordination letter and identified five locations in the Project corridor where OWR may have jurisdiction over anticipated Project construction activities. On December 14, 2022, Pace met with the OWR. At the meeting, Pace and OWR reviewed the five locations where construction activities are proposed and their proximity to watercourses regulated by OWR. During the meeting, and as part of coordination after the meeting, IDNR confirmed that the Project's proposed construction activities will not require an OWR permit. Prior to construction, Pace will verify that construction activities associated with the final design do not require an OWR permit.

The Metropolitan Water Reclamation District of Greater Chicago (MWRD) responded to an early coordination letter and identified one location within the Project corridor where MWRD may have jurisdiction over anticipated Project construction activities. On January 11, 2023, Pace met with the MWRD. At the meeting, Pace and MWRD reviewed the proposed location where the 76th Avenue station near the Bridgeview Courthouse is proposed and its proximity to nearby floodplains and floodways. During the meeting, MWRD confirmed that the proposed station location, which is outside of the 100-year floodplain as well as the 100-year floodway, will not require an MWRD permit. Prior to construction, Pace will verify that construction activities associated with the final design for this station location do not require a MWRD permit.

16. 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 National Wetland Inventory map to determine whether any perennial or intermittent streams occur in the Project corridor. The Project corridor does not cross any designated waterway.

Groundwater is not a drinking water source in this area and there are no sole source aquifers within the Project corridor. The closest sole source aquifer is the Mahomet Aquifer south of the Project in Illinois as shown in **Appendix G**.

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 corridor is already heavily urbanized.

17. 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 U.S. Fish and Wildlife Service (USFWS) to determine a project's likelihood of jeopardizing a threatened or endangered species is done so under Section 7 of the Act. Pace reviewed the USFWS endangered species list and the IDNR Ecological Compliance Assessment Tool (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-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, and registered Land and Water reserves near the Project location.^{31 32}

According to the USFWS, there are eleven federally listed endangered, threatened, or candidate species that potentially occur in Cook County: Eastern massasauga (*Sistrurus catenatus*), Eastern prairie fringed orchid (*Platanthera leucophaea*), Hine's emerald dragonfly (*Somatochlora hineana*), Leafy prairie-clover (*Dalea foliosa*), Mead's milkweed (*Asclepias meadii*), Monarch butterfly (*Danaus plexippus*) Northern Long-Eared Bat (*Myotis septentrionalis*), Piping plover (*Charadrius melodus*), Red knot (*Calidris canutus rufa*), Rusty patched bumble bee (*Bombus affinis*), and Snuffbox mussel (*Epioblasma triquetra*).

EcoCAT identified 12 protected resources that may be in the vicinity of the Project corridor: Chicago Ridge Prairie Illinois Natural Areas Inventory (INAI) Site, Cranberry Slough INAI Site, McMahan Woods And Fen INAI Site, Palos Fen INAI Site, Chicago Ridge Prairie Nature Preserve, Cranberry Slough Nature Preserve, McMahan Woods And Fen Nature Preserve, Palos Fen Nature Preserve, Hine's Emerald Dragonfly (*Somatochlora hineana*), Kirtland's Snake (*Clonophis kirtlandi*), Northern Long-Eared Myotis (*Myotis septentrionalis*), and Queen-Of-The-Prairie (*Filipendula rubra*).

³¹ USFWS Federally Endangered, Threatened, and Candidate Species. Accessed 8/25/22 <https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=17031>

³² Illinois Department of Natural Resources EcoCAT. Accessed 8/25/22. <http://dnr.illinois.gov/EcoPublic/>

Available records cannot confirm definitively if any protected resources are within or adjacent to the Project corridor. Field observations of station locations did not indicate that any protected resources were observed at or anticipated to occur at station locations because critical habitat required for protected species, including spring fed wetlands, wet meadows, marshes, inland marshes, and lakes, were not observed within the footprint of proposed station sites. If these species were to occur in the Project corridor, they would most likely appear within the unmaintained areas of the Chicago Ridge Prairie, Cranberry Slough, McMahan Woods, and Palos Fen Nature Preserve. 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. During the construction phase, no construction work is proposed to occur in areas where critical habitat required for protected species would be anticipated to occur, including spring fed wetlands, wet meadows, marshes, inland marshes, or lakes. Therefore, no mitigation is proposed for ecologically sensitive areas and endangered species during the Project's construction phase.

18. Impacts on Safety & Security

No impacts on safety or security are anticipated to result from the Project. The Project has the potential to enhance the safety and security of the Project corridor for all roadway users and pedestrians. The Project would include pedestrian improvements around stations, including restriped crosswalks and enhanced accessibility through sidewalks and curb ramps. The proposed operations of the single queue jump lane at Western Avenue and 95th Street would include installation of bus-only signal equipment, and associated signal phase timing changes would be implemented. These changes would be coordinated with the pedestrian signal to ensure pedestrian signals do not interfere with right-turning traffic also using the queue jump lane. Pedestrians would continue to have the required minimum crossing time or greater protected by pedestrian crossing signal phases. All of the signal operations proposed are to maintain safety for pedestrians, motorists, and other users of the roadway.

The addition of new, large stations and increased bus service frequency could contribute to a safer environment by providing greater visibility for transit users and more people activity on and around the station platforms. Stations will also offer more lighting and sense of place or safety. The increased and more attractive transit service may also result in some shifting of travel mode share from driving to using transit, which would lead to a reduction in crashes and resultant injuries, fatalities, and property damage. Riding transit is generally a safer mode of transportation than driving.

19. Impacts Caused by Construction

Construction activities for the proposed Pulse stations would take place along existing roads or within existing transit facilities. Construction activities include construction of shelters and other passenger amenities such as ADA curb ramps, crosswalks, sidewalks, signage, trash receptacles, and lighting. Construction is anticipated to last approximately 18 months, including a pause on work during the typical winter shutdown for construction in the Chicago region. Typical construction phasing includes an intersection-by-intersection approach from one end of the Project corridor to the other for all flatwork (milling, demolition, concrete pouring, sidewalks, pedestrian refuges, curb extensions and roadway improvements) for both stations and the queue jump improvement at Western Avenue and 95th Street. Once flatwork is complete, station components are added including the shelters, benches, cabinets, pylons, and electrical hookups. Station areas are discreet construction sites and therefore multiple sites can be in progress at the same time. The construction timeline was estimated based on two previously constructed Pulse Lines.

An exception to this approach includes opportunities to complete work as part of other agencies' construction projects to bring cost savings and efficiencies to both Pace and other agencies and to avoid removal of or damage to recently updated infrastructure. In coordination with CDOT, a concrete bus pad will be installed at the westbound Wood station as part of a CDOT streetscaping program that will resurface this area of the Project corridor by the end of 2024, in advance of the construction schedule for Pulse 95th Street Line. This strategy ensures Pace's improvements are implemented before the CDOT construction moratorium would go into effect in that part of the Project corridor.

Pace will continue to coordinate with CDOT to determine if a grade separation will be installed on 95th Street near the proposed Eggleston station, which would necessitate a redesign of the Pulse station and will alter the timeline of Pulse construction at that location.

In addition to stations, the single queue jump at Western Avenue and 95th Street would include one queue jump lane in the eastbound direction.

Construction of the Project elements would primarily be conducted within the roadway and on sidewalks and may involve some temporary lane or street closures for brief periods during construction. Traffic delays are likely to occur during construction but would be temporary in nature. Peak travel hours would also be considered to minimize delays wherever possible. 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. The Major Taylor Trail will remain accessible throughout construction. Pace, along with the contractor, will be responsible for coordinating detours and maintenance of traffic activities with CTA, the Chicago Department of Transportation, the Chicago Office of Emergency Management and Communications, municipalities within the Project corridor, and IDOT.

The contractor will be responsible for routinely inspecting the maintenance of traffic and detour signage during construction. There will be no anticipated laydown impacts outside the temporary easement areas shown in **Section 9**. The construction staging will include staging one intersection at a time as work progresses from one end of the Project corridor to the other. Traffic will need to be redirected to the inside lanes during station construction including the area containing the intersection and up to approximately a half block on either side of the intersection. The redirected traffic would cut off parking, where present, upstream and downstream of construction due to lane tapers. Appropriate signage would be provided to maintain safe pedestrian circulation when sidewalks are being affected by construction and one side of sidewalk shall be maintained at all times during construction.

Each intersection area would take approximately one month to finish; however, additional time may be necessary for any unforeseen utility or other conflicts. Impacts could include increased congestion for through traffic at intersections where work is underway, but would be mitigated through limiting work to one or a few intersection locations at a time and for a period of a month for each. No temporary impacts or access to various community facilities or businesses would occur. This includes no restrictions on access to the Major Taylor Trail, identified for Section 4(f) analysis, which is located close to the westbound Pulse 95th Street Line station at 95th Street and Ashland Avenue. Temporary construction and permanent easements will not be required from this property, and construction activity and maintenance of traffic will be limited to the existing transportation ROW.

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. Additionally, the contractor will be generally required to follow the City of Chicago's ordinances, which limit construction activities by time of day and day of the week; and similar conditions enforced by IDOT through its permitting process. When there are specific work activities that could create safety concerns, nighttime work may be required, where permitted by municipal ordinance and IDOT oversight, which would impact nearby residences with noise during normal sleeping hours. If construction activities are necessary outside of standard

operating hours, the contractor will be required to seek out appropriate permission, or any special permits required by the municipality or IDOT. The contractor will also be required to develop a dust control plan and minimize dust during construction.

No significant impacts to water resources are anticipated during construction. A Stormwater Pollution Prevention Plan would be prepared and implemented before initiation of construction activities. Best management practices and the appropriate erosion and sediment control measures, such as perimeter erosion barrier or silt fence, inlet protection or infiltration basins, and stabilized flow lines during storm sewer construction would be employed during construction to offset any potential surface run-off or soil erosion. The contractor will be responsible for inspecting the erosion and sediment control measures weekly and after each rainfall of 0.5 inches or greater in a 24-hour period or equivalent snowfall. The contractor will also be required to comply with all federal, state, and local permits (NPDES, Section 404, Section 401, IDNR, etc.) as applicable.

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 corridor, as it is assumed that all material has at least some level of contamination associated with it. The Hazardous Materials Technical Memorandum (**Appendix H**) will be made available to the contractor to identify environmental conditions around the areas of construction.

Several utilities exist within the Project corridor, which the contractor will be responsible for verifying locations in the field prior to construction. Most utilities are underground, including water, sewer, various fiber optics, and electric, and will be avoided to the extent practicable. At selected station locations, utility relocation may be required in constructing stations and maintaining utility access. Utility relocation may consist of valves, fire hydrants, water main, and stormwater utilities, electric and light poles, signal and electrical control boxes, and vaults. Stations will require connecting to an existing electrical source for lighting, snow melting and electronic signing and modifications to traffic signals and controls for accommodating the queue jump lane. The utility work would be short in duration and would be coordinated to minimize traffic impacts. Coordination with the utility companies and public utility agencies would be undertaken to determine and minimize potential disruptions in service prior to construction. If disruptions in service would occur, these would be temporary, and services would be restored to preconstruction levels. The contractor shall follow IDOT standards for disposing debris and spoil and will be disposed of in a licensed landfill, recycled, reused, or otherwise disposed of as allowed by State of Illinois or federal laws and regulations.

Impacts to air quality during construction would include any fuel expended by the vehicles and construction equipment for flatwork and installing the station shelter and electrical hookups. There is no planned mitigation for air quality with the exception of the dust control plan mentioned above to minimize dust during construction.

Impacts associated with safety and security include risk of pedestrians coming in contact with station sites as they are under construction or with traffic as they navigate any lane closures due to construction. The contractor is required to manage traffic control at the work sites to prevent any passersby from injury while a station is under construction. A clear path for pedestrians and alternative routing around the station will be signed. The contractor is required to follow all IDOT standards regarding protocols for traffic lane closures including lane tapering and signage to keep motorists safe while detours are in effect. A construction manager will make regular field visits to make sure that construction sites are following proper safety practices while workers are on site and off site. The construction manager will also verify maintenance of traffic is in compliance with IDOT standards. In addition, the construction will take place within the public roadway ROW, where it will be well-lit by existing street lighting.