

NEPA Documented Categorical Exclusion

TECHNICAL MEMORANDUM

South Halsted Bus Corridor
Enhancement Project

December 5, 2022



HNTB

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1 Detailed Project Description

1.1 Project Identification

1.1.1 Overview

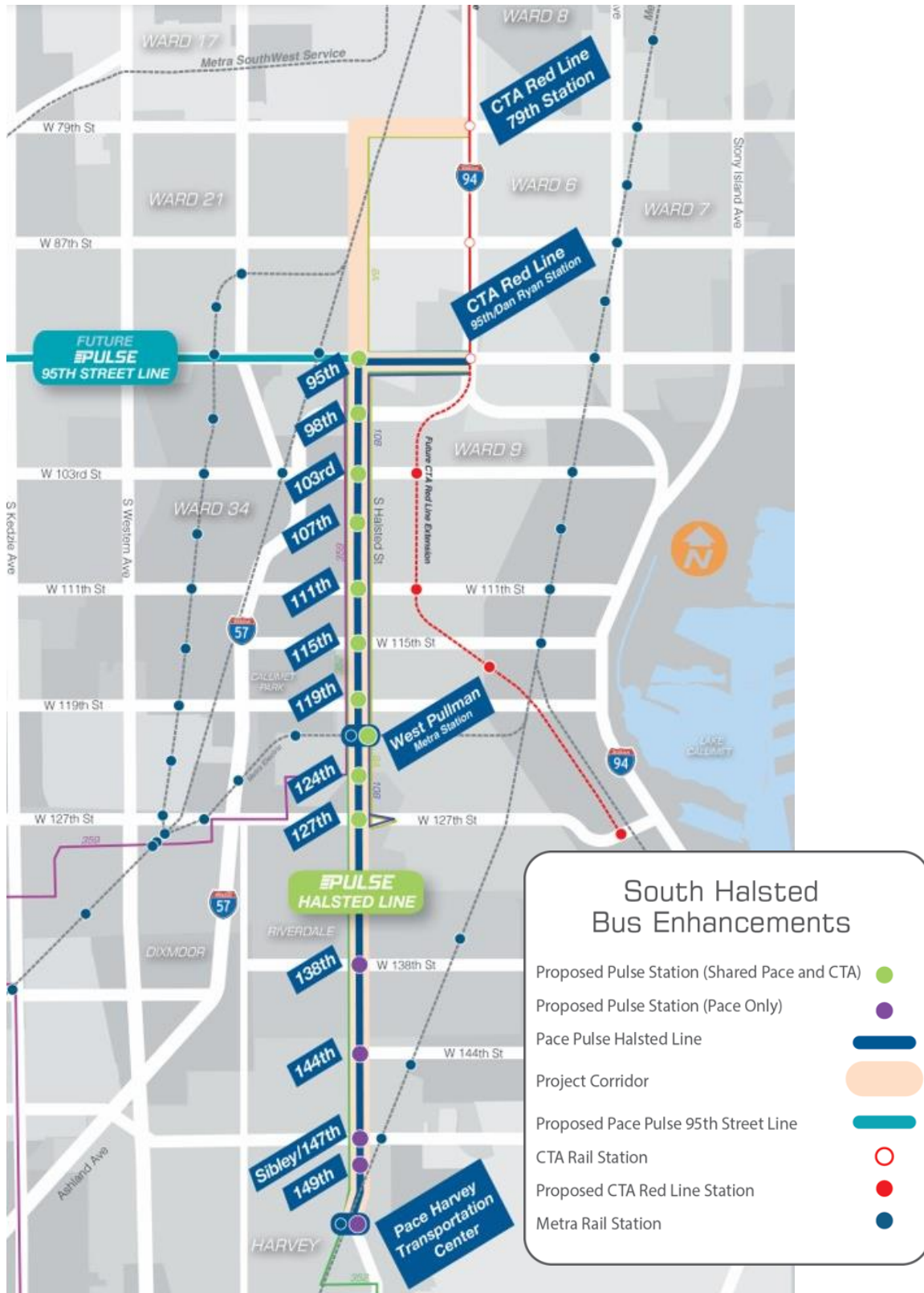
Pace Suburban Bus (Pace) and the Chicago Transit Authority (CTA) are jointly pursuing the South Halsted Bus Corridor Enhancement Project (also referred to as “the Project”) to provide faster and higher-quality transit service to this high ridership transit corridor. The Federal Transit Administration (FTA) and Pace have prepared this Documented Categorical Exclusion (DCE) to meet the requirements of the National Environmental Policy Act (NEPA) of 1969 (42 USC § 4321) and other applicable regulations.

The Project corridor spans Halsted Street from 79th Street in the City of Chicago to a southern terminus at the Pace Harvey Transportation Center near 154th Street in the City of Harvey. The Project corridor also includes east-west segments on 79th and 95th Streets that connect Halsted Street with the existing CTA Red Line 79th and 95th/Dan Ryan rail stations, respectively. The corridor serves the communities of Harvey, Riverdale, Calumet Park, and the City of Chicago neighborhoods of West Pullman, Morgan Park, Roseland, Washington Heights, Auburn Gresham, Chatham and Greater Grand Crossing. The Villages of Dixmoor and Phoenix are also within one mile of the corridor.

As shown in the Project location map in **Figure 1-1**, the corridor is served by existing fixed-route bus services including Pace routes 352 and 359 and CTA routes 108 and 8A. Several additional Pace and CTA bus routes serve smaller portions of or intersect the corridor. Pace’s bus rapid transit (BRT) program, branded “Pulse”, will be introduced between the Pace Harvey Transportation Center and the CTA Red Line 95th/Dan Ryan rail station, including new transit service, branded vehicles, and new stations. This new service will be known as the Pulse Halsted Line. Additional improvements to local bus stops along Halsted Street north of 95th Street and along 79th Street are also proposed for existing local bus service. Improvements to the roadway, including pedestrian curb extensions, queue jump lanes, and short bus-only lane segments will be constructed at select locations to support and enhance both the new Pulse service and the existing transit service in the corridor.

With the introduction of the Pulse Halsted Line service and station and roadway improvements, the South Halsted Bus Corridor Enhancement Project will improve connectivity and increase transit service levels through higher frequencies, travel time and reliability improvements, and station and rider amenities. The investment in this corridor would additionally be leveraged by a connection to the planned Pulse 95th Street Line, which is currently in the NEPA phase.

FIGURE 1-1: PROJECT CORRIDOR, PULSE HALSTED LINE ROUTING AND STATION LOCATIONS



1.1.2 Proposed Improvements

All proposed roadway, station, and pedestrian improvements are shown in **Appendix A**. The Project design includes dedicated bus-only lane segments in two locations along the corridor: on Halsted Street between 87th Street and Vincennes Avenue, and on Halsted Street where it passes over Interstate 57 (between 98th Place and 100th Street). The Project also proposes constructing queue jump lanes at seven intersections: 79th/Vincennes, 95th/Halsted, 103rd/Halsted, 111th/Halsted, 114th/Halsted (southbound only), 115th/Halsted, and 119th/Halsted. These improvements and their locations are shown in **Figure 1-2**.

In addition to these roadway improvements, the Pulse Halsted Line will serve enhanced station facilities featuring heated shelters, raised boarding platforms, real-time arrival information, pavement snowmelt systems, and opportunities for community expression. Sixteen Pulse station locations, at approximately ½-mile spacing, have been identified and are shown in

Table 1-1.

The two terminal station locations at the Pace Harvey Transportation Center and the CTA Red Line 95th/Dan Ryan rail station are existing facilities and no improvements are proposed as part of this project. Pace will construct 14 intermediate station pairs between the CTA Red Line 95th/Dan Ryan rail station and the Pace Harvey Transportation Center that will be branded as Pulse stations. Ten of the 14 intermediate stations, between 95th and 127th Streets, will be served by both Pace and CTA. The remaining four intermediate stations south of 127th Street will be served exclusively by Pace.

Nine Pulse station locations will feature curb extensions on one or more corners of the intersection, which provide greater visibility, safety and comfort for riders waiting to board. This type of improvement is also referred to as a “bus bulb” when the bus station is integrated into the curb extension. Additional curb extensions without station platforms are sometimes also proposed next to or across the street from proposed bus bulbs for continuity of the curb line and to add sidewalk space and shorten crossing distances. The curb extensions will benefit both transit riders and the community at large along the corridor as the curb extensions will provide increased sidewalk space and shortened pedestrian crossing distances across Halsted.

Existing local bus stops north of 95th Street, which are served exclusively by CTA, will be targeted for improvements along Halsted Street and 79th Street between the Halsted/95th intersection and the 79th/Perry intersection (near the CTA 79th Red Line station) as part of this project. These improvements will include accessibility improvements, and may include installation of shelters where they do not already exist, installation of real-time bus arrival information signs, and relocation of near-side bus stops to far-side or stop removal. As part of this Project, CTA also proposes rehabilitation of its bus turnaround facility near 79th Street and Halsted Street with a new ADA lift deployment zone, furnishings, crosswalk, and other safety improvements.

FIGURE 1-2: SOUTH HALSTED BUS CORRIDOR QUEUE JUMP AND BUS LANE LOCATIONS

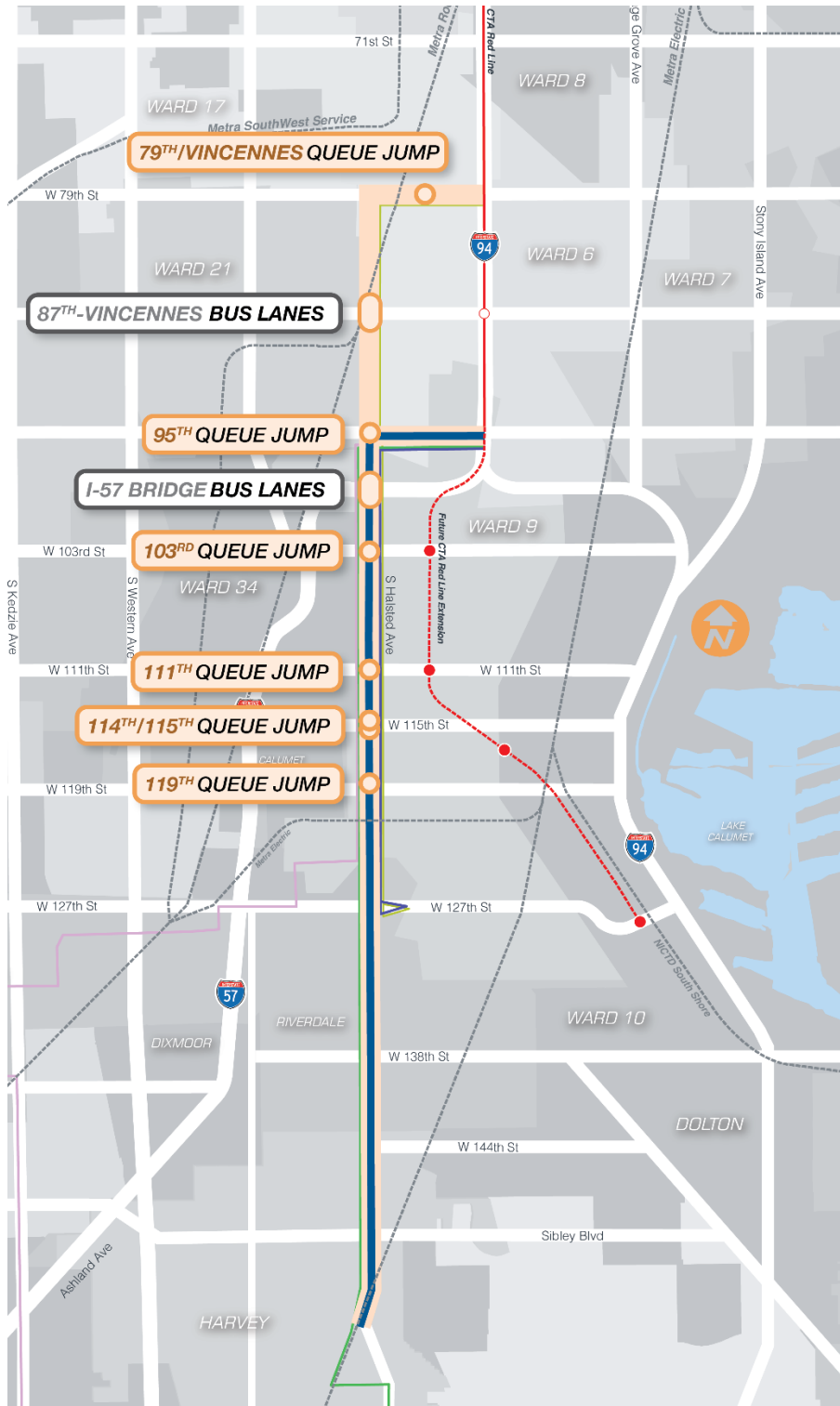


TABLE 1-1: PULSE STATION LOCATIONS AND CHARACTERISTICS

STATION NUMBER (NORTH TO SOUTH)	STREET SEGMENT	STATION LOCATION	STATION CONFIGURATION
1	95 th Street	CTA Red Line 95 th /Dan Ryan Station	Existing terminal station
2	95 th Street/S Halsted Street	95 th Street/S Halsted Street	One SB, One EB
3	S Halsted Street	98 th /S Halsted Street (NB) and 99 th /S Halsted Street (SB)	One SB, One NB
4	S Halsted Street	103 rd Street/S Halsted Street	One SB, One NB
5	S Halsted Street	107 th Street/ S Halsted Street	One SB, One NB
6	S Halsted Street	111 th Street/S Halsted Street	One SB, One NB
7	S Halsted Street	115 th Street/S Halsted Street	One SB, One NB
8	S Halsted Street	119 th Street/S Halsted Street	One SB, One NB
9	S Halsted Street	West Pullman Metra Station/S Halsted Street	One SB, One NB
10	S Halsted Street	124 th Street/S Halsted Street	One SB, One NB
11	S Halsted Street	127 th Street/S Halsted Street	One SB, One NB
12	S Halsted Street	138 th Street/S Halsted Street	One SB, One NB
13	S Halsted Street	144 th Street/S Halsted Street	One SB, One NB
14	S Halsted Street	Sibley/147 th Street/S. Halsted Street	One SB, One NB
15	S Halsted Street/ Morgan Street	149 th Street/S Halsted Street/Morgan Street	One SB, One NB
16	Park Avenue	Pace Harvey Transportation Center	Existing terminal station

EB = eastbound; SB = southbound; NB = northbound

Throughout the corridor, signal optimization and transit signal priority (TSP) are also proposed. Signal optimization improves travel times for all traffic along the corridor. 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 Halsted Line service.

The Project improvements will be constructed primarily in existing right-of-way (ROW), with service operating in mixed traffic, queue jump lanes and bus-only lane segments. Some easements and/or private land acquisition may be needed to accommodate stations, utilities, or construction activities (see **Section 9**). The proposed bus-only lane segments would be achieved by repurposing a general-purpose lane or by introducing a new lane within the existing ROW by modifying median widths. The proposed queue jump lanes would be achieved by shifting and resizing existing medians and reconfiguring lane widths and offsets at intersections. Storage capacity for left turns will be maintained. Curb extensions will be installed on the far sides of five intersection locations with queue jump lanes, to facilitate shorter crossing distances for pedestrians. For some queue jump lane locations, there will also be mid-block impacts including removal of some on-street parking and narrowing of medians which may include modifications to landscaping and trees.

1.1.3 Operating Plan

The preliminary operating plan, based on running time and ridership analysis, includes introduction of the new Pulse Halsted Line and corresponding changes to local Pace Route 352 service only. Reducing the number of intermediate stops along the Project corridor would provide time savings compared to the existing Pace Route 352 service while providing improved service to nearly all existing riders. Pace Route 352 would continue to provide service to all stops currently served to provide continuity of service; however, it is proposed that frequencies be reduced between Pace Harvey Transportation Center and the CTA Red Line 95th/Dan Ryan station. The Pulse Halsted Line would use a fleet of 11 branded vehicles including spares. The operating plan consists of the following service characteristics:

- Service span of 20 hours per day (4:00 am to 12:00 am) on weekdays;
- 10-minute peak headways on weekdays (6:00 am to 9:00 am and 3:00 pm to 6:00 pm); and
- 15-minute off-peak headways most of the day on weekdays and 15-30 minute headways during service hours on weekends.

Upon the commencement of the Pulse Halsted Line service, the following Pace Route 352 weekday service characteristics are proposed:

- Service span of 24 hours per day between CTA Red Line 95th/Dan Ryan station and Pace Harvey Transportation Center (no change);

- 30-minute all-day service frequency between CTA Red Line 95th/Dan Ryan station and Pace Harvey Transportation Center, a reduction from existing 10 to 15-minute all-day service¹; and
- No change in frequency between Pace Harvey Transportation Center and Chicago Heights (outside of the Project corridor).

No service changes are planned for Pace Route 359 or CTA routes 108 and 8A and they will remain at existing service levels.

1.1.4 Project Background

In 2001 as part of Pace's long-range transit plan, called *Vision 2020*, Pace identified South Halsted Street as one of 24 corridors that would provide a regional network of premium transit services across Pace's six-county service area.² Over the next several years, Pace completed additional planning studies³ to develop a specific action plan for implementation of the following 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 and opening in early 2023);
- Halsted Street - CTA Red Line 95th Street / Dan Ryan rail station to Pace Harvey Transportation Center (in development);
- 95th Street – CTA Red Line 95th Street / Dan Ryan rail station to Moraine Valley Community College (in development);
- Cermak Road – 54th/Cermak CTA to Yorktown Center;
- Harlem Avenue – North Avenue to 95th Street; and
- Roosevelt Road – Forest Park CTA to Oakbrook Center.

In 2018, Pace identified the corridor along South Halsted Street as a priority for implementation because of the corridor's high ridership on four Pace and CTA local routes (Pace Routes 352 and 359 and CTA Routes 108 and 8A), transit connections, congestion, space in the right-of-way, and connections from job-deficit areas to job-surplus areas. The *South Halsted Bus Corridor Enhancement Project: Corridor Evaluation*,

¹ Route 352 Schedule. Pace. https://www.pacebus.com/sites/default/files/2022-07/PaceRt352_20220807.pdf. Accessed September 2022.

² *Vision 2020, Blueprint for the Future*. Pace. <https://www.pacebus.com/sites/default/files/2020-04/Vision%202020%20Final%20Report.pdf>. Accessed September 2022.

³ Other studies completed by Pace include Arterial Rapid Transit Study (May 2009) and Arterial Rapid Transit Implementation Plan (December 2009).

Recommendations, and Project Strategy Report was completed to propose improvements to overall service along the corridor and begin planning for implementation of the Pulse Halsted Line.

Based on ridership and operational data, the limits of the Pulse Halsted Line were defined to be the Pace Harvey Transportation Center on the south end and the CTA Red Line 95th/Dan Ryan rail station on the north end. The Pace Harvey Transportation Center serves as an existing transit hub with connections to numerous Pace bus routes and a Metra commuter rail line. On the north end of the corridor, a recently reconstructed 95th/Dan Ryan transportation hub provides connections to the CTA Red Line, CTA bus routes, and Pace bus routes. The 95th/Dan Ryan station is the current southern terminal station of the CTA Red Line and an important connection for rapid transit to downtown Chicago.

1.2 Purpose & Need

The purpose of the South Halsted Bus Corridor Enhancement Project is to improve access to jobs, education, shopping, recreation and other destinations through improved connectivity to existing transit service at the Pace Harvey Transportation Center, the CTA 'L' system, and locations where CTA, Pace, and Metra routes intersect and overlap the corridor. About half of the existing transit trips made in the corridor involve commuting to or from work. Popular destinations for transit users in the corridor using existing services include Chicago's Far Southwest Side, Bronzeville, and the Central Loop. Connectivity will be bolstered within and between communities by⁴:

- Decreasing travel time for transit riders through the Project corridor;
- Enhancing transit service coordination between CTA and Pace;
- Increasing the reliability of transit service;
- Improving bus infrastructure and amenities, bus stop accessibility, and safety in the corridor; and
- Improving community connectivity, equity, and economic development through improved job access, inclusive growth and increased resilience.

All improvements will be implemented in a cost-effective manner with design elements that improve and enhance safety.

The need for the South Halsted Bus Corridor Enhancement Project is demonstrated by the following existing conditions⁵:

⁴ Purpose Statement. *Purpose and Need Statement for South Halsted Bus Corridor Enhancement Project*. November 2018.

⁵ Need Elements. *Purpose and Need Statement for South Halsted Bus Corridor Enhancement Project*. November 2018.

- Despite the corridor's high ridership and a high percentage of residents that are transit-dependent (13 percent) and/or commute via transit (23 percent) as compared to the rest of Cook County (10 and 18 percent, respectively), the project area has limited rapid transit options.
- On average, commute times in the South Halsted Corridor are 7 minutes (20 percent) longer for project area residents than for other commuters in Cook County as employment opportunities in the area are lower than other areas of Cook County. Therefore, residents may commute outside of the local area to access employment;
- Average travel times for buses in the corridor are up to 17 minutes (43 percent) longer during peak periods than other times of the day;
- Transit service is not provided on Halsted Street between 79th and 95th Streets between approximately 8:30pm and 5:30am⁶;
- In some areas, pedestrian connections to transit are missing and some existing transit stops are not fully accessible, making it difficult for customers to safely access these services, especially those with limited mobility;
- Most of the corridor's Census tracts are identified as a Disinvested Area, an Economically Disconnected Area (EDA), or both in the Chicago Metropolitan Agency for Planning's (CMAP) ON TO 2050 Long Range Plan. These census tract designations were determined by CMAP based on the loss of economic activity for the area, higher levels of poverty, lower median income, and increased distances from employment centers for residents⁷.

1.3 Interagency Coordination

Pace is partnering with CTA to plan and coordinate improvements along this corridor. The agencies both offer service within the limits of the Project corridor, and their coordinated effort offers an increased likelihood to meet the needs of transit riders through consideration of both agencies' service changes and investments in improvements. The two agencies both serve 11 of the 16 stations along the Project corridor, including the northern terminus at the CTA Red Line 95th Street/Dan Ryan rail station.

1.4 Public Involvement

Pace has worked with stakeholders and the public throughout the development and definition of the Project. This has included the formation of a Corridor Advisory Group (CAG), stakeholder meetings, a public open house, a virtual public meeting, and updates to the Project website. The collaborative efforts between Pace and its stakeholders enabled the sharing of plans and visions for the Project and provided

⁶ Beginning in Summer 2021, the service hours for Route #8A were extended to midnight, reducing the gap in service on South Halsted between 79th and 95th Street.

⁷ *Invest in disinvested areas*. CMAP.

<https://www.cmap.illinois.gov/2050/draft/community/disinvested-areas>. Accessed September 2022.

stakeholders the opportunity to express their comments or concerns about Project objectives and preferred station locations.

1.4.1 Corridor Advisory Group

Pace and CTA established the CAG to assist in the development of the South Halsted Bus Corridor Enhancement Project by providing input on various designs, operational elements, and station location options. The CAG consisted of elected officials, municipal staff, transportation organizations, chambers of commerce, and other stakeholder group representatives from the Project corridor. The CAG members were selected to represent the views of the communities and transit users within the Project corridor.

The CAG met three times during the early planning and project definition phase of the South Halsted Bus Corridor Enhancement Project. At the first CAG meeting on June 7, 2018, Pace and CTA presented the Project study area, Project purpose, existing conditions along the study corridor and potential improvements to be studied. Attendees were invited to their role as CAG members to help identify access and mobility issues, provide guidance on solutions and represent their communities and transit users. The second CAG meeting was on October 16, 2018, during which various improvement alternatives for the right of way, stations and bus service were presented and a discussion on the Project's purpose and need was facilitated. Additionally, measures of effectiveness were discussed that should be used going forward to communicate the tradeoffs among Project alternatives. The third CAG meeting occurred on February 14, 2019. This meeting covered a revised purpose and need statement as well as updated measures of effectiveness. The meeting also achieved presentation of a refined set of proposed bus enhancement alternatives and introduced potential station locations for feedback.

Pace convened the CAG for a fourth time on April 6, 2022, during the environmental review phase of the Project. In addition to presentations, other materials that include relevant Project information, such as fact sheets, have been made available at CAG meetings and on the Project webpage.

1.4.2 Outreach Meetings

Small group meetings were conducted with municipalities, agencies, and large institutions to discuss specific topics such as station location details and features. Pace staff and Project team members met with various large stakeholder groups throughout the project development process. Engagement with stakeholders conducted during the environmental review phase is shown in **Appendix B**.

1.4.3 Public Open House and Virtual Meeting

Pace hosted a public open house in January 2020. At this event, members of the public were provided an opportunity to learn about the Project, including the preliminary design of the Project corridor, potential station locations, and service features. Attendees viewed a recorded presentation for an overview of the Project and reviewed exhibit boards offering detailed information. Attendees were able to communicate community concerns, ideas, questions, and other thoughts by submitting comment cards as well as through discussion with Project staff. Comments could be submitted at the meeting, by mailing the form later, or filling out the form on the Project website. Additionally, agency staff were available to answer questions about Pace and CTA's Disadvantage Business Enterprise (DBE) programs and provide information about existing job opportunities at Pace and CTA.

A second public meeting was held virtually in May 2022. Pace and CTA shared revised plan concepts, station locations, initial concept plans for the stations and renderings for queue jump lane locations, bus-only lane segment locations, and one larger-than-standard station location. Additional information, such as the Pace Pulse features and benefits, was also discussed. Pace and CTA Project team staff received questions through a question-and-answer feature enabled in the virtual environment. They also took live questions during the question-and-answer time after the formal presentation. Attendees were provided a link and hotline number to provide comments on the Project as well as a link to the Project website. Similar to the previous open house, Pace and CTA presented information on current job opportunities.

Pace promoted the open house and virtual meeting using a variety of methods including advertisements published in local newspapers; letters to elected officials; email announcements to municipal staff, agencies, elected officials, and other local organizations as well as transit riders subscribed to Pace and CTA updates; website and social media announcements; calls to local community leaders; advertisements on buses serving South Halsted Street; and posters placed at transit stations.

Summaries of public outreach activities conducted during the federal environmental review phase, including advertisements, meeting content and public comments are included in **Appendix B**.

2 Location

The Project is in Cook County in northeast Illinois. As shown in **Figure 1-1**, the Project corridor is approximately 11 miles long, serving two termini at the CTA Red Line 95th/Dan Ryan rail station in the City of Chicago and the Pace Harvey Transportation Center in Harvey, IL. The corridor has 14 intermediate station pairs. The Project connects the communities of Harvey, Riverdale, Calumet Park, and the City of Chicago neighborhoods of West Pullman, Morgan Park, Roseland, Washington Heights, Auburn Gresham, Chatham and Greater Grand Crossing. The Villages of Dixmoor and Phoenix are also within one mile of the corridor.

3 Metropolitan Planning & Air Quality Conformity

3.1 Air Quality Attainment Status

The South Halsted Bus Corridor Enhancement Project is located within the Metropolitan Chicago Interstate Air Quality Control Region (AQCR #67). The Project corridor is currently in attainment of the National Ambient Air Quality Standards (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. The Project corridor abuts, but is not within, the PM₁₀ Lake Calumet maintenance area. Any potential impacts on regional emissions are accounted for in the Chicago Metropolitan Agency for Planning (CMAP) Transportation Improvement Program (TIP).

3.2 Air Quality Discussion

3.2.1 Transportation Conformity

The Project is included in the federal fiscal year 2022-2026 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 consistent with the 2050 long range transportation plan endorsed by CMAP, and Pulse expansion is specifically called out in the 2050 LRTP as Regionally Significant Project (RSP) 102A.⁸ The TIP number for this Project is TIP ID 17-18-0003.⁹

The Project is located within a designated nonattainment or maintenance area, but is a project type which the U.S. Environmental Protection Agency (USEPA) has designated as exempt from regional emissions analyses of transportation plans and TIPs for purposes of determining conformity with the State Implementation Plan (SIP). This designation is based on USEPA's determination that the nature of the Project is such that it would not affect the outcome of a regional emissions analysis.¹⁰

3.2.2 Project-Level Analysis

⁸ CMAP, Regionally Significant Projects, ON TO 2050.

<https://www.cmap.illinois.gov/2050/mobility/regionally-significant-projects/transit#PacePulse>

⁹ CMAP, Approved Transportation Improvement Program (TIP).

[https://etip.cmap.illinois.gov/project_info?project_id=1020580&version=5&view_type=&fromPage=order%5Fby%3D%26order%5Forder%3D%26order%5Fold%5Fby%3D%26search%5Fstr%3D17%2D18%2D0003%26IS%5FFROM%5FFULL%3DTrue%26get%5Ftop%5Frows%3D100%26p%5Ftype%3D%26%5F%3D1641854936278%26end_page=.](https://etip.cmap.illinois.gov/project_info?project_id=1020580&version=5&view_type=&fromPage=order%5Fby%3D%26order%5Forder%3D%26order%5Fold%5Fby%3D%26search%5Fstr%3D17%2D18%2D0003%26IS%5FFROM%5FFULL%3DTrue%26get%5Ftop%5Frows%3D100%26p%5Ftype%3D%26%5F%3D1641854936278%26end_page=)

¹⁰ Projects exempt from regional emissions analyses. Environmental Protection Agency 40 CFR 93.127. <https://www.govinfo.gov/content/pkg/CFR-2021-title40-vol22/pdf/CFR-2021-title40-vol22-sec93-127.pdf>

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.

3.2.3 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. Cook County is currently in attainment for CO.

The Illinois EPA (IEPA) and Illinois Department of Transportation (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 Annual Average Daily Traffic (AADT). While this agreement applies to Federally funded highway projects, it provides applicable guidance for traffic-based CO assessments.

Even though the Project is a Federally funded FTA-sponsored transit project and not a IDOT-sponsored highway project, it should be noted that the projected traffic volumes for the Project are well below the agreed-upon thresholds per the IEPA-IDOT Programmatic Agreement. The highest approach volume along Halsted Street is approximately 1,500 vehicles per hour and maximum AADT is 27,300. In addition to the Project area being in attainment, the Project is not significantly increasing the number of diesel vehicles as the Project proposes to operate new compressed natural gas (CNG) buses. Based on this qualitative analysis, the Project will not cause or contribute to any new violation of the CO NAAQS along the study corridor and a quantitative CO hot-spot analysis is not required per 40 CFR 93.116 and 40 CFR 93.123.

3.2.4 Fine Particulate Matter (PM_{2.5})

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. 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. Based on this final rule, which placed the state in attainment for the PM_{2.5} standard, a transportation conformity project-level qualitative hot-spot analysis for PM_{2.5} is not required. 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 120 non-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 of the PM_{2.5} standard in the study corridor.

3.2.5 Mobile Source Air Toxics (MSATs)

In its *Interim Guidance on Air Toxics in NEPA Documents* (FHWA, October 18, 2016)¹¹, the Federal Highway Administration (FHWA) presented a tiered approach for analyzing MSATs in NEPA documents. Depending on the specific project circumstances, FHWA has 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.

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 study corridor. 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. This Project has been 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.

Moreover, USEPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations

¹¹

https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/2016_msat.pdf

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

A review of regional CMAP land use data was completed to assess the compatibility of the Project with surrounding land use. The latest land use inventory available from CMAP is from 2015.¹² **Figure 4-1** through **Figure 4-6** were made 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 right-of-way from parcel boundaries.

The parcels directly along the Project corridor are primarily commercial use, with mostly single-family and multi-family residential uses on the adjacent blocks. In **Figure 4-1**, between 150th Street and 142nd Street, the land use along the corridor is mostly commercial, vacant, or multi-family residential. Land use near the Pace Harvey Transportation Center station consists of commercial mixed use, commercial, institutional, and transportation/utilities. The Sibley/147th station area consists of mostly commercial and some residential parcels. The Kickapoo Meadows, a Cook County Forest Preserve, is also located on the west side of Halsted, near the 144th station.

Further north, in **Figure 4-2**, between 138th Street and Forestview Avenue, the corridor passes through industrial and transportation/utility land uses before bisecting the Whistler Woods Forest Preserve. Between 127th Street and 124th Street on the west side of Halsted is the Cedar Park Cemetery. Between the West Pullman Metra Station and 115th Street station, there is a concentration of commercial, commercial mixed use, single family, and industrial uses. Further north, in **Figure 4-3** and **Figure 4-4**, between 111th Street and 95th Street, the corridor consists mostly of commercial, commercial mixed use, and some religious uses.

The specific design proposal for the Project includes short, dedicated bus-only lane segments in two locations along the corridor, and the Project also proposes constructing queue jump lanes at seven intersections. In addition to these roadway improvements, 14 stations will be constructed by Pace, carry the Pulse brand, and be served by both Pulse and local CTA and Pace bus services. Two existing station termini will also be served.

Project improvements will be constructed primarily in existing right-of-way. Thirteen permanent easements, totaling 0.07 acres, would need to be obtained at six stations beyond existing right-of-way. In addition to easements, these changes would result in the loss of approximately 324 parking spaces in the Project corridor, a loss of 17 percent

¹² Chicago Metropolitan Agency for Planning. *Land Use Inventory*. Retrieved May 2022. <https://www.cmap.illinois.gov/data/land-use/inventory>

of the on-street parking on the entire Project corridor. However, 99 percent of the 800 corridor-adjacent businesses and parcels have available off-street parking.

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

4.2 Consistency with Regional Planning

CMAP adopted the ON TO 2050 regional transportation plan in October 2018. 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 long-range transportation plan as a regionally significant project (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 four municipalities and seven Chicago neighborhoods. Two additional municipalities are within one mile of the Project corridor. 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 does not currently have a comprehensive land use plan or active community-level land use plans within one mile of the Project corridor. Two City of Chicago initiatives under the current Mayoral Administration that could influence land use in or near Pulse Halsted Line stations include:

- INVEST South/West¹³ is a community development initiative that aims to align public and private investment in communities on the south and west sides of Chicago, including in the Auburn Gresham and Roseland community areas on the Project corridor. Since November 2019, the collaboration between City departments, community organizations, and corporate and philanthropic partners has aligned more than \$1.4 billion in public and private investment for developing affordable housing, supporting small business, improving public space, and restoring historic buildings.
- The Equitable Transit Oriented Development (eTOD) Policy Plan¹⁴, established in 2021, is a partnership between the City of Chicago, the private sector, and community groups which seeks to promote dense, mixed-use development near transit stations in Chicago, prioritizing investments and policies that close the socioeconomic gaps between neighborhoods that are predominately people of color and those that are majority white. Recently the eTOD program announced a call for proposals for developers who are eligible receive technical support and micro-grant funding.
- City of Harvey does not currently have a comprehensive plan, but recently established a tax-increment financing (TIF) district at the Project's southern terminus.
 - In 2021, the City of Harvey established a TIF district for transit-oriented development near the Pace Harvey Transportation Center.¹⁵ The city is also looking to strengthen bicycle and pedestrian connections into its downtown to support access to transit.
- Village of Calumet Park Comprehensive Plan¹⁶
 - The Calumet City Comprehensive Plan, established in 2014, suggests coordination with Pace to encourage new medium and/or high-density residential development near their transit routes and stops. This also includes coordination of land use, human services, urban design, infrastructure, and environmental strategies to support pedestrian-friendly communities that is supported by transit.
- Village of Riverdale Comprehensive Plan¹⁷

¹³ City of Chicago. *INVEST South/West Homepage*. Retrieved May 2022. https://www.chicago.gov/city/en/sites/invest_sw/home.html

¹⁴ City of Chicago. *Equitable Transit-Oriented Development Homepage*. Retrieved May 2022. <https://www.chicago.gov/city/en/sites/equitable-transit-oriented-development/home.html>

¹⁵ City of Harvey. *Economic Development Information*. Retrieved May 2022. <https://www.cityofharveyil.gov/economic-development-information/>

¹⁶ City of Calumet. *Comprehensive Plan*. Retrieved May 2022. <https://calumetcity.org/wp-content/uploads/2015/02/FINAL-Calumet-City-Comprehensive-Plan.pdf>

¹⁷ Village of Riverdale. *Comprehensive Plan*. Retrieved May 2022. [Riverdale Comprehensive Plan by RATIO Community Collaborate - Issuu](#)

- One of the goals in the Riverdale Comprehensive Plan, established in 2014, is to foster and facilitate TOD. Recommendations encourage new mixed-used development within a ½ mile of a station, the use of TOD design and development such as landscaping to attract new residents, and creating strong safe and comfortable transit connections between neighboring communities.
- Village of Phoenix (within 1 mile of Project corridor) does not currently have a comprehensive plan.
- Village of Dixmoor (within 1 mile of Project corridor) does not currently have a comprehensive plan.

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 four municipalities directly served by the Project and the two municipalities within one mile of the corridor all updated their zoning codes and/or maps between 2008 and 2021. Zoning designations are consistent with existing land uses. Commercial, dense residential, and institutional zones dominate station areas, and less dense residential and public zones are more common between station areas. **Appendix C** provides local zoning maps of Chicago, Harvey, Riverdale, Calumet Park, and the nearby municipality of Dixmoor. The Chicago zoning map shows the West Pullman, Morgan Park, Roseland, Washington Heights, Auburn Gresham, Chatham, and Greater Grand Crossing neighborhoods. A zoning map for the Village of Phoenix could not be found and is not included in this report. The Project is consistent with existing and planned zoning and land use.

FIGURE 4-1: LAND USE BETWEEN PACE HARVEY TRANSPORTATION CENTER AND 144TH STREET

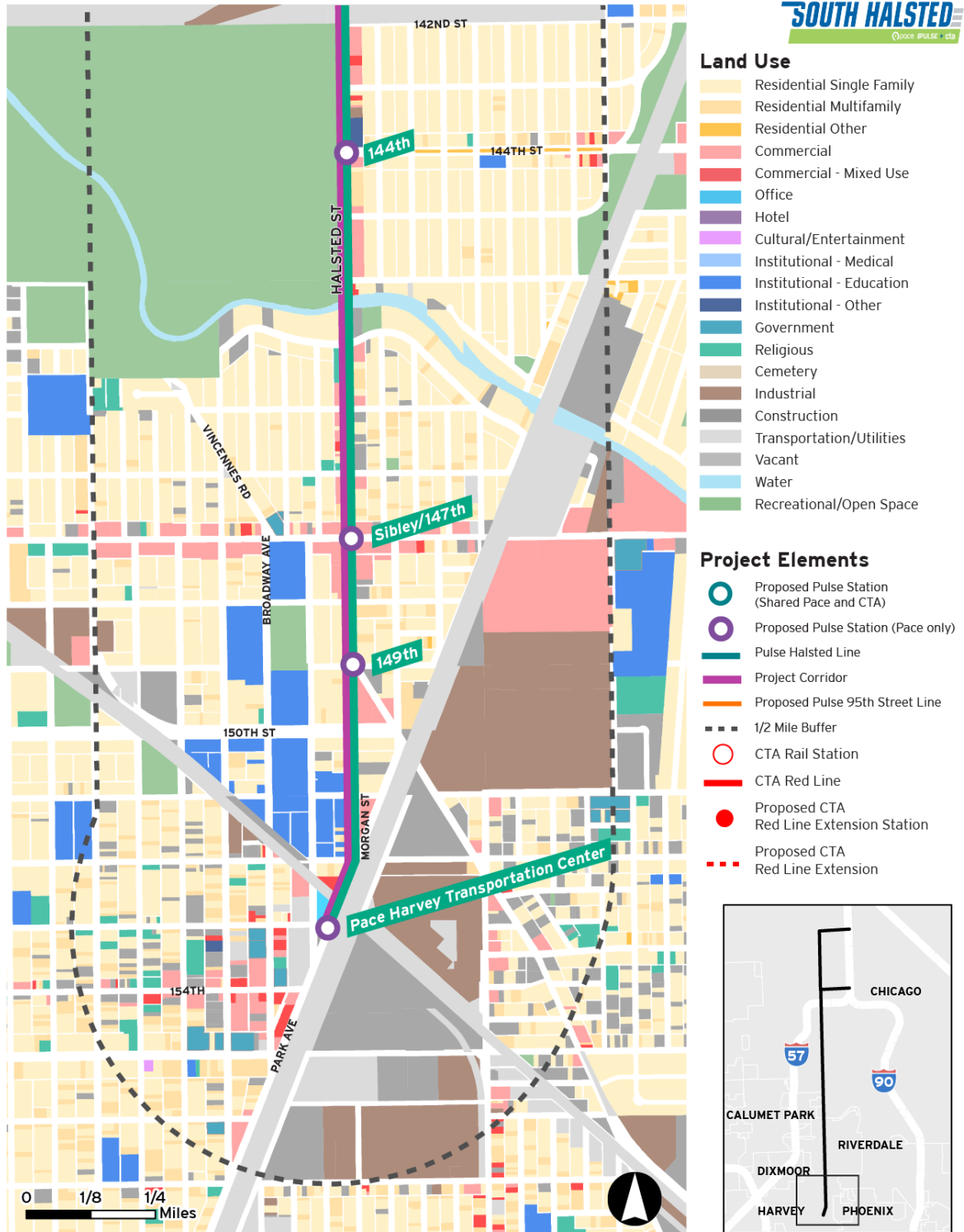


FIGURE 4-2: LAND USE BETWEEN 138TH STREET AND 124TH STREET

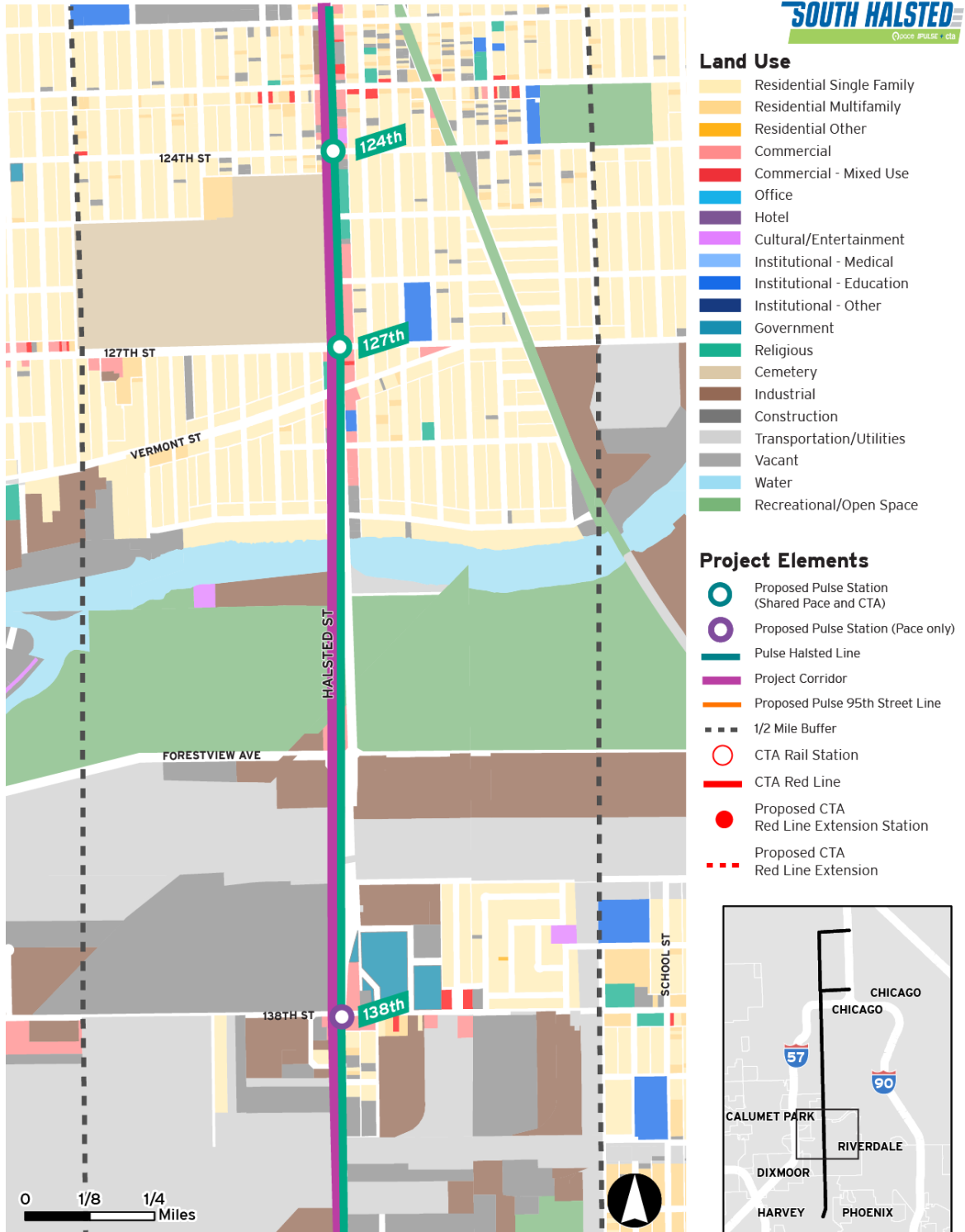


FIGURE 4-3: LAND USE BETWEEN WEST PULLMAN METRA STATION AND 107TH STREET

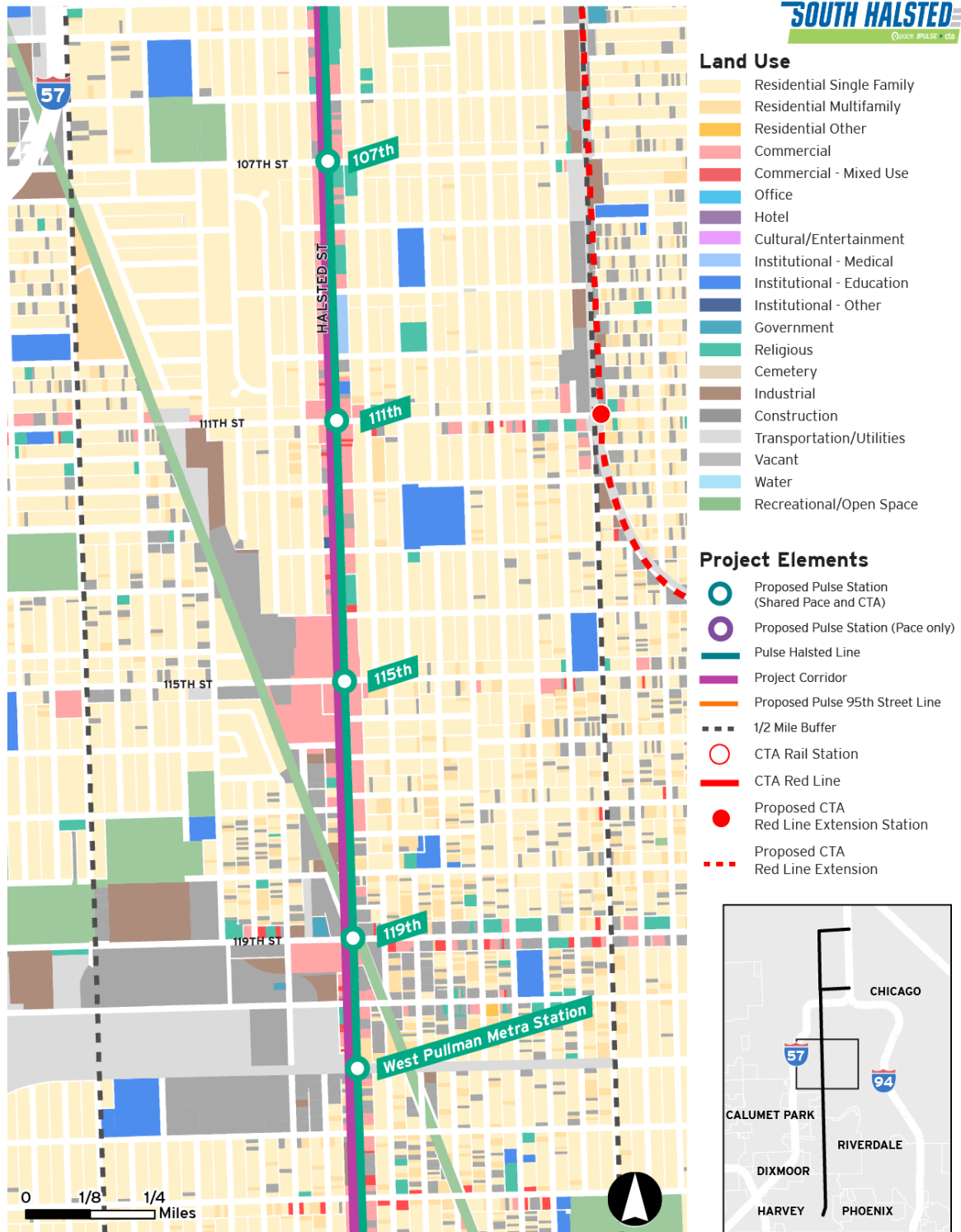


FIGURE 4-4: LAND USE BETWEEN 107TH STREET AND 95TH STREET

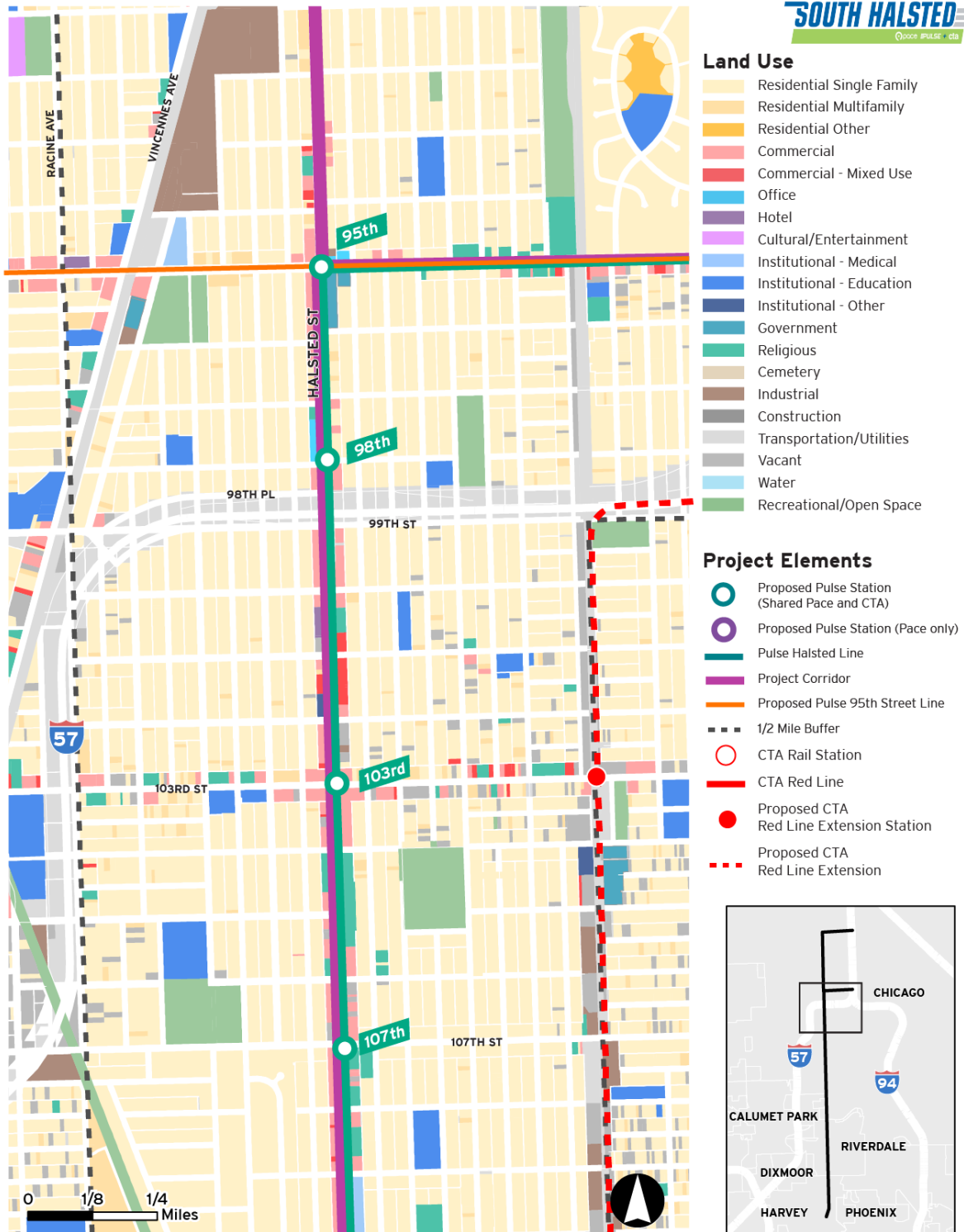


FIGURE 4-5: LAND USE ON 95TH STREET

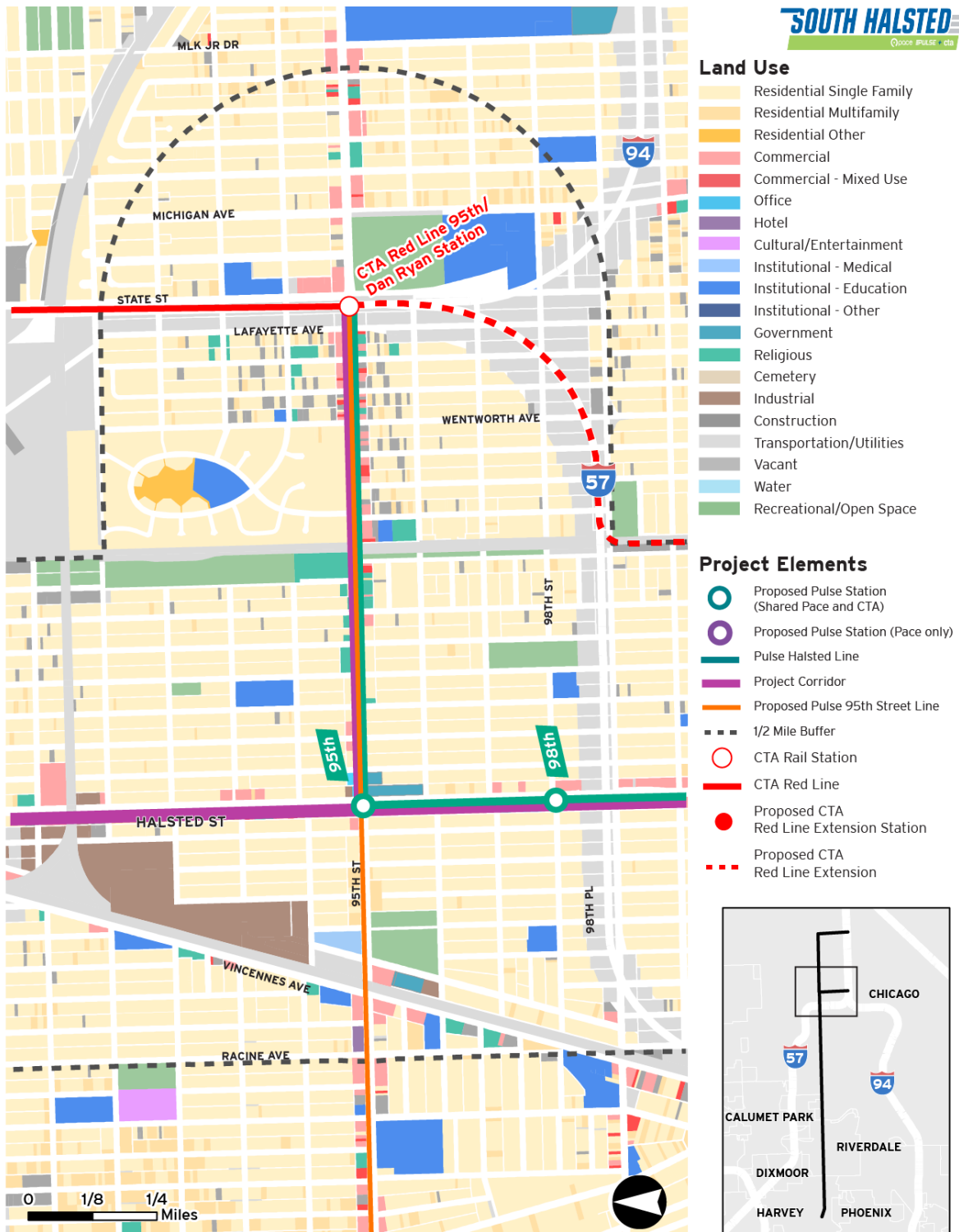
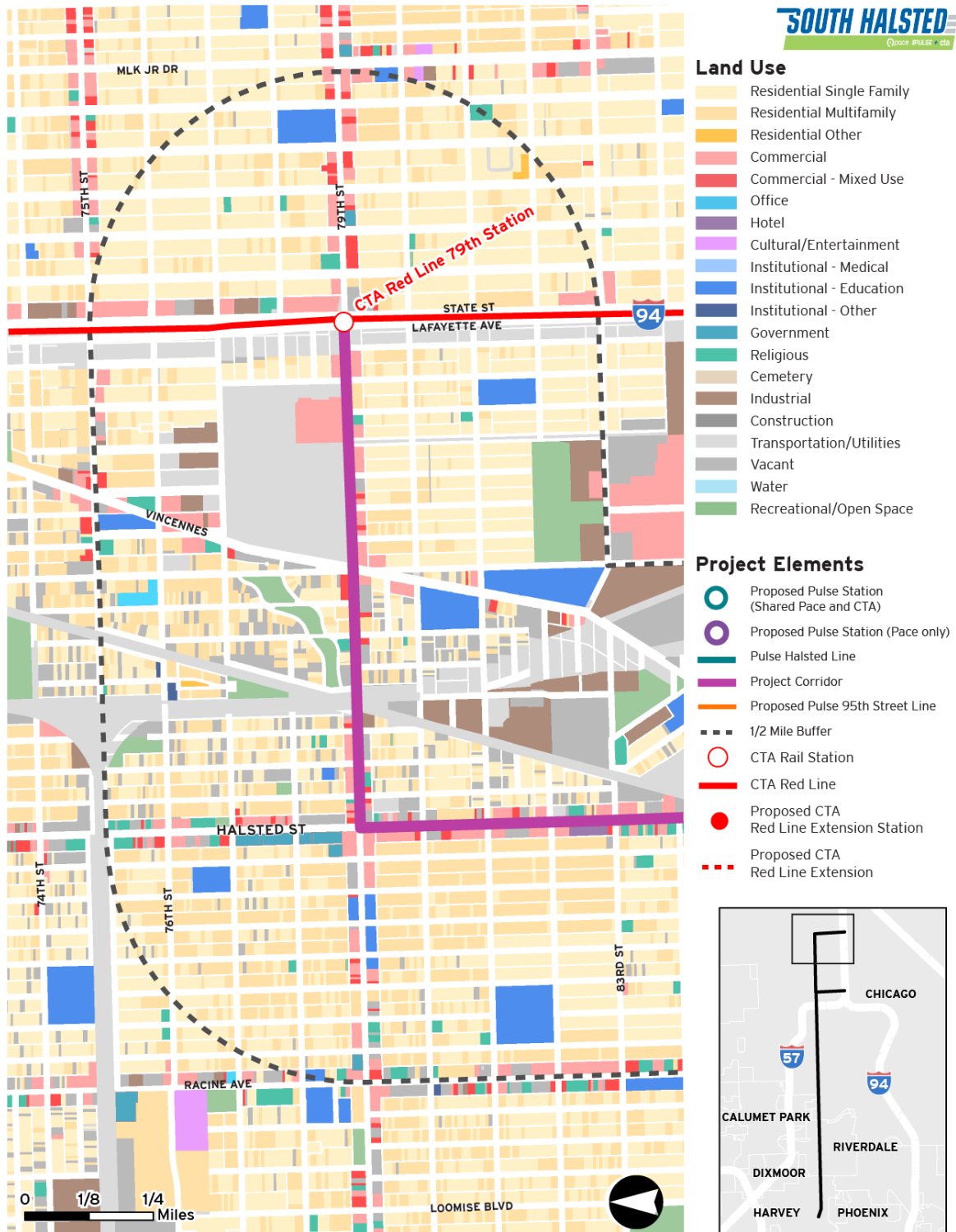


FIGURE 4-6: LAND USE ON 79TH STREET



5 Traffic Impacts

To meet the Project needs for faster travel time and increased reliability, the Project would include the following elements:

- Signal optimization and TSP implementation;
- New Pulse-branded stations and buses;
- Queue jump lanes;
- Short bus-only lane segments; and
- Curb extensions, including bus bulbs.

The travel time savings resulting from the implementation of TSP, signal optimization, queue jump lanes and bus-only lane segments are summarized in **Table 5-1**.

TABLE 5-1. SUMMARY TRAVEL TIME SAVINGS (SECONDS) IN BOTH DIRECTIONS

Direction	Travel Time Savings (minutes)			
	AM		PM	
	Car	Bus Avg	Car	Bus Avg
NB	2.1	5.0	0.3	4.4
SB	0.5	3.0	1.8	4.0
Total	2.6	7.9	2.1	8.4

To accommodate construction of the queue jump lanes, the Project will add a new shared right-turn and queue jump lane at seven intersections that do not currently have dedicated right-turn lane. Queue jump lanes are on the approach side or near side of intersections, and, at most queue jump lane locations, the Project includes construction of bus bulbs on the opposite side of the intersection of the queue jump lane. Shifts to the placement of the roadway median and narrowing of the medians will be necessary to accommodate the queue jump lanes and bus-only lane segments for the length of the lanes and tapers. The bus-only lane segments also require either conversion or addition of travel lanes in two locations along the Project corridor. Bus-only lane segments and queue jump lane locations are shown in **Figure 1-2**. **Appendix A** shows the proposed design of new queue jump lanes and bus-only lane segments.

The implementation of queue jump lanes and bus-only lane segments, including the application of markings, paint, construction of bus bulbs and curb extensions, and reconstruction of medians, may require the temporary closure of existing travel or turning lanes. These temporary lane closures will likely result in temporary increases in traffic delay for brief periods during construction. The effects of construction on the corridor are further discussed in **Section 19** of this document. The permanent installation of queue jump lanes and bus-only lane segments will also cause slight increases in traffic delay for through vehicles, although signal optimization will offset much of the

potential negative impact. Buses stopping in the travel lane at bus bulb station platforms may also slightly increase delay for other vehicles. However, neither construction nor operation of queue jump lanes and bus-only lane segments will cause significant traffic impacts to general purpose vehicles according to the results of traffic modeling conducted as part of the project design process. The traffic modeling for the Project was conducted using 2019 as the design year to align with FTA's guidance on applying for Capital Investment Grant funding, which advises using 2019 due to ridership anomalies during the COVID-19 pandemic in 2020 and 2021.

The implementation of TSP, in combination with the geometric changes to the corridor, is likely to have differing effects on individual intersections and approaches. Where queue jump lanes are being implemented, the insertion of queue jump lane/right turn signal phases takes green time away from through traffic traveling in the same direction, increasing travel time and delay, and worsening level of service (LOS) for those vehicles. Right-turning vehicles at those same intersections benefit from the addition of a curbside lane for their use and the extra protected green time. Where TSP is utilized to provide green time extensions for buses, other vehicles on Halsted Street also benefit from the additional green time given to their approaches. Green time extensions, which take time from the side streets in order to give Halsted Street buses more green time, increase delay and worsen LOS for vehicles on the side streets.

To the extent that these changes affect LOS, significant impact is mitigated through the implementation of signal optimization that will reduce traffic delay for buses and general traffic traveling on the corridor. Signal optimization, which includes changing signal cycle lengths, adding green time to Halsted Street, and improving coordination between adjacent signals, make TSP possible and improve general traffic flow. As shown in **Appendix D**, in **Table 3: Vissim - Signalized Intersections Results Summary**, the effects of this Project on delay and LOS do not amount to a significant impact on the traffic on the corridor. The traffic analysis results indicate that the 35 intersections evaluated as part of the study corridor operated acceptably or well during the AM and PM peak hours, at LOS D or better. None of the Project intersections fell more than a single LOS letter grade from the existing condition to the build condition. One intersection location is modeled to have LOS E (149th and Morgan), however, this LOS is the modeled result for both the existing and the Project scenarios indicating no worsening of LOS due to the Project.

The Project would operate primarily on arterial roadway segments with four or more through lanes, many of which also include a center median and turn bays.

Table 5-3 summarizes lane configurations by segment, and average daily traffic (ADT) volumes obtained from IDOT. There are currently 15 roadway segments within the corridor with available ADT data. Among these segments, nine carry more than 15,000 daily vehicles, and two segments carry less than 10,000 vehicles per day. The street segments that make up the Project alignment are predominately high-volume arterial streets with little excess capacity during peak hours. All Project improvements were modeled for their impact on traffic.

Bus service will not increase on the portion of the Project corridor north of 95th Street. However, the Project would increase the total number of buses operating between the CTA Red Line 95th/Dan Ryan station and the Pace Harvey Transportation Center (the alignment of the Pulse Halsted Line) during peak hours from 32 to 36 buses per hour. The increase of four peak hour buses (total for both directions of travel) is the net change between adding new Pulse buses, reduction of same-alignment Pace Route 352 frequency, and retention of the remaining existing local routes that operate along the corridor. **Table 5-2** summarizes the number of peak and total daily buses. Pace will also operate a limited number of vehicles that are not in service, which are coming from or going into service from garage facilities.

TABLE 5-2. COUNT OF BUSES, WEEKDAYS

Time Period	Existing	Project
	Net Total Buses Per Hour*	
Peak AM	32	36
Midday	27	31
Peak PM	32	36
Night (after 10pm)	26	26
	Net Total Weekday Buses*	
Total Daily Buses	421	481

*Includes reduction to Pace Route 352

The Project would add approximately 60 net buses to the existing daily traffic, with four buses being added to existing traffic volume during the “worst-case” peak hour. The small increase in bus volume created by the Project will not create a significant traffic impact. Further, it is anticipated that the improved transit speed and reliability that would result from the Project would increase transit ridership within the Project corridor. Over time, the Project could result in a net decrease in vehicular traffic by encouraging a mode shift from single-occupancy private vehicles to transit vehicles.

TABLE 5-3: AVERAGE DAILY TRAFFIC AND LANE CONFIGURATION

Street Segment (listed in order from north to south)	Lane Configuration ¹⁸	2019 Average Annual Daily Traffic ¹⁹
79th Street: Dan Ryan Expressway (I-94) to Halsted Street	Two through lanes, left turn bays, and intermittent curbside bus lanes	14,100
Halsted Street: 79th Street to 87th Street	Two through lanes, left turn bays, and buffered bike lanes	12,100
Halsted Street: 87th Street to 95th Street	Four through lanes, one center median with select turn bays	17,100
95th Street: Dan Ryan Expressway (I-94) to S Yale Avenue	Four through lanes, one center median with select turn bays	17,800
95th Street: S Yale Avenue to S Princeton Avenue	Four through lanes, one center median with select turn bays	17,400
95th Street: S Princeton Avenue to S Halsted Street	Four through lanes, one center median with select turn bays	19,200
Halsted Street: 95th Street to Dan Ryan Expressway (I-57)	Four through lanes, one center median with turn bays	27,300
Halsted Street: Dan Ryan Expressway (I-57) to W 107th Street	Four through lanes, one center median with turn bays	24,000
Halsted Street: W 107th Street to W 113th Street	Four through lanes, one center median with turn bays	18,700
Halsted Street: W 113th Street to W 115th Street	Four through lanes, one center median with turn bays	18,200
Halsted Street: W 115th Street to W 119th Street	Four through lanes, one center median with turn bays	17,500
Halsted Street: W 119th Street to W 127th Street	Four through lanes, one center median with turn bays	15,400
Halsted Street: W 127th Street to Morgan Street	Four through lanes, one center median with turn bays	18,800
Morgan Street: Halsted Street to Park Avenue	Four through lanes	4,750
Park Avenue: Morgan Street to E 155th Street	Four through lanes	4,750

The Project would result in the loss of approximately 324 parking spots distributed across 26 locations within the City of Chicago portion of the Project corridor concentrated

¹⁸ Nearmap and Google Maps aeriols. Retrieved in April 2022

¹⁹ Illinois Department of Transportation. *Traffic Count Database System*. Retrieved in May 2022 from [Traffic Count Database System \(TCDS\) \(ms2soft.com\)](https://www.ms2soft.com/)

around the proposed queue jumps and bus lane segments. Parking spaces are proposed to be removed for portions of blocks ranging from 20 to 290 feet extending from intersections (typically on the section of street approaching the intersection in the direction of travel for the Pulse bus) and with minimal impacts to residential parcels. Parking would remain on the segment across the street from the impacted segment, and no parking would be lost on the many blocks between signalized intersections. Nearly all properties along the corridor have off-street parking, as evidenced by limited on-street parking utilization observed during multiple site visits to the Project corridor.²⁰ Therefore, the impact of these lost parking spaces is expected to be minimal and no mitigation is proposed. In some cases, relocations or reconfiguration of driveways or parking lot entrances would also be necessary, but no loss of access would occur. Mitigation to driveway impacts is the responsibility of Pace through relocation of affected driveways and the reconfiguration of affected parking lots. Pace will also work to make sure access is maintained during construction. Coordination with property owners related to these impacts will commence as design engineering is further developed.

²⁰ Consultant (HNTB) traffic team field visit November 4, 2019; Site visit by the project team for Project kick-off on September 20, 2019; Consultant (CDM Smith) on-street parking assessment October 4, 2018, and September 21, October 11, and October 22, 2020 (documented in the [South Halsted Bus Corridor Enhancement Study Existing Conditions Report](#))

6 Historic Resources

Detailed documentation of the historic and cultural analysis and consultation process is included in the Historic Properties Eligibility and Effects Analysis Technical Memorandum in **Appendix E**. Included in **Appendix E** is an Unanticipated Discoveries Plan (UDP) developed for use in the case that archeological remnants are found on a project site.

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.

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 E**. Architectural historians reviewed all previously recorded (NRHP)-listed, eligible, or undetermined properties for continued or potential NRHP eligibility. In addition, all properties within the APE were researched and surveyed to identify any additional potentially NRHP-eligible historic properties. Based on the eligibility assessments conducted, five previously recommended NRHP-eligible properties retain sufficient integrity to be listed on the NRHP. In addition, two other properties are recommended NRHP-eligible based on this assessment. **Table 6-1** provides a summary of the preliminary effects findings for previously determined eligible 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	Cedar Park Cemetery Gatehouse	12540 S. Halsted St.	Calumet Park	No Adverse Effect
2	S.S. Peter and Paul Catholic Church	12431 S. Halsted St.	Chicago	No Adverse Effect
3	Galloy & Van Etten Building	11756 S. Halsted St.	Chicago	No Adverse Effect
4	K.A. Pridjian & Co. Building	11600 S. Halsted St.	Chicago	No Adverse Effect
5	Green Street Historic District	Green St. from W. 109th St. to W. 104th St.	Chicago	No Adverse Effect
6	Southwest Substation	10227 S. Halsted St.	Chicago	No Adverse Effect
7	Landscaped Medians	S. Halsted St. from W. 129th St. to W. 87th St.	Chicago	No Adverse Effect

No adverse effects are anticipated for the properties identified in **Table 6-1**, which include Cedar Park Cemetery Gatehouse, the S.S. Peter and Paul Catholic Church, the Galloy & Van Etten Building, the K.A. Pridjian & Co. Building, the Green Street Historic District, the Southwest Substation, and the landscaped medians.

Construction of the Project would primarily consist of milling of pavement, repaving, striping, shortening and narrowing select medians, the placement of bus 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 proposed Project and daytime scheduling of construction activities, no substantial noise impacts are anticipated. 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. Construction activities would be temporary in nature and will not affect the characteristics that qualify any eligible properties for inclusion in the NRHP. Though 11 percent²¹ of the historic landscaped medians located between W. 129th St. and W. 87th St. will be

²¹ Measurements of distance in feet were taken on aerial photos on August 24, 2022. Out of 13,781 linear feet of median in the Project corridor, approximately 1,500 feet are proposed for modification.

directly impacted by construction activities, the proposed physical changes to the medians do not impact the property's overall integrity of location, setting, feeling and association. Further, the proposed changes are consistent with past changes to the medians, and though some physical destruction would occur, it will not affect the characteristics that qualify the medians or clocks for the NRHP.

While there could be some visual changes due to construction of new stations and changes to some landscaped medians, these effects were not found to adversely affect the characteristics that make these properties eligible for inclusion in the NRHP. This finding is documented in detail in the Historic Properties Eligibility and Effects Analysis and the Illinois State Historic Preservation Office (SHPO) issued a *No Adverse Effects* finding for this Project as documented in **Appendix E**. Noise and vibrational changes are anticipated to be minor because the proposed Project is located along a corridor with substantial existing general traffic noise as the predominant source of noise, and the added effect of the Project on noise in the corridor would be negligible.

6.1 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 § 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 (see **Table 6-2**). Parties who accepted the invitation to be a consulting party included the SHPO, the Chicago Metropolitan Agency for Planning (CMAP), Miami Tribe of Oklahoma, Landmarks Illinois, Pullman National Monument, Regional Transportation Authority (RTA), and the Illinois State Archaeology Survey. These consulting parties were provided a copy of the draft findings for review and input on August 1, 2022. A 30-day review period was established to obtain comments from consulting parties with an end date of August 30, 2022. The State Historic Preservation Office for Illinois, which is the Illinois Historic Preservation Division of the Illinois Department of Natural Resources, concurred with the finding that the South Halsted Bus Corridor Enhancement Project would not have any adverse effects on the historic resources identified in the APE. One consulting party, the Miami Tribe of Oklahoma, offered no objection to the Project and requested immediate consultation should any human remains or Native American cultural items or archaeological evidence be discovered during any phase of the Project. Documentation of responses from consulting parties is included in **Appendix E**.

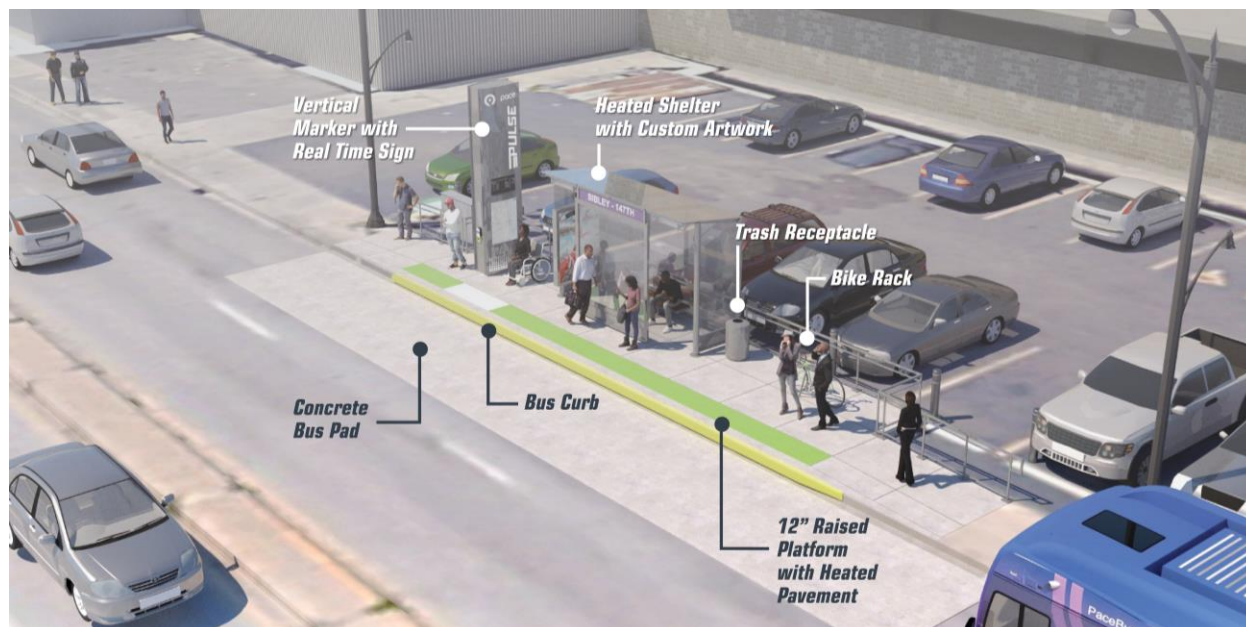
TABLE 6-2: CONSULTING PARTIES

Name	Contact	Response
17 th Ward – Alderman	David H. Moore	None
21 st Ward -Alderman	Howard Brookins, Jr.	None
34 th Ward – Alderman	Carrie M. Austin	None
Cedar Park Cemetery	N/A	None
Chicago Metropolitan Agency for Planning	Erin Aleman	<i>Accepted</i>
Chicago Transit Authority	Leah Mooney	None
City of Chicago – Commission on Landmarks	Rafael M. Leon	None
City of Chicago – Department of Transportation	Gia Biaggi	None
City of Chicago – Park District	Michael P. Kelly	None
City of Harvey Building and Planning Department	Latoya Carraway	None
Forest Preserves of Cook County	Charles O’Leary	<i>Declined</i>
Forest Preserve Golf, Joe Louis Course	Brian Dober	None
Illinois Department of Transportation	Holly Beineman	None
Illinois State Historic Preservation Office	Anthony Rubano	<i>Accepted</i>
Landmarks Illinois	Bonnie McDonald	<i>Accepted</i>
National Trust for Historic Preservation – Chicago Field Office	Jennifer Sandy	None
Openlands	Daniella Pereira	None
Preservation Chicago	Ward Miller	None
Regional Transportation Authority – Director Suburban Cook County	William R. Coulson	None
Regional Transportation Authority – Local Planning and Programs	Jessica Hector-Hsu	<i>Accepted</i>
Village of Riverdale	Mayor Lawrence L. Jackson	None
Citizen Potawatomi Nation, Oklahoma	Kelli Mostellar	None
Forest County Potawatomi Community of Wisconsin	Harold Frank	None
Hannahville Indian Community, Michigan	Kenneth Meshigaud	None
Pullman National Monument (via Landmarks Illinois)	Teri Gage	<i>Accepted</i>

Name	Contact	Response
Kickapoo Tribe of Oklahoma	Estavio Elzondo	None
Little Traverse Bay Bands of Odawa Indians, Michigan	Wesley Andrews	None
Menominee Indian Tribe of Wisconsin	David Grignon	None
Miami Tribe of Oklahoma	Diane Hunter	<i>Accepted</i>
Miami Tribe of Oklahoma	Thomas Wabmum	None
Illinois Department of Agriculture, Division of Natural Resources	Colleen Callahan	None
Illinois Department of Natural Resources, Office of Mines and Minerals	Donald Stewart	None
Illinois Department of Natural Resources, Office of Water Resources	Loren Wobig	<i>Declined</i>
Illinois Department of Natural Resources, Nature Preserves Commission	Kim Roman	None
Illinois Environmental Protection Agency, Bureau of Water	Sanjay Sofat	None
Illinois Environmental Protection Agency, Bureau of Air	Julie Armitage	<i>Declined</i>
Illinois Environmental Protection Agency, Bureau of Land	Kyle Rominger	None
Illinois State Geological Survey	Richard C. Berg	None
Illinois State Water Survey	Kevin O'Brien	None
Illinois Natural History Survey	Eric Schauber	None
Illinois State Archaeology Survey	Dr. Timothy R. Pauketat	<i>Accepted</i>

7 Visual Quality

Transit shelters and stops for local CTA and Pace bus services are already present throughout the 11-mile Project corridor. **Figure 7-2:** Typical Station Rendering



provides examples of the existing visual quality near existing CTA and Pace bus shelters and stops.

FIGURE 7-1: EXISTING VISUAL ENVIRONMENT NEAR EXISTING BUS STOPS AND FACILITIES



E. 149TH STREET



W. 144TH STREET



W. 138TH STREET



W. 127TH STREET



W. 124TH STREET



W. 119TH STREET



W. 115TH STREET



W. 11TH STREET



W. 103RD STREET



W. 95TH STREET



W. 79TH STREET TERMINAL



W. 79TH AND PERRY AVE

The existing visual setting of the Project corridor is typical of an urban and suburban environment. The parcels directly along the Project corridor are primarily commercial use. The viewshed along the Project corridor includes mostly commercial properties as well as residential and institutional properties. Some parts of the Project corridor viewshed are surface parking lots and vacant parcels. Several public greenspaces are located south of W. 124th Street along Halsted Street, but none are present along the corridor north of W. 124th Street. Buildings are predominantly one or two stories, though three-story buildings are somewhat prevalent north of W. 83rd Street and along W. 79th Street, where the visual character is more urban than suburban. In addition, the proposed station amenities are designed to be aesthetically pleasing and less visually intrusive in an urban setting. For example, three of the four shelter walls are transparent polycarbonate panels allowing individuals to see through them. Compact station shelters have one less wall and two of three walls are the transparent polycarbonate panels. The project team also concludes that the stations are an improvement to the streetscape where existing bus shelters will have older assets replaced with new ones, enhancing the existing built environment. 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.

The specific design proposal for the Project includes 14 stations to be constructed by Pace, which will carry the Pulse brand, and be served by both Pulse and local CTA and Pace bus services. In addition to these station improvements, bus-only lane segments are proposed in two locations along the corridor, and the Project also proposes constructing queue jump lanes at seven intersections. The Project will be constructed primarily in existing right-of-way.

Figure 7-2 provides a rendering of a typical Pulse station. Proposed Pulse stations vary in size due to site-specific context and geometric constraints. Stations range from 39 to 41 feet long (parallel to the roadway) for compact stations, and from 55 to 63 feet long for standard stations. Station depths for all station types range from 10.5 to 15 feet (perpendicular to the roadway).

An exception to the typical station is the station proposed for eastbound 95th Street and Halsted Street. Multiple routes converge at this location; therefore, this station will be 147 feet long by 12.5 feet wide to accommodate the high bus volume that travels eastbound on 95th Street. The length will accommodate up to three buses, including one 60 ft articulated bus and two 40 ft standard-length buses. A rendering of the 95th Street and Halsted Street station is shown in **Figure 7-3**.

Bus bulbs and other curb extensions, which are proposed at nine station locations, will change the visual appearance of the Project corridor by adding more sidewalk and pedestrian space at intersections and shortening existing crosswalks across Halsted Street where Pulse stations are present. An example of a curb extension treatment is shown in **Figure 7-4**. In some proposed locations, the introduction of curb extensions would improve existing conditions where sidewalks and curb facilities are in poor condition. Additionally, station and roadway construction required for the Project could improve visual quality by re-building existing typical street components such as sidewalks, curb ramps, and crosswalks.

The addition of queue jump lanes and bus-only lane segments will also change the visual appearance of the corridor through the shifting and shrinking of medians and restriping of lanes at nine locations along the corridor, including seven intersection locations for queue jump lanes and two locations for bus-only lane segments. The overall width of the roadway will not change. Bus-only lane segments will add red paint to the asphalt to delineate that they are bus-only or bus-and-right-turn traffic lanes. Some of the median changes will remove some trees, which will be replaced with other plants that are not trees and do not require as much width so that there are still plantings in the medians. An example of an existing condition and proposed change is shown in the renderings in **Background image** source: 119th and Halsted, Chicago, IL. Google Maps, 2019

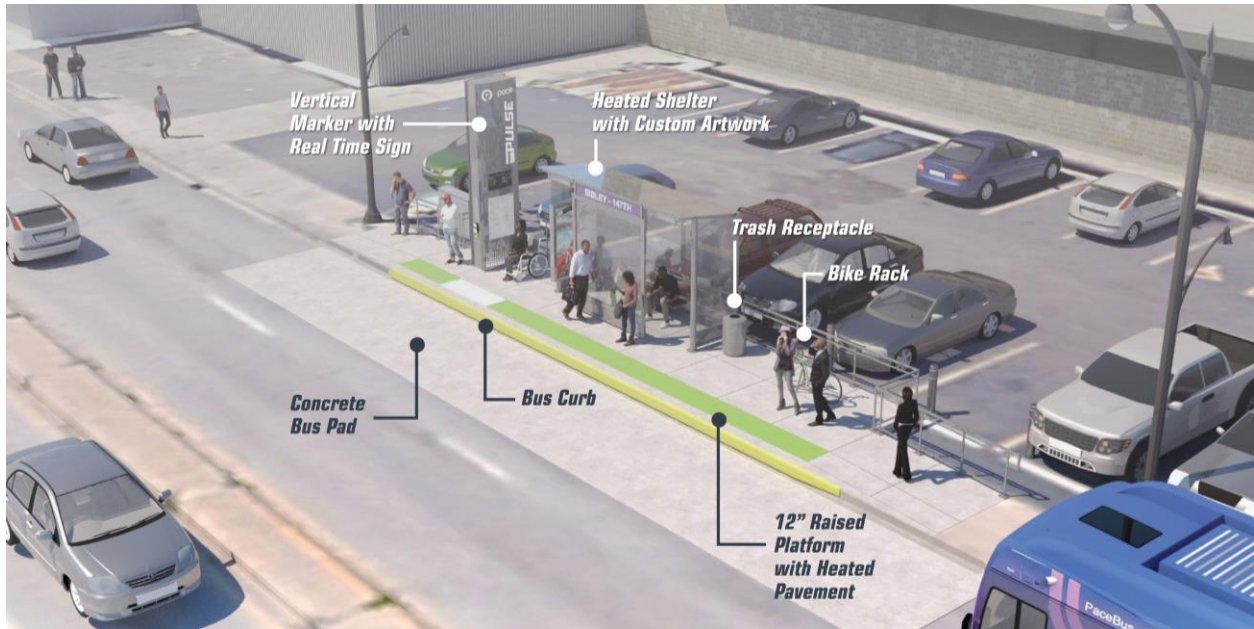
Figure 7-5 and **Figure 7-6**. The Project team will look for opportunities to plant trees on the sidewalk side of the right-of-way as close to the location of their removal from the median where trees are replaced with non-tree plants. While the impacts may change the appearance of the Project corridor in some locations, overall, the new construction and new roadway markings for the proposed lane configurations will have a minimal impact to the visual appearance if not improve overall appearance with new infrastructure.

Resources identified in the Section 106 analysis that could be considered as having sensitive visual viewsheds include the following: the Kickapoo Meadows Forest Preserve

(near the W. 144th Street station), the Cedar Park Cemetery Gatehouse (near the W. 127th and W. 124th Street stations), the S.S. Peter and Paul Catholic Church (near the W. 124th Street station), the Galloy & Van Etten Building (one block north of the W. 119th Street station), the K.A. Pridjian & Co. Building (one block south of the W. 115th Street station), the Green Street Historic District (one block west of the W. 111th Street station), and the Southwest Substation (near the 103rd Street station). The project team concluded that no mitigation is necessary for these buildings as the sites are typically a half block or more from the proposed Pulse station sites. More details on Section 106 resources are discussed in **Section 6**.

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.

FIGURE 7-2: TYPICAL STATION RENDERING



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

FIGURE 7-3: PROPOSED NORTHBOUND/EASTBOUND 95TH STREET AND HALSTED STREET STATION



Background image source: 95th and Halsted, Chicago, IL. Google Maps, 2019

FIGURE 7-4: RENDERING OF PULSE STATION AT 119TH/HALSTED FEATURING BUS BULBS



Background image source: 119th and Halsted, Chicago, IL. Google Maps, 2019

FIGURE 7-5: EXISTING CONDITION OF 98TH STREET/HALSTED INTERSECTION



Background image source: 98th and Halsted, Chicago, IL. Google Maps, 2019

FIGURE 7-6: PROPOSED BUS LANE IMPROVEMENT AT 98TH STREET/HALSTED INTERSECTION



Background image source: 98th and Halsted, Chicago, IL. Google Maps, 2019

8 Noise and Vibration

This section summarizes the evaluation of potential noise and vibration impacts for the Project. The full Noise and Vibration Technical Memorandum, included in **Appendix F**, was prepared in compliance with FTA methodologies and procedures described in the FTA's Transit Noise and Vibration Impact Assessment Manual (FTA Manual), updated in September 2018.²²

Existing Annual Average Daily Traffic (AADT) within the Project corridor ranges from 4,750 to 27,300 vehicles per day. The current proposed service plan for the Project would add approximately 60 net buses to the existing daily traffic. During the "worst-case" peak hour, the Project would add four buses to the existing traffic volume.

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

- Halsted Street between 97th to 98th Streets, where traffic volumes are the highest in the corridor and traffic/bus speeds are 30 mph;
- Halsted Street between 138th Street and Shore Drive, where traffic/bus speeds are highest at 40 mph; and
- Morgan Street between Halsted Street and Pace Harvey Transportation Center, where traffic volumes are lowest in the 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 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 new Pulse Halsted service and any changes to existing bus service with the Project.

Because the Project proposes to operate new CNG buses along a corridor with substantial existing general traffic noise as the predominant source of noise, the added effect of the Project on noise in the corridor would be negligible. Receivers within 50 feet from the Project corridor measured from the center of the noise generating activity

²² FTA, Transit Noise and Vibration Impact Assessment Manual (Report 0123), February 27, 2020. <https://www.transit.dot.gov/research-innovation/transit-noise-and-vibration-impact-assessment-manual-report-0123>

(Halsted or Morgan Street) would experience a minimal noise increase; therefore, the Project would not create a noise impact, and no further analysis is required.

The noise level impacts by corridor section are summarized in Table 8-1.

TABLE 8-1. NOISE LEVEL IMPACT SUMMARY

Section	Distance (ft) to Nearest Residence	Existing Ldn (dBA)	Future Ldn (dBA)	Increase (dB)	Increase Threshold for Moderate Impact (dB)	Impact
Halsted - 97th to 98th Streets	50	71	71	0	1	None
Halsted - 138th Street to Shore Drive	45	72	72	0	1	None
Morgan - Halsted Street to Pace Harvey Transportation Center	45	67	67	0	1	None

Given the nature of this Project, Pace conducted a screening procedure for vibration impacts. The Pace buses with rubber tires and suspension systems create significant vibration isolation that seldom causes ground-borne vibration or ground-borne noise issues. The proposed route alignment for this new service would operate on smooth asphalt streets shared with general traffic. The FTA-specific conditions that would require vibration analysis along a busway do not exist in the Project corridor (roadway irregularities, buses operating inside buildings, or buses operating close to extremely vibration-sensitive buildings); therefore, the Project would not create a vibration impact, and no further analysis is required.

9 Acquisitions & Relocations

Implementation of the Project would not result in the displacement of any businesses or residences along the Project corridor, and construction would occur predominately within existing right-of-way. Permanent easements would need to be obtained at six of the 28 proposed intermediate station platforms, where the platforms would extend beyond existing right-of-way. **Table 9-1** summarizes the permanent easements required for the Project. A total of approximately 0.07 acres of permanent easements would need to be obtained affecting 13 parcels.

TABLE 9-1: PERMANENT EASEMENTS REQUIRED

Station Location	Direction	Land Use	Affected Elements	Permanent Easement (sf)	Permanent Easement (acres)	Parcels Affected
95th	EB	Public Library	Sidewalk, Trees	361	0.008	2
98th	NB	Commercial	Sidewalk	623	0.014	4
144th	SB	County forest preserve	Sidewalk, Grass	757	0.017	1
144th	NB	Commercial	Sidewalk	826	0.019	1
147th	SB	Commercial	Sidewalk, Parking Lot	94	0.002	2
147th	NB	Commercial	Sidewalk, Grass	173	0.004	3
Total				2,834	0.07	13

EB = eastbound; NB = northbound; SB = southbound

Of the approximately 0.07 acres of permanent easements required, approximately 0.03 acres would be obtained from commercial land uses on six parcels. Easements at these commercial properties primarily consist of existing grass and landscaping elements adjacent to the existing sidewalk. The permanent loss of land would be minor and would not impair the accessibility or functionality of the associated businesses.

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

- Approximately 0.008 acres of permanent easement would be obtained from the Woodson Regional Chicago Public Library for the eastbound platform at Halsted Street and 95th Street. Woodson Regional Chicago Public Library is bordered by shrubs and a fence that serves as a buffer between the courtyard and the public right-of-way. There will be no

impact to the fence and shrub removal will be up to the property owner if there are maintenance concerns. The platform would be located adjacent to the public right-of-way and would not include any disturbance to the building structure or courtyard. Several trees in the parkway will be removed as a result of platform construction and efforts to plant replacement trees or shrubs will be explored in final design.

- Approximately 0.014 acres of permanent easement would be obtained from commercial properties for the northbound platform at 98th Street. 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 0.017 acres of permanent easement would be obtained from the Cook County Forest Preserve District's Kickapoo Woods for the 144th Street southbound platform. Grassland adjacent to Halsted Street and within the Forest Preserve will be affected, but based on the proposed station location and minor impacts, this Project would not adversely affect any of the activities, features, or attributes associated with the Kickapoo Woods Forest Preserve. The Forest Preserve District of Cook County, which is the Official With Jurisdiction, signed a letter concurring that the Project will not adversely affect the activities, features or attributes qualifying the trail for protection under Section 4(f) of the USDOT Act of 1966. As such, it is the intent of FTA to issue a *de minimis* impact determination. See **Section 13** for more information on the proposed impacts to this property and Section 4(f) *de minimis* documentation.
- Approximately 0.019 acres of permanent easement would be obtained from the property owner for the 144th street northbound platform. The surrounding sidewalk would be impacted. There will be no impact to ADA accessibility at any adjacent business or through the station.
- Approximately 0.002 acres of permanent easement would be obtained from the property owner for the 147th Street southbound platform. The surrounding sidewalk would be impacted. Parking spot markings will be affected adjacent to the public right-of-way and will require restriping. 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 property owner for 147th Street northbound platform. The surrounding sidewalk would be impacted. There will be no impact to ADA accessibility at any adjacent business or through the station. IDOT has a related roadway project planned at this location with related land acquisition needs. The IDOT project may acquire the area needed for the Pulse station, in which case the affected property would become public right-of-way and no easement would be needed.

In addition to permanent easements, temporary easements would be required at the same six locations during the construction phase of the Project. **Table 9-2** summarizes required temporary easements. Approximately 0.07 acres of temporary easements

would be obtained from 13 parcels in addition to the approximately 0.07 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 are grass, landscaping, and a parking lot at the southwest corner of Halsted Street and 147th Street. The temporary easements would be needed for equipment access and excavation pertaining to station construction and site grading.

Although 13 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.

TABLE 9-2: TEMPORARY EASEMENTS REQUIRED

Station Location	Direction	Land Use	Affected Elements	Temporary Easement (sf)	Temporary Easement (acres)	Parcels Affected
95th	NB/EB	Public	Sidewalk, Pkwy Trees	984	0.023	2
98th	NB	Residential	Sidewalk	540	0.012	4
144th	SB	County park	Sidewalk, Grass	532	0.012	1
144th	NB	Commercial	Sidewalk	268	0.006	1
147th	SB	Commercial	Sidewalk, Parking Lot	485	0.011	2
147th	NB	Commercial	Sidewalk, Grass	277	0.006	3
Total				3,086	0.07	13

EB = eastbound; NB = northbound; SB = southbound

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.

10 Hazardous Materials

Detailed documentation of the hazardous materials screening is included in the Hazardous Materials Technical Memorandum in **Appendix G**.

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). 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 the search distance.
- The most common types of sites identified included Underground Storage Tanks (UST), Leaking USTs (LUST), Facility Registry Service (FINDS/FRS), Dry Cleaners and Resource Conservation and Recovery Act (RCRA) sites which are common in urban areas.

Based on the ERIS data, 111 sites were identified within 300 feet of the 16 station locations.

Potential impacts related to these sites and others along the Project 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 age and history of 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 material would not be included in the ERIS data as it is not necessarily associated with a release from a specific site or source. However, this type of material is generally not a major concern for this type of project activity: while there is the potential for the presence of this type of urban fill throughout the entire Project corridor, the limited ground disturbance associated with the Project activities are such that there are no anticipated negative impacts associated with urban fill that may potentially be present in the Project area. Furthermore, any potential impacts would be mitigated through best management practices.

Construction of the Project currently includes some subsurface ground disturbance activities, which could encounter contaminated soil and/or groundwater. Most Project-related excavation would be associated with the construction of the stations and curbs, such as for the slab-on-grade platforms and shelter. Based on the discussed construction, excavation would be limited to the top 3 to 5 feet below ground surface; therefore, the potential for encountering hazardous materials will be limited. 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 contact their field supervisor for proper escalation to be defined later in the design process.

As outlined in **Section 9**, there are several small easements (permanent and temporary) that are proposed as part of the Project. These areas were included in the database report and field review, and no additional concerns were noted within these areas. If it is determined that additional right-of-way needs to be purchased, the area(s) to be acquired will be reviewed closer to determine if a more in-depth environmental site assessment (ESA) will be conducted. If it is determined that a Phase II ESA is needed, it will be completed prior to purchase/acquisition.

The Project provides additional capacity along the South Halsted Street, 79th and 95th Street corridor made up of a mix of undeveloped, residential, and commercial properties. Stations and other construction activities are often located in the vicinity of major intersections, which are typically adjacent or in close proximity to gas stations with underground storage tanks (USTs), leaking underground storage tanks (LUSTs), or similar sites. Based on the type of proposed construction, no major concerns were identified. However, construction teams will be informed of the possibility of contamination and that if any concerns (such as 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.

11 Social Impacts & Community Disruption

The Project corridor is composed of five municipalities. The Project team analyzed the latest U.S. Census Bureau American Community Survey data for census block groups within ½ mile of the Project corridor to determine the demographic profile of these municipalities. Approximately 122,000 people reside within the Project corridor in more than 44,000 households. **Table 11-1** shows the population and households within the Project corridor by municipality.

TABLE 11-1: POPULATION AND HOUSEHOLDS WITHIN THE PROJECT CORRIDOR

Municipality	Population	Households
City of Chicago	91,665	32,619
City of Harvey	13,704	4,845
Village of Calumet Park	4,040	1,596
Village of Phoenix	2,756	1,204
Village of Riverdale	9,788	3,620
TOTAL	121,951	44,411

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

In addition to population and household data, the Project team analyzed demographic data, including age, gender, poverty status, and race/ethnicity. The largest age groups are 10-19 years, 20-29 years, and 50-59 years. Approximately 54 percent of corridor residents are female.²³ Approximately 25 percent of households are below the poverty line.^{24, 25}

Table 11-2 shows the racial/ethnic makeup of residents in the Project corridor.

TABLE 11-2: RACE AND ETHNICITY

Race/Ethnicity	Total	Percentage
White	2,995	5 percent
Black	111,006	91 percent
Hispanic	7,101	14 percent
Two or more races	1,271	2 percent
Other*	919	.01 percent

Source: U.S. Census Bureau 2011–2015 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, and Some other race alone

According to U.S. Census Bureau data, most workers within ½ mile of the Project corridor commute by car (44 percent) or by public transportation (38 percent)²⁶. A considerable share of workers walk to work (13 percent)²⁷, and 21 percent of households do not have access to a personal vehicle.

As noted 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

²³ U.S. Census Bureau 2016-2020 American Community Survey Table ID B01001 for Census Block Groups within ½-mile buffer of the Project corridor

²⁴ U.S. Census Bureau 2016-2020 American Community Survey Table ID C17002 for Census Block Groups within ½-mile buffer 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

²⁶ U.S. Census Bureau 2011–2015 American Community Survey Table ID S0801 for Census Tracts within ½-mile of the Project corridor

²⁷ U.S. Census Bureau 2011–2015 American Community Survey Table ID S0801 for Census Tracts within ½-mile of the Project corridor

Table 11-3 presented in geographic order along the corridor from north-to-south and sourced from Google Maps, a site visit in September 2019, and in the *South Halsted Bus Corridor Enhancement Project: Existing Conditions, Needs, & Deficiencies Technical Memorandum*.

TABLE 11-3: COMMUNITY RESOURCES

Community Resource	Type
Grace Temple Church of God Established in Christ	Church
Soul-Reviving Missionary Baptist	Church
Integrity of Praise Outreach Ministries Inc	Church
Another Chance Church	Church
ABC Learning Center	Daycare
Euclid Park	Park
Woodson Regional Library, Chicago Public Library	Library
Oakdale Park	Park
Charles H. Wacker Elementary School	School
St. James African Methodist Episcopal Church	Church
New Progressive Baptist Church	Church
Resurrection Lutheran Church	Church
Lowden Homes	Housing Authority
Chicago Housing Authority	Government
Robichaux (Joseph) Park	Park
Trinity United Church of Christ	Church
West 95 Oakdale Missionary	Church
Trinity United Church Child	Church
Restoration of the Tent of David	Church
Rudyard Kipling Elementary School	School
Mt Hermon Missionary Baptist	Church
Auburn Park	Park
Chicago Transit Authority 77 th Street Garage	Government
Pleasant Hill Baptist Church	Church
Westcott Elementary School	School
7900 South Lowe Block Club Park	Garden
Community Youth Development Institute	School
Illnos Amvets Services	Veterans Organization
Chicago Police Department	Government
Leo High School	School
Chapel of Saint Leo	Church
Amazing Life Church	Church
Naomi & Sylvester Living Center	Assisted Living Facility
International Deliverance	Church
Way of the Cross Missionary	Church
God's House of Divine Revelation Church	Church

Community Resource	Type
Family God Church of God	Church
Park Manor Baptist Church	Church
Faith Evangelical Lutheran Church	Church
Mahalia Jackson Park	Park
Impact For Change	Church
Dudley Beauty College	School
Gresham School of Excellence	School
Penson Temple Church of God	Church
New Gresham Methodist Church	Church
William H. Ryder Match and Science Specialty Elementary School	School
M B Restoration Church	Church
Tawheed Islamic Center Inc	Mosque
Mahalia Jackson Elementary School	School
Chicago Bethlehem French SDA Church	Church
New Promise Land Baptist Church	Church
Rehoboth Apostolic Worship Center West	Church
Greater Mt Bethel Missionary Baptist Church	Church
Wallace Park	Park
Rudyard Kipling Elementary School	School
Medgar Evers Elementary School	School
Gospel Truth Missionary Baptist	School
Fernwood Elementary School	School
Fernwood United Methodist Church	Church
Rehoboth Apostolic Worship Center-Halsted	Church
Marcus Garvey Elementary School	School
The Powerhouse Chicago	Church
Faith Temple Coptic Church	Church
Larry's Barber College	School
Covenant Faith Church of God	Church
Fernwood Park	Park
Emerald Avenue Church of God	Church
House of God	Church
Mt Vernon Elementary School	School
Jackie Robinson Park	Park
DaVita Washington Heights Dialysis	Health Clinic
Bellevue Ministry Center	Church
The Holy Order of Cherubim & Seraphim Church – Pentecostal	Church
Seby Medical Center	Family Doctor

Community Resource	Type
Dunne Technology Academy	School
Greater Mt Eagle Baptist Church	Church
Ombudsman Chicago Roseland	School
Allen Metropolitan Church	Church
Christian Fenger High School	School
Lilydale First Baptist Church	Church
Sheldon Heights Church of Christ	Church
Lights of Zion MB Bible Church	Church
St James Ministries	Church
West Pullman Baptist Church	Church
St James Church of God in Christ	Church
Morgan Field Park	Park
Gano Park	Park
Major Taylor Trail	Trail
West Pullman Branch, Chicago Public Library	Library
Mt Zion First Holy Miracle	Church
Christian Service Missionary	Church
Redeeming Grace Church	Church
Original New Paradise	Church
Kennedy Jordan Manor	Senior Living Residence
Sure-Way MB Church	Church
Holy Cross Baptist Church	Church
Lively Stone Apostolic Church of God	Church
House of Rhema	Church
New Life Full Gospel Christian	Church
St Titus One Missionary Baptist	Church
West Pullman Medical Center	Health Clinic
Spiral Temple of Truth	Church
St Peter & Paul Catholic Church	Church
Cedar Park Cemetery	Cemetery
Brown Community Academy Elementary School	School
Good News Evangelistic Church	Church
Church of Christ in Colonial Village	Church
Epiphany Hall	Church
Whistler Woods Forest Preserve	Park
Little Calumet River	River
Riverdale Police Department	Government
United States Postal Service	Government

Community Resource	Type
Riverdale Inspectional Services	Government
Kickapoo Meadows, Forest Preserves of Cook County	Park
New Name Missionary Baptist Church	Church
Bryant Elementary School	School
Gloria Taylor Hall Harvey Park District	Park
Wee Care Christian Learning Center	Daycare
First Pentecost Assemblies International Church	Church
WeRestoreu	Church
Thornton High School	School
Thornton Township High School	School
Thornton High School Farm Lab	School
Center for Islamic Teachings and Community Development	Community Center
South Suburban Islamic Center of Harvey	Mosque
Department of Environment, City of Harvey	Government
City Hall, City of Harvey	Government
Harvey Public Library District	Government

Source: Google Maps, accessed May 2022, and site visits

Permanent impacts to community resources would be limited to minor easements at the Woodson Regional Chicago Public Library in the City of Chicago and the Cook County Kickapoo Woods Forest Preserves. **Section 9** contains additional detail on these property impacts, and **Appendix H** presents the Section 4(f) *di minimis* documentation and concurrence from the official with jurisdiction (OWJ) for impacts to Kickapoo Woods. This Project would not adversely affect any of the activities, features, or attributes associated with the Kickapoo Woods.

The proposed roadway improvements and increase in transit service with the new Pulse service will benefit the Project corridor population and community resources by improving mobility; increasing access to jobs through faster travel times in the corridor; improving air quality through the reduction in car commuter traffic; and greater potential for economic opportunities along the corridor. The upgrades to existing sidewalks, curb ramps, and crosswalks near stations also provides the four affected municipalities with newly constructed pedestrian facilities. Existing 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 tax base because of easements needed for the Project. However, this impact

would be negligible because of the small area (approximately 0.07 acres) of easements required.

Existing local Pace Route 352 would have a reduction in service frequency and therefore less frequent access to the local Pace route bus stop locations that are not co-located with proposed Pulse Halsted Line stations. Most such locations are outside the City of Chicago, as Pace Route 352 already operates a more limited stopping pattern in the City, stopping primarily at major intersections where Pulse stations are proposed. For those who can only reach a local bus stop further from a Pulse station because of difficulty walking or rolling longer distances such as the elderly, individuals with disabilities, or the very young, this may be an inconvenience. However, ridership data shows that the vast majority of Route 352 boardings are close to proposed Pulse stations, and some remaining Route 352 service will continue to provide local service to all other stops.

No additional permanent negative socioeconomic impacts would 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 construction. Access to businesses and residences would be maintained throughout construction.

The Project would not adversely affect community cohesion as it would not change access to destinations within the community or available route options. 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 the queue jump lanes; however, parking removal is not geographically concentrated in any one location where an impact to the number of parking spaces would have a significant effect on the overall availability of parking relative to the demand. Additionally, off-street parking is available for most businesses directly adjacent to the Project corridor, and an analysis of on-street parking shows low utilization throughout the corridor where present.²⁸ The Project proposes some driveway closures adjacent to Pulse stations to accommodate the station length. However, the proposed design mitigates any impact through maintaining sufficient driveways to parcels that preserves property access and does not change circulation patterns.

Opportunities provided by the Project include improved mobility through greater bus service frequency (see proposed operating plan in **Section 1.1.3**), longer hours of service and faster travel speeds (see **Appendix D, Tables 5 and 6**). Average travel time

²⁸ Consultant (HNTB) traffic team field visit November 4, 2019; Site visit by the project team for Project kick-off on September 20, 2019; Consultant (CDM Smith) on-street parking assessment October 4, 2018 (documented in the [South Halsted Bus Corridor Enhancement Study Existing Conditions Report](#))

savings of 8 minutes per round trip on buses in the Project corridor improves accessibility in terms of time saved reaching destinations in the Chicago region. On average, commute times in the South Halsted Corridor are 7 minutes (20 percent) longer for Project corridor residents than for other commuters in Cook County.²⁹ The Project also offers additional pedestrian enhancements in and around stations including shorter crossing distances across Halsted and greater pedestrian space at bus bulb stations and curb extensions. To that end, the Project would contribute to the enhancement of the surrounding communities by adding more convenient and more accessible public transportation. Therefore, the Project is not expected to adversely impact the local population or community resources and cohesion.

²⁹ Pace and CTA, South Halsted Bus Corridor Enhancement Study Existing Conditions Report. August 2018.

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 South Halsted Bus Corridor Enhancement 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, Pace analyzed U.S. Census data for all census block groups within ½ mile of the alignment. 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 Project corridor. The map shows that minority populations are present in all census block groups within the Project corridor.

City affiliations are likely more meaningful to residents than census block group boundaries, which often cross municipal boundaries. All block groups along the corridor within each affected municipality were analyzed to determine whether the section of each municipality within ½ mile of the Project corridor have minority populations present. The Project corridor population was also compared with the total population and minority characteristics of Pace's six-county service area, which includes suburban Cook (excludes City of Chicago), DuPage, Lake, Kane, McHenry and Will Counties.

Table 12-1 shows minority populations within ½ mile of the Project and the municipal boundaries. Census block groups within ½ mile of the Project corridor represent a 98 percent minority population on average. Corridor block groups for each municipality have between 95 and 98 percent minority residents compared to 42 percent for Pace's entire service area indicating a distinct minority population near the Project. The corridor is predominantly Black or African American, with 90 percent of the corridor

population identifying as such. Other racial and ethnic groups are comparatively small, including Hispanic or Latino (6 percent), White (5 percent), and Two or more races (2 percent).

Low-income populations were identified, in accordance with FTA Circular 4703.1, where population 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 populations with incomes representing less than 150 percent of the official poverty threshold as its definition of low-income. Within ½ mile of the Project corridor, 37 percent of the population has income less than 150 percent of the U.S. Census Bureau's poverty threshold as published in the American Community Survey 5-Year Estimates for 2016 – 2020³⁰.

³⁰ U.S. Census Bureau 2016-2020 American Community Survey Table ID C17002 (Ratio of Income to Poverty Level in the Past 12 Months).

Figure 12-2 shows the percentage of the population within the census block group with incomes less than 150 percent of the poverty threshold. Areas with higher percentages of low-income population are at the northern end of the corridor near 79th Street, in the center of the corridor between 107th and 123rd St, and in the southern portion of the corridor between 135th and 159th Streets. In those locations, there are census blocks where up to 85 percent of the population is low income. Poverty status for the population within the Project corridor were compared with the total of Pace's service area as shown in

. Approximately 37 percent of the population within the Project corridor have incomes below the U.S. Census poverty threshold compared with 14 percent of the population in Pace's service area.

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

Jurisdiction	Population	Minority Population	Percent Minority
Corridor Block Groups in			
Chicago	91,665	90,223	98 percent
Harvey	13,702	12,958	95 percent
Phoenix	2,756	2,668	97 percent
Riverdale	9,788	9,596	98 percent
Calumet Park	4,040	3,976	98 percent
Halsted Corridor Total	121,951	119,421	98 percent
Pace Six-County Service Area*	5,624,608	2,334,919	42 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

TABLE 12-2: LOW-INCOME POPULATION

Jurisdiction	Total Population	Low-Income Population	Percent Low-Income
Corridor Block Groups in			
Chicago	90,879	32,264	36 percent
Harvey	13,684	5,266	38 percent
Phoenix	2,745	1,478	54 percent
Riverdale	9,731	4,547	47 percent
Calumet Park	4,040	1,045	26 percent
Halsted Corridor Total	121,079	44,600	37 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

Based on U.S. Census data, the Project corridor contains minority populations and low-income populations. These findings were then analyzed to determine whether Project-related impacts would disproportionately impact these EJ populations.

Outreach to EJ populations included all outreach activities described in **Section 1.4**. No special targeting was done for minority populations because the entire corridor is majority-minority. Instead, the Project team worked with a public involvement consultant that regularly works with and has relationships with community groups and stakeholders in the Project corridor. This consultant helped establish the stakeholder list of contacts and provided input on the presentation slide design and script to make sure

that the content would be relatable for corridor residents and address their concerns. No special targeting was done to reach low-income populations within the corridor. 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 as well as flyers posted onboard buses routed through the corridor, and by contacting current bus riders through their Ventra fare card accounts, specifically targeting those who use transit in 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.

FIGURE 12-1: MINORITY POPULATION IN PROJECT CORRIDOR

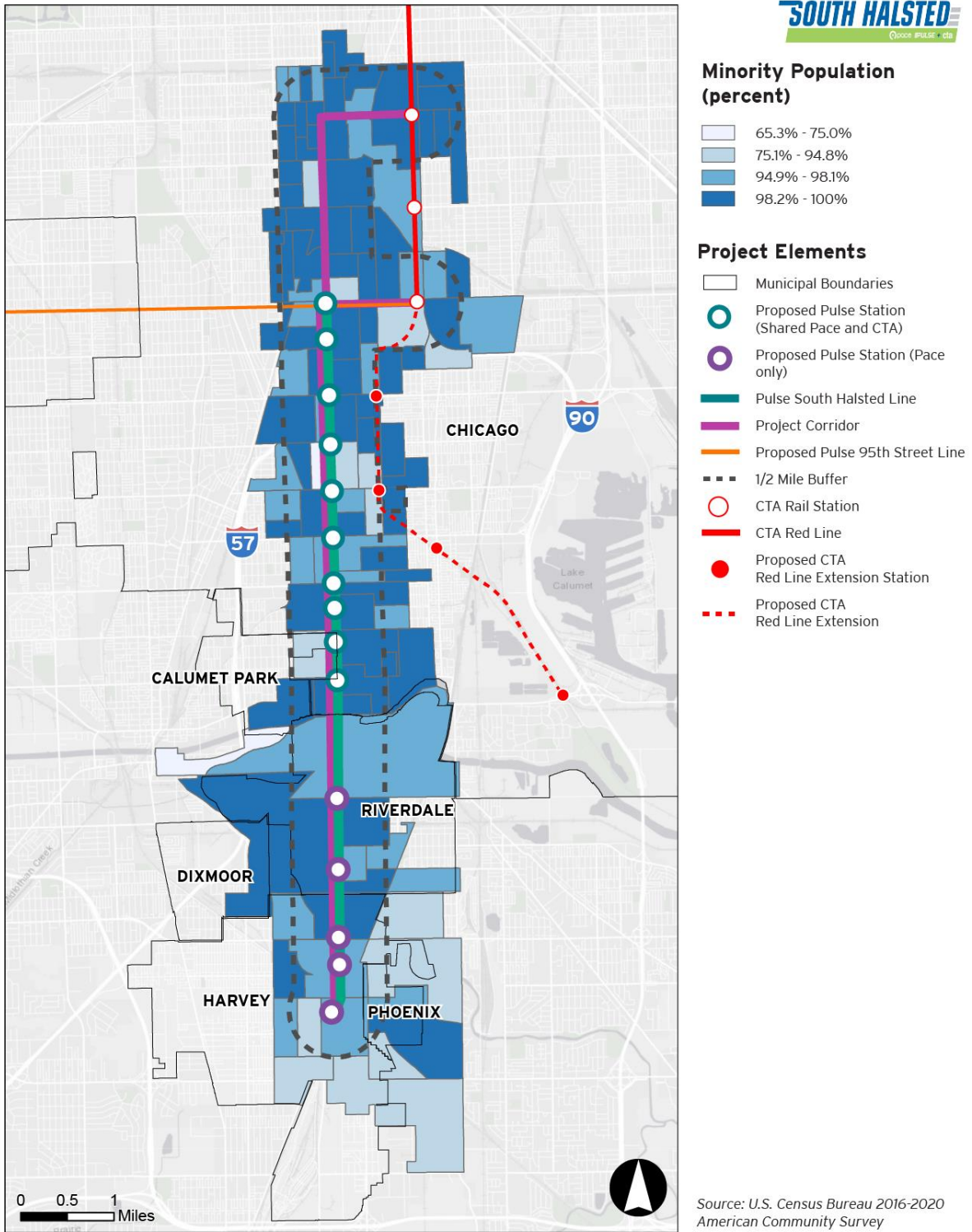


FIGURE 12-2: LOW-INCOME INDIVIDUALS IN PROJECT CORRIDOR

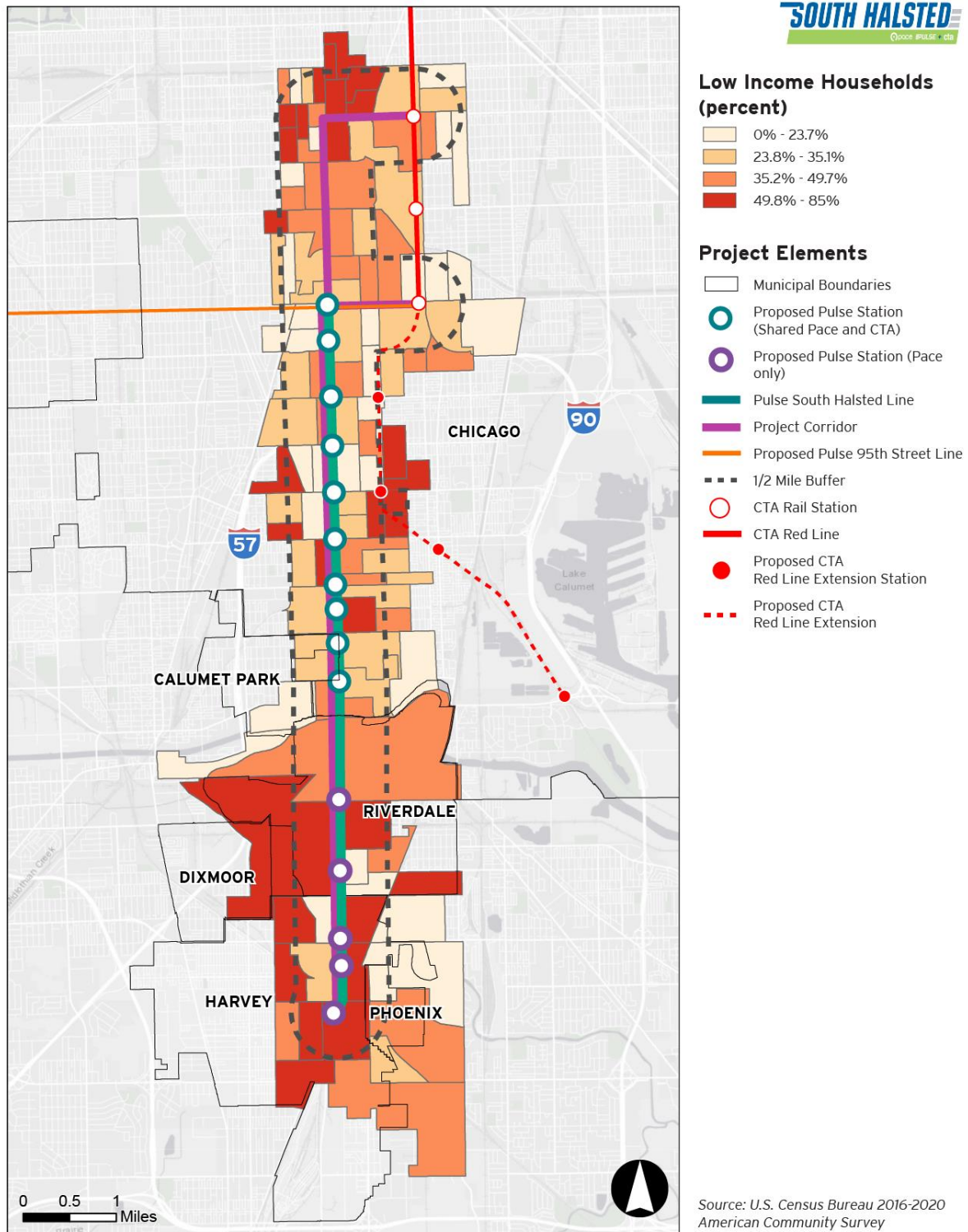


TABLE 12-3. PROJECT IMPACTS AND BENEFITS TO ENVIRONMENTAL JUSTICE (EJ) POPULATIONS

Project Component	Impact or Benefit	Description	Determination Measure for Non-Adverse Impact
Reduction in Pace Route 352 Service	Impact	The existing Pace Route 352 will be retained with less frequency. As such, the distance to bus stops will not change in EJ communities; however, EJ communities will have less frequent service to local bus stops through Route 352 that has bus stops at more frequent intervals than the Pulse Halsted Line service.	EJ populations will experience overall increased service frequency and hours of service through the new Pulse Halsted Line serving stations that are spaced every ½-mile to 1-mile apart. Stations will continue to be served by all other local bus routes operated by Pace and CTA that use the Project corridor.
Reduction in Parking along Halsted Street	Impact	The project will result in the loss of approximately 324 on-street parking spaces in the Project corridor, a loss of 17 percent of the on-street parking on the entire Project corridor.	Ninety-nine percent of the 800 corridor-adjacent businesses and parcels have available off-street parking. In addition, on-street parking spaces were observed to have low utilization in field surveys.
Medians	Impact	The project will directly impact 11 percent of historic landscaped medians located between W. 129 th St. and W 87 th St.	The proposed physical changes to the medians do not impact the property's overall integrity of location, setting, feeling and association. Additionally, trees will be replaced with a variety of plants in the median where the median

			is reconstructed narrower than can support tree roots. New tree plantings will be explored in the parkways parallel to medians requiring tree removal as a result of the Project.
Construction	Impact	The Project would result in temporary construction impacts on residences, businesses and travelers through the construction zones surrounding the stations, queue jump lanes or bus-only lane segments. 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 because of 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 0.07 acres of temporary easements and 0.07 acres of permanent easements will be required for the proposed Project stations.	The Project would not result in displacement of residential or commercial properties. Easements are typically limited to small areas of sidewalks, grass or parking lots to accommodate the back sides of Pulse stations that stretch beyond the right-of-way 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. General traffic will also experience a time savings due to the Project's proposed traffic signal optimization.	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 current fare policy and structure would remain at the current levels through the implementation of the Pulse Halsted Line; no price increases that could potentially create a disproportionate impact EJ communities are planned.	No impacts.

13 Use of Public Parkland & Recreation Areas

13.1 Section 4(f) Properties

Section 4(f) of the US Department of Transportation (USDOT) Act of 1966 is a federal law that established requirements for USDOT (including FTA) consideration of publicly owned parks/recreational areas that are accessible to the general public, publicly owned wildlife/waterfowl refuges, and publicly or privately owned historic sites of federal, state, or local significance in developing transportation projects. This law, commonly known as Section 4(f), is now codified in 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.³¹ FTA has 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. "Use" definitions under Section 4(f) are defined in statute and include permanent incorporations or direct uses, as well as short-term temporary uses or constructive uses due to proximity of a project to Section 4(f) protected resources. In accordance with 23 CFR § 774.17, FTA may not approve the use of a Section 4(f) property, unless it determines that (1) there is no feasible or prudent alternative to the use of that land and the Project includes all possible planning to minimize harm of using the property or (2) FTA determines that Section 4(f) use of the property would have a "de minimis" impact. Detailed information on the Section 4(f) regulatory requirements as well as the analysis and coordination/consultation conducted are included in **Appendix H** and are summarized in this section.

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

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

³¹ "Section 4(f) Policy Paper," Federal Highway Administration. 2012.

TABLE 13-1: PARKS AND RECREATIONAL FACILITIES WITHIN ¼ MILE OF STATIONS

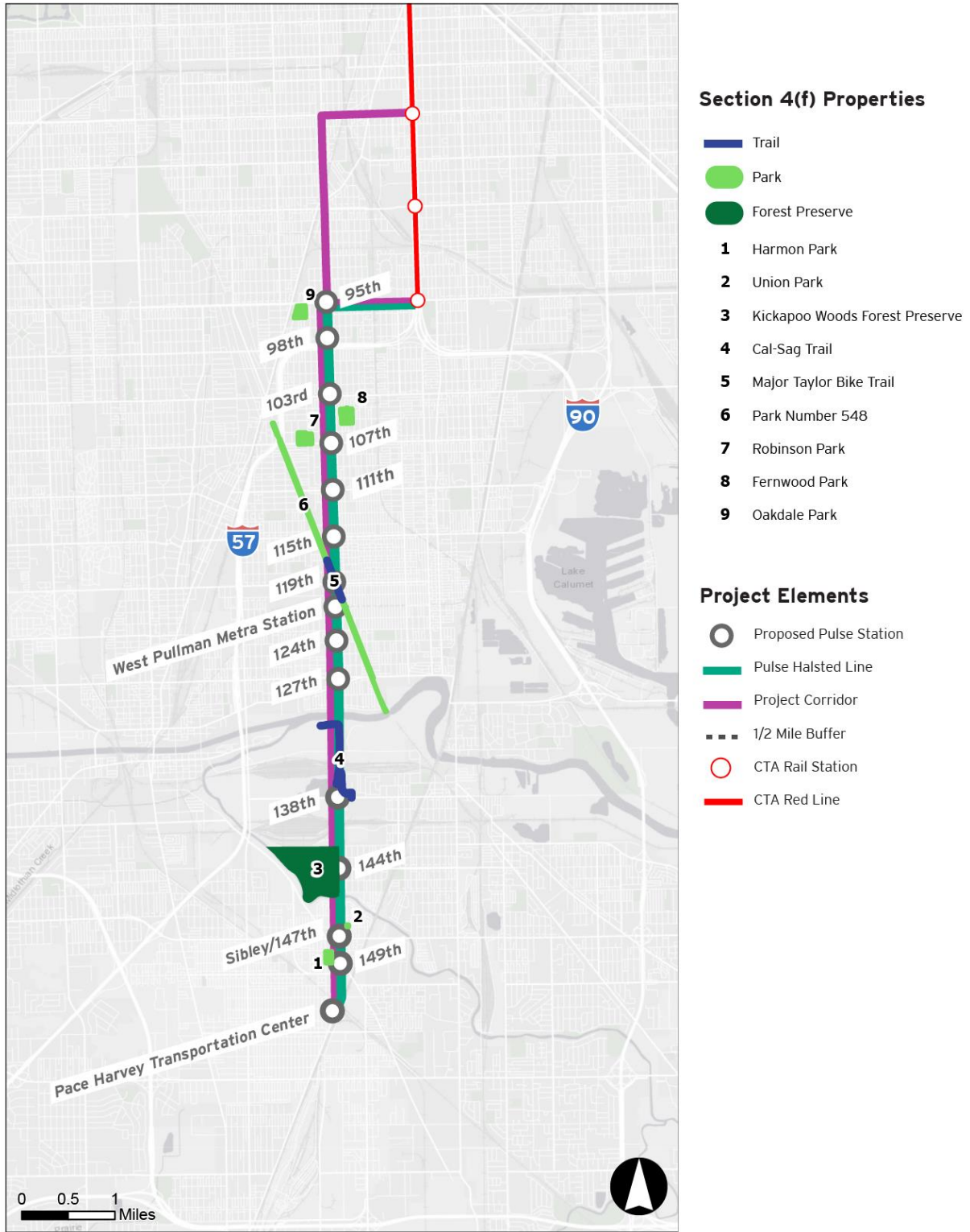
Resource ID	Resource Name	Distance from Station (ft)	Nearest Station	Location/Address
1	Harmon Park	439	149 th St.	14821 Broadway Ave., Harvey
2	Union Park	770	Sibley/147 th St.	146 th St. and Union Ave., Harvey
3	Kickapoo Woods Forest Preserve	0	144 th St.	Halsted St., south of W. 144 th St., Riverdale
4	Cal-Sag Trail	444	138 th St.	Crosses Halsted St. north of 138 th St.
5	Major Taylor Bike Trail	100	119 th St.	Crosses Halsted St. at 119 th St., Chicago
6	Park Number 548	0	119 th St.	Crosses Halsted St. at 119 th St.
7	Robinson Park	1,009	107 th St.	1021 W. 106 th St., Chicago
8	Fernwood Park	865	103 rd St.	10436 S. Wallace St., Chicago
9	Oakdale Park	1,153	95 th St.	965 W. 95 th St., Chicago

Three recreational resources, Kickapoo Woods Forest Preserve, the Cal-Sag Trail, and the Major Taylor Bike Trail/Park Number 548, were identified for further Section 4(f) analysis and are further described in **Appendix H**.

A portion of Park Number 548, which is the Major Taylor Bike Trail, is mapped east of Halsted Street and north of 119th Street. The Major Taylor Bike Trail crosses Halsted Street south of 119th Street and is not located on this portion of mapped Park Number 548. No recreational facilities are located on the mapped park. No permanent or temporary easement would be required at the park.

The Cal-Sag Trail and Major Taylor Bike Trail cross Halsted Street within the Project corridor. Both trails will remain open and access will be maintained at all times during construction. A commitment is included in this Documented Categorical Exclusion requiring the Project to provide pedestrian and bicycle access across Halsted Street and 119th Street at all times during construction to maintain access to the Major Taylor Bike Trail.

FIGURE 13-1: PARKS AND RECREATIONAL FACILITIES WITHIN ¼ MILE OF STATIONS



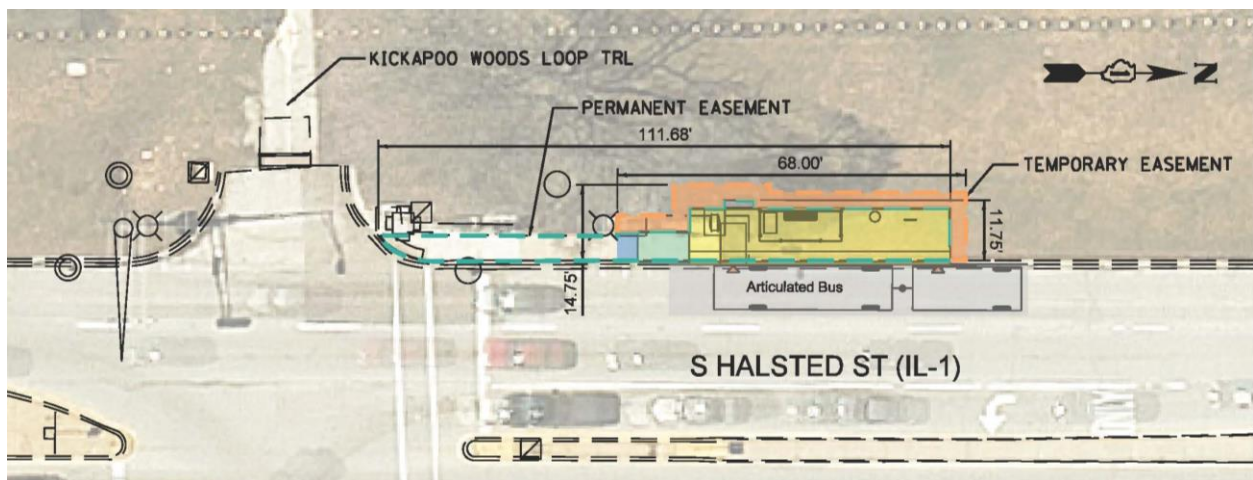
Small permanent and temporary easements would be required from one recreation area (Kickapoo Woods Forest Preserve) to accommodate the southbound station at Halsted Street and 144th Street. To accommodate this station, a permanent easement, estimated at 826 square feet (approximately 111.68 feet long by a maximum of 11.75 feet deep from the back of curb) is needed to provide Pace and CTA with the legal rights to use a portion of this property. The proposed station would be located on the same site as a current local bus stop and bus shelter; however, it will be larger to accommodate additional passenger amenities. The Forest Preserve District of Cook County (FPDCC) would retain ownership of the entire preserve. An additional temporary easement, estimated at a maximum of 268 square feet (up to 68 feet long by up to 5 feet deeper than the permanent easement), is also needed for construction access.

shows the locations of the proposed easements. The temporary easement will only be required during the construction timeframe and the land will be restored to the previous use once construction is complete. The existing land use in this area is maintained lawn grasses. No trees located on the FPDCC property will be impacted by the Project. There will be no impacts to the paved trail. The easement would extend into the grassy buffer between the existing sidewalk, but would have no impact on the forest preserve uses or amenities.

It should be noted that the exact easement boundaries are subject to revision as the station design is refined during final design, and pending further title research to confirm ownership of the land under the existing sidewalk. The boundaries shown in

are conservative, and the actual final boundaries will be equal to or less than those shown.

FIGURE 13-2: HALSTED/144TH STREET SOUTHBOUND STATION MAP AT KICKAPOO WOODS FOREST PRESERVE



The permanent easement needed for this station would result in a permanent incorporation or direct use of recreational land as defined by 23 CFR § 774.17. A temporary easement will also be required for construction and both easements are included in this analysis. Given the minimal amount of land proposed for the permanent and temporary easements, and because they would not impact the attributes, amenities, or features of the forest preserve, a *de minimis* finding is proposed for this Section 4(f) use. A *de minimis* impact involves the use of Section 4(f) property that is generally minor in nature. A *de minimis* impact determination requires agency coordination and concurrence with the officials with jurisdiction (OWJ) over the Section 4(f) property and public notice and an opportunity for public review and comment, as described by 23 CFR § 774.5.

A public notice was published on April 15, 2022 in the local newspaper requesting a 30-day public review and comment concerning the proposed station and potential impact to the forest preserve. The public notice was also published on the Pace website on April 26, 2022. No public comments were received.

Pace met with the FPDCC (the OWJ over this property) on March 10, 2022. Pace shared a draft Section 4(f) *de minimis* letter with the FPDCC on March 17, 2022. Based on coordination and comments received, Pace adjusted the proposed easement boundaries and added some language to the letter regarding the Project benefits and a section for comments below the concurrence signature. The updated easement boundaries and letter were shared with the FPDCC on March 31, 2022.

Because no public comments were received, FTA confirmed the *de minimis* finding, informed the FPDCC of its intention to make this finding, and requested their concurrence. Pace sent written correspondence to the FPDCC on May 17, 2022, to finalize coordination. The FPDCC provided their concurrence on the *de minimis* finding on June 1, 2022. Copies of all documentation and correspondence are provided in **Appendix H**.

In addition to the properties within ¼ of proposed stations discussed above, there are three parks (Fernwood Parkway Park, Park 382, Lyle Park), one forest preserve (Whistler Woods Forest Preserve), and one publicly owned golf course (Joe Louis “the Champ” Golf Course) adjacent to the corridor itself. No potential use or impact to these areas are anticipated, given that the improvements would be within existing transportation right-of-way near them and the minimal number of additional buses proposed during peak hour (no more than 4 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.

No permanent or temporary easements will be required from any of the other recreational facilities identified within ¼-mile of proposed stations. As such, there would be no other impacts or Section 4(f) use of parks or recreation areas because of the

Project. Additionally, public recreation areas along the corridor could benefit from the Project from better access to these properties.

13.2 Section 6(f) Properties

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.

The Kickapoo Woods Forest Preserve is the only recreational property where a permanent easement will be required. Coordination with the National Park Service (NPS) on April 19, 2022 indicated they had no records of this forest preserve receiving LWCF funding. Coordination with the FPDCC indicated the deed for the Kickapoo Woods Forest Preserve is dated 1924, prior to the LWCF. They were not aware of LWCF funds being used on the property. Upon recommendation by the Illinois Department of Natural Resources (IDNR), a Freedom of Information Act (FOIA) request was made to the IDNR regarding LWCF funds and Kickapoo Woods Forest Preserve because they are the state agency who manages the program. IDNR sent a response on April 27, 2022, indicating the FOIA request was denied because no such records exist at the agency. Coordination is provided in **Appendix I**.

There is no evidence the Kickapoo Woods Forest Preserve has received LWCF grant funds; 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 (hydic [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 J**).³² 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 J**).³³ Pace also reviewed the Illinois Ecological Compliance Assessment Tool (EcoCAT) to identify resources mapped by Illinois Department of Natural Resources (see **Appendix J**).³⁴

Although the Project corridor is adjacent to several areas of potential wetlands, the Project corridor is in an urbanized area within existing right-of-way, 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

³² U.S. Fish and Wildlife Service National Wetlands Inventory. <https://www.fws.gov/wetlands/data/Mapper.html>. Accessed 5/2/22

³³ U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey. <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed 5/2/22

³⁴ Illinois Department of Natural Resources EcoCAT. <http://dnr.illinois.gov/EcoPublic/>. Accessed 5/2/22

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.

1.5 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 have been identified using the Federal Emergency Management Agency Flood Insurance Rate Maps³⁵ (see **Appendix K**). Portions of the Project would cross the following flood zones:

- Zone A is defined as areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.
- Zone AH is defined as areas subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are between one and three feet. Base Flood Elevations (BFEs) derived from detailed hydraulic analyses are shown in this zone. 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.

The Project would cross the following regulatory floodway:

- Little Calumet River, Zone AE, south of 144th Street in Harvey, 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 any Zone A, Zone AH, or Floodway Zone AE areas; however, construction is proposed to occur in Zone X (unshaded) areas. Although most Project elements, including stations, would be constructed within the existing right-of-way, Project construction would increase the amount of impermeable area in Zone X.

³⁵ Flood Insurance Rate Map Numbers 17031C0645J, 17031C0644J, and 17031C0732J, all revised August 19, 2008

Table 15-1 shows the amount of impermeable area added. The total increase of 15,084 square feet of impermeable area (approximately 0.35 acre) would not have a significant impact on the floodplain. Construction would be minimal and would not affect base flood elevations or affect surface contours.

TABLE 15-1: IMPERMEABLE AREA INCREASE IN ZONE X

Project Element	Impervious Area Added (square feet)
Stations	9,522
Medians	5,562
Total	15,084

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 would cross the Little Calumet River at two locations. No work in the vicinity of these crossings or below the ordinary high-water mark is expected to occur at these river crossings; therefore, it is anticipated that there would be no direct impacts on these waterways.

Pace reviewed the 2016 Illinois Environmental Protection Agency Section 303(d) list of Impaired Waters for waterways within the Project corridor. The Little Calumet River is an impaired waterway, including for Dissolved Polychlorinated Biphenyls (PCBS), Mercury, Dissolved Oxygen, Hexachlorobenzene, Fecal Coliform, Chloride, Endrin, Phosphorus, Sedimentation/Siltation, Sludge, and Oil.

Pace would prepare a storm water pollution prevention plan, if required, for the construction of the Project. The Project would not contribute to the degradation of impaired waterways or hinder any established recovery plans, such as the Little Calumet River Conservation Action Plan.³⁶

The Little Calumet River is designated as a navigable water of the United States. The Project would not affect the navigability of this 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.

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 (see **Table 5-1**) because the Project corridor is already heavily urbanized (see **Figure 4-1 through Figure 4-6**).

³⁶ <https://openlands.org/what-we-do/land-water/water-conservation/little-calumet-river-conservation-action-plan-cap/> accessed 05/31/2022

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 Illinois Department of Natural Resources (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.^{37, 38}

According to the USFWS, there are 11 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 two protected resources that may be in the vicinity of the Project corridor: the Riverdale Marsh Illinois Natural Areas Inventory (INAI) Site and Mountain blue-eyed grass (*Sisyrinchium montanum*).

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 identified or anticipated to occur at station locations. If these species were to occur in the Project corridor, they would most likely appear along the Little Calumet River or within the unmaintained areas of the Cook County Forest Preserve. If any of these species are along the Project corridor, the

³⁷ USFWS Federally Endangered, Threatened, and Candidate Species <https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=17031>. Accessed 5/2/22

³⁸ Illinois Department of Natural Resources EcoCAT. <http://dnr.illinois.gov/EcoPublic/>. Accessed 5/2/22

species would be accustomed to typical activity along the streets of Cook County, including periodic roadwork and bus traffic. No construction work is anticipated near the Little Calumet River, and construction work in the Cook County Forest Preserve occurs in a landscaped area of the preserve along Halsted Street with mowed grass; therefore, no impacts are anticipated to any federal- or state-listed species in the Project corridor.

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 corridor for all roadway users and pedestrians. The Project would include pedestrian improvements around stations, including curb extensions, restriped crosswalks, shortened lengths of crosswalks across Halsted Street, pedestrian refuges, and enhanced accessibility through sidewalks and curb ramps. The proposed operations of the queue jump lanes 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 minimum or greater crossing times 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 corridor to the other for all flatwork (milling, demolition, concrete pouring, sidewalks, curb extensions and roadway improvements) for both stations and roadway improvements. 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.

In addition to stations, roadway improvements include median reductions, curb extensions, queue jump lanes and short, bus-only lane segments. Some minor streetscape improvements include landscaping, which will be determined in final design. Construction of these 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. 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. Pace, along with the contractor, will be responsible for coordinating detours and maintenance of traffic activities with CTA, the City of Chicago Department of Transportation, and the 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 (or set of contiguous intersections in the case of the bus lane segments) as work progresses from one end of the 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 upstream and downstream of construction due to lane tapers. Similarly, during median work, traffic will be directed to curbside lanes temporarily restricting parking while through traffic utilizes

the parking lane adjacent to the curb. 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 the through traffic at the 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 Park 548, identified for Section 4(f) analysis, which is located close to the northbound Pulse Halsted Line station at Halsted Street and 119th Street. 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 right of way.

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. Peak travel hours would also be considered to minimize delays wherever possible. 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 the acquisition of 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 through sweeping or washing off dirt and dust from the site or other dust control applications.

No major 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 F**) 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 queue jump lanes. 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.