2024 Station Evaluation

February 2025

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ACKNOWLEDGEMENTS

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INTRODUCTION

PRT's Station Improvement Program (SIP) allows PRT to work collaboratively with communities to improve existing stations and add stations along its busways and light rail system. Improvements to stations can increase ridership, increase accessibility, improve pedestrian and multimodal access, and create transit-oriented places where people can live, work, and play without needing a car. PRT is the steward of significant public investment, which includes Station Area Planning (SAP), the process by which stations are redesigned to meet the needs of the current and future communities around the station.

The Station Evaluation report presents the findings from a quantitative analysis of station and station area metrics. These metrics were workshopped and selected to best indicate what elements would lend themselves to an SAP, while understanding that many qualitative indicators also play a role after the analysis. This assessment is an update to the 2018 Fixed Guideway Station Evaluation, which identified stations on the Blue, Red, and Silver Railways, Green Line (West Busway), and Purple Line (East Busway) for the Transit-Oriented Communities (TOC) program. The 2018 assessment was extensive, but did not lend itself to being replicable. The 2024 assessment has changed many of the metrics, but also the categories and the scenarios of analysis. This will be explored further in the report.

To the right is PRT's TOD Type Matrix, which plots station areas based on their density and level of mixed use. Depending on the figures of those two factors, the station areas fall into one of six types. The station area types represented here reflect current data and does not consider the future aspirations and plans of the station area community.

TOD Type Matrix

Density
(Jobs + Residents / mile²)

Use Type
(Ratio of Jobs to Residents)

URBAN NEIGHBORHOOD
URBAN MIXED USE
DOWNTOWN
TRANSIT NEIGHBORHOOD
SUBURBAN NEIGHBORHOOD
SUBURBAN EMPLOYMENT

Gateway
Wood Street
First Avenue
Steel Plaza
Penn Station
North Side
Station Square
Mon Incline Lower
Allegheny
Negley
East Liberty
Mon Incline Upper
Dormont Junction
Potomac
Mt. Lebanon
Roslyn
Stevenson
Wilkinsburg
Hamnett
Dorchester
Carnegie
Shiras
Herron
Hampshire
Poplar
Homewood
Fallowfield
St. Anne's
Hampshire
Arlington
Overbrook Junction
Crafton
Belasco
Castle Shannon
Ingram
South Hills Junction
Willow
Bethel Village
Inglewood
Swissvale
Overbrook
South Hills Village
Smith Road
Pennant
South Bank
Palm Garden
Highland
South Park
Boggs
Sheraden
Munroe
Dawn
Killarney
Mesta
Glenbury
Pioneer
Whited
Memorial Hall
Bell
Edgebrook
Casswell
Sarah
Denise
Washington Junction
Lytle
Central
Logan
McNeilly
Beagle
Hillcrest
Sandy Creek
Idlewood
Kings School
Library
Bon Air
West Library

■ OBJECTIVES

The purpose of this evaluation is to identify stations for Station Area Plans (SAP), look comprehensively at the context of the station or the station area, and to better propose transit resources and connections to the surrounding communities. This would move forward PRT's goal of pursuing TOD to encourage ridership and livability around stations through affordable, mixed-use development.

The 2024 Station Evaluation aligns with PRT's organizational goals, which can be found in the 2023-2028 Strategic Plan. The updated Station Evaluation advances accountability by establishing an effective and efficient Station Evaluation system, with qualitative metrics using publicly accessible or shared data. The evaluation prioritizes equitable opportunities through the analysis by heavily weighting equity scores and creating a displacement threat score. In addition, the evaluation has been developed with an understanding of community needs following engagement in past Station Evaluation projects such as Herron Station and Wilksburg/ Brushton Stations. Organizational resilience is advanced by prioritizing limited PRT resources to have maximum value in terms of ridership benefit, maintenance costs, and the potential for revenue-generating joint development.

Through this quantitative assessment, PRT will develop a priority ranking for station area conceptual plans. While this evaluation will create a hierarchy of stations that should be considered for a station area plan, PRT also acknowledges that other external factors, such as community and governmental support, may impact which stations end up receiving a station area plan.

STATION SQUARE CONCEPTUAL PLAN

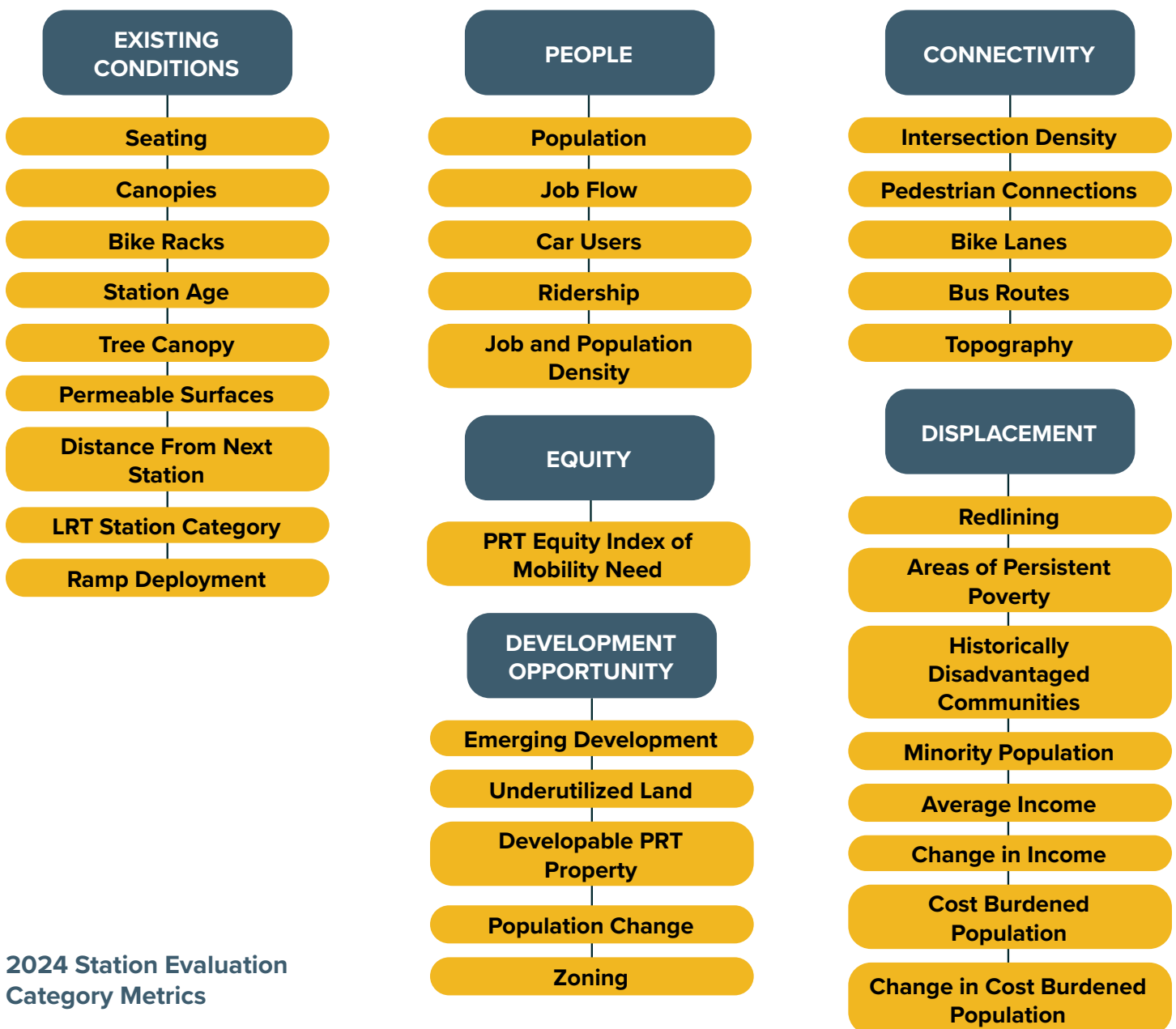**HERRON STATION CONCEPTUAL PLAN**

DORMONT STATION CONCEPTUAL PLAN

EVALUATION

This Station Evaluation scores each station under 32 metrics that are averaged into six categories: Existing Conditions, People, Connectivity, Development, Equity, and Displacement. Five of these six categories (Existing Conditions, People, Connectivity, Development Opportunity, and Equity) are weighted differently under five scenarios: Baseline, Accessibility, Joint Development, Neighborhood Connection, and Equity. Each station receives a score under these five scenarios, and the top ten stations under each scenario are considered for further review. The fifth category, Displacement, comes into play during the SAP process. PRT is committed to implementing TOD with attention to a community's displacement vulnerability, and new development should benefit the existing community in a station walkshed.

EXISTING CONDITIONS

- Seating
- Canopies
- Bike Racks
- Station Age
- Tree Canopy
- Permeable Surfaces
- Distance From Next Station
- LRT Station Category
- Ramp Deployment

PEOPLE

- Population
- Job Flow
- Car Users
- Ridership
- Job and Population Density

EQUITY

- PRT Equity Index of Mobility Need

DEVELOPMENT OPPORTUNITY

- Emerging Development
- Underutilized Land
- Developable PRT Property
- Population Change
- Zoning

CONNECTIVITY

- Intersection Density
- Pedestrian Connections
- Bike Lanes
- Bus Routes
- Topography

DISPLACEMENT

- Redlining
- Areas of Persistent Poverty
- Historically Disadvantaged Communities
- Minority Population
- Average Income
- Change in Income
- Cost Burdened Population
- Change in Cost Burdened Population

**2024 Station Evaluation Category Metrics**

METHODOLOGY

■ DATA SOURCES

PRT obtained metric data from the American Community Survey (ACS) 5-year estimate 2018-2022 and 2013-2017 by census tract, internal data, staff observation from station site visits, Southwestern Pennsylvania Commission (SPC) data hub, Bike PGH, CoStar, and Longitudinal Employer-Household Dynamics (LEHD) data program from U.S. Census Bureau.

■ WALKSHED

PRT defines the walkshed around a station to be a half-mile walking distance. This is an industry standard that approximates how far people are willing to travel for high-quality transit service and, on average, takes about 10 minutes. Nonetheless, PRT is aware that many transit users have mobility issues that would increase the time it takes to travel a half mile. Additionally, rather than a circular radius from the station, the half mile walkshed is measured along streets (excluding busway or highways, where pedestrians are not permitted). On the other hand, this analysis does not take into account topography or the presence of sidewalk, which makes walking more difficult. These walksheds capture residences and places of employment that are (relatively) accessible to the stations.
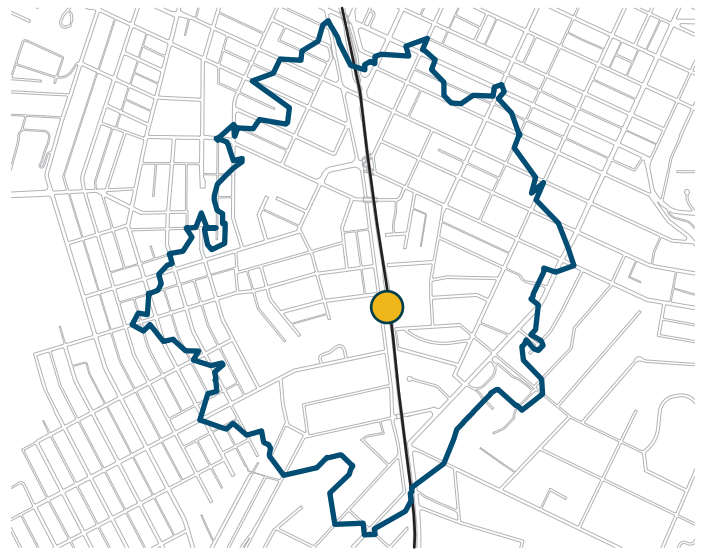
An example walkshed. Hamnett Station, East Busway

EXISTING CONDITIONS

The metrics under Existing Conditions exemplify the conditions of the station and other relevant PRT property (such as an abutting park and ride). Because PRT has the ability to directly impact the quality of the station, either through maintenance or redesign, stations with poor Existing Conditions receive higher scores and higher priority for conceptual design.

Under the Existing Conditions category, a station is scored based on the amenities it offers to ensure accessibility and comfort for transit riders. Existing Conditions comprise nine metrics: seating, canopies, bike racks, age of station, tree canopy, permeable surfaces, distance from other stations (LRT only), and bus ramp deployment (Busway only). These nine metrics assess a station's accessibility and infrastructure.

Metric	Description
Seating at station	Seating is needed at platforms for riders who are not able to stand long periods of time.
Platform canopies	Platform canopies protect riders from the weather (such as rain, snow, wind, and sun) while they are waiting for transit
Bike racks at station	Bike racks at the station could encourage multi-modal transportation options, and increase access for riders who live too far away to easily walk.
Age of station	Older stations might be in a worse state of repair, and are also more likely to not meet current design or accessibility standards.
Tree canopy coverage in the walkshed	Tree canopies can provide relief from the sun and other weather elements, and lend to a more pleasant experience.
Permeable surfaces in the walkshed	Permeable surfaces manage rainwater, prevent heat island effect, and help maintain landscapes.
Distance to the next station	Transit guidelines reccomend that rapid transit stations should be at least 0.25 miles apart.
LRT Design Guideline Category	PRT has grades each of the stations in the fixed guideway system based on ridership and growth potential.
Wheelchair ramp deployment (Busway only)	Bus ramp deployments can indicate where people with limited mobility are access the transit system.

■ PEOPLE

PRT seeks to build a transit system that connects Allegheny County residents to key destinations, including employment hubs, education and healthcare facilities, and friends and family. Improving these connections will support PRT's goals of increasing ridership and improving the rider experience across the region. To accomplish these goals, the station evaluation gives higher priority to station areas with more dense populations of residents and jobs.

People is a category comprised of five metrics: population, employment flow (or jobs in the area), personal vehicle commuting, transit ridership, and density (the sum of residents and jobs). These five metrics assess a station's employment and residential walkshed as well as the potential to boost commuting via public transportation. Assessing a station's surrounding area - including the opportunity for riders to access jobs, schools, and other places of interest, can be an indication of a station's vitality in the community and the potential to improve the ridership at that station.

Metric	Description
Population in the walkshed	The number of people who live in the walkshed, who have relatively easy access to the station.
Population which travels to the walkshed for work	The number of employees who travel to the walkshed for work to indicate the possible number of people who could travel to the walkshed via transit.
Population which lives in the walkshed and drive to work	The number of residents who drive to work, even though transportation is relatively accessible to them.
Average ridership at the station	The average count of weekday riders (both inbound and outbound) to determine the usage of the station
Density of residents and jobs in the walkshed	The number of people per square acre who spend time regularly within the walkshed.

CONNECTIVITY

In contrast to Existing Conditions, Connectivity metrics investigate the context surrounding stations and PRT owned property. Although PRT has explicit control over the design, quality, and maintenance of stations, PRT can only make recommendations for areas outside of a station. For that reason, station areas that already have higher quality connectivity to the station receive higher priority in the Station Evaluation.

The Connectivity category evaluates how well the station connects to the surrounding community through alternative transportation options in addition to public transit, such as biking and walking. This is an assessment to understand how the station plays a role in the community it serves. Five metrics are included in this category: density of intersections, sidewalk network connection, bike lanes, on-street bus routes, and topography. The presence of more bus routes in a station area suggests that the transit station is potentially a transfer point, and more bike lanes suggests that there is a higher usage by cyclists, which may imply that the station is associated with multi-modal commuting.

Metric	Description
Intersection Density	The number of intersections per square acre within a walkshed helps to determine the walkability experience and the coverage of the walkshed.
Pedestrian Connections	Pedestrian infrastructure such as sidewalks, curb cuts, and signage make a station safer and more pedestrian oriented. This metric assess if there is continuous pedestrian infrastructure from the platform to the surrounding community.
Bike Lanes	The total miles of bike lanes within a walkshed to determine accessibility to station through multi-modal commuting.
Bus Routes	The total bus routes within the walkshed to assess potential for transfers from the station.
Topography	The topography of the land within the walkshed to assess the difficulty of development and accessibility which is intrinsic to the area.

DEVELOPMENT OPPORTUNITY

Development Opportunity assesses a station's suitability for transit-oriented development (TOD). PRT defines TOD as a deliberately planned higher-density, mixed-use development within walking distance of a transit station. Stations that have a more agreeable environment for development receive higher scores and priorities.

Under the category of Development Opportunity, a station's potential for development is assessed using five metrics: emerging development, underutilized land, usable PRT property, five-year population change, and pro-TOD zoning. Stations with a higher Development Opportunity will be prioritized in the evaluation.

Metric	Description
Emerging development	Assessment of development activity within the walkshed to evaluate investment trends in the area surrounding the station.
Underutilized land	Acreage of land in which the building value is less than the property value, used to identify redevelopment opportunities around the station.
Developable PRT property	Acreage of PRT-owned property within the walkshed, assessed to determine the feasibility of internal development projects.
Population change	Population change within the walkshed, analyzed to assess growth that may impact potential ridership.
Zoning	Evaluation of zoning designations for parcels around the station to determine how amenable it is to transit oriented development.

▪ EQUITY

PRT aims to serve populations and communities who rely on transit most, and PRT's Equity Index of Mobility Need of Mobility Need helps the agency identify areas with higher densities of those populations. To ensure that SAPs are being conducted for those who rely on transit, stations with higher Equity scores receive higher priority.

In 2019, PRT updated an equity score for each station walkshed. This Equity Index of Mobility Need of Mobility Need considers the following metrics: population of older adults, people with disabilities, people in poverty, minority population, people under the age of 18, people with limited English proficiency, households without vehicles, and female head of households.

Legend

Equity Score 2019

High equity need

Low equity need

Rivers
Fixed Guideways
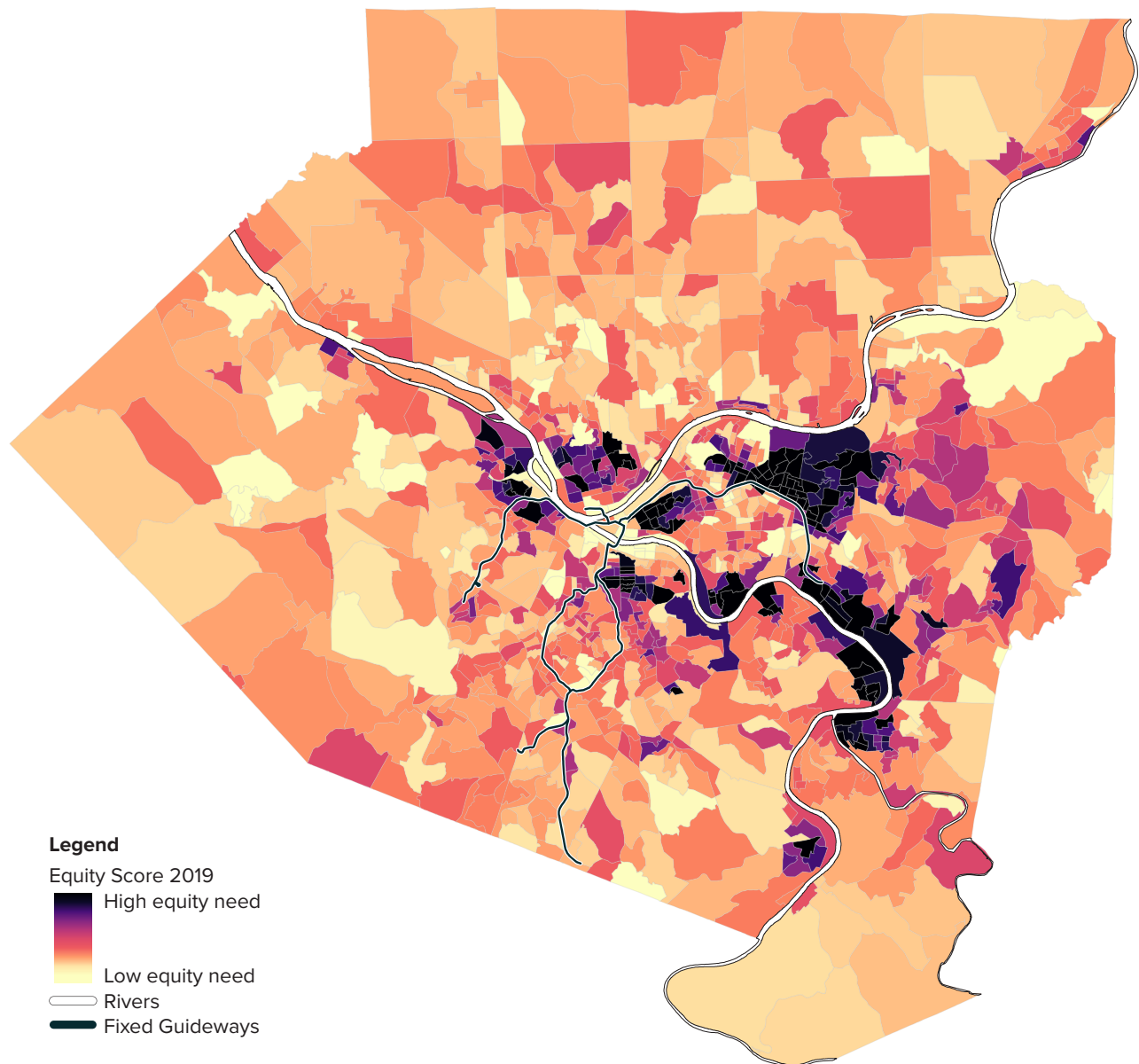
2019 PRT Equity Index

DISPLACEMENT

Displacement is a term that refers to the involuntary relocation of residents or businesses due to factors such as rising rents. PRT is mindful that the significant investment the agency makes in its stations may attract development activity that inadvertently displaces the riders PRT is trying to serve, many of whom may have lower incomes. PRT is committed to making every effort to address these risks through the Station Improvement Program and Transit Oriented Development.

PRT is committed to developing a transit system that prioritizes the well-being of vulnerable communities. This evaluation calculated a Displacement score for each station walkshed to determine how vulnerable a walkshed is to displacement from new development. The Displacement scores are not incorporated into a station's scenario scores but are significantly considered in the station area planning process. Understanding the vulnerability of the community within a walkshed will help mitigate displacement and guide planning efforts to ensure that vulnerable populations are prioritized.

The Displacement category is comprised of seven metrics: redlining, areas of persistent poverty, historically disadvantaged communities, minority population, income, change in income compared to county median income, cost-burdened households, and change in cost-burdened households.

Metric	Description
Redlining	Land within the walkshed that has been impacted by redlining policies, to understand historic realities with lasting impacts today.
Areas of persistent poverty[1]	Acreage of land within the walkshed that is designated as an area of persistent poverty, as defined by the federal government.
Historically disadvantaged communities[2]	Acreage of land within the walkshed that has been a historically disadvantaged community, as defined by the federal government.
Minority population	The total population within the walkshed that is non-white, used to determine vulnerability based on historic racial practices.
Average income	An estimated average income of households within the walkshed, used to assess financial vulnerability.
Change in income	The change in average income of households within the walkshed, analyzed to evaluate potential displacement trends.
Housing cost-burdened population	The total number of households that are considered cost-burdened (spending more than 30% of their gross income on housing) within the walkshed, used to assess financial vulnerability.
Change in housing cost-burdened population	Change in the number of households that are considered housing cost-burdened within the walkshed, analyzed to evaluate potential displacement trends.

1. https://www.transit.dot.gov/grant-programs/areas-persistent-poverty-program
2. https://www.transportation.gov/grants/mpdg-areas-persistent-poverty-and-historically-disadvantaged-communities-1

EVALUATION

PRT scored each metric independently, with the highest score being 1 and the lowest score being 0 (except for very small selection of metrics which are scored out of 2). Those include binary scores, percentage scores, and translated scores. There are a few metrics with specific adjustments to these scoring systems, which are discussed in depth in Appendix VIII: Metric Methodology.

Binary scores were a simple yes or no; for example, does a station have seating provided on the inbound and outbound platforms? A "yes" will receive a score of 0, while a "no" will receive a score of 1, prioritizing the stations that do not provide adequate seating. Metrics with binary scores include:

- Presence of platform canopies
- Presence of platform seating
- Presence of station bike racks
- Distance between LRT stations (more or less than 0.25 miles)
- Pedestrian connection from the platform to the neighborhood (0.5 if some, but not all connections exist)

Percentage scores give each station a unique score out of 1, as a percent in comparison to the station with the highest value; for example, the station with the highest population will receive a score of 1, and all other stations will receive a percentage score in comparison to that. Metrics with percentage scores include:

- Age of the station
- Permeable surfaces in the walkshed
- Tree canopy coverage in the walkshed
- Wheelchair ramp deployments on the Busway

- Population in the walkshed
- Employment in the walkshed
- Single occupancy vehicle commuters in the walkshed
- Ridership (double value)
- Density (jobs and residents)
- Density of intersections in the walkshed
- Miles of bike lanes
- Topography
- Bus routes
- Recent and upcoming development
- Underutilized land
- Developable PRT property (double value)
- Population change
- Areas of Persistent Poverty
- Historically Disadvantaged Communities
- Minority population
- Income
- Cost burdened population
- Change in the cost burdened population
- Equity score

Translated scores created a scoring system for topics which are not numeric in nature; for example, a scoring system was created for zoning, with scores including 0.0, 0.25, 0.5, 0.75, and 1.0. Metrics with translated scores include:

- Zoning
- Redlining
- LRT Design Guideline Categorization

EVALUATION RESULTS

The goal of this evaluation process was to identify the stations which would benefit the most from capital investment. As discussed earlier, the evaluation process produced a ranking of 66 stations. It is the goal of the Station Improvement Program (SIP) to invest in priority stations each fiscal year to support Transit Oriented Communities.

The evaluation of each of the stations ranked the stations in order of most to least favorable Station Area Planning locations. However, while the Evaluation identified many factors for determining SAP potential, these factors are destined to change over time. Understanding that, the Station Evaluation will be reanalyzed and reconsidered every five years.

While any station may be eligible for investment, there were several stations that were not included in this analysis. These include Downtown stations, North Shore stations, stations which have recently received substantial redesigns, and stations with station area plans. Large-scale investments in Downtown and North Shore stations would have extensive partnerships and unique development patterns, which would likely be initiated by forces outside of PRT. And stations which have recently been redeveloped or have station area plans have already received the attention or investment which other stations now deserve.

Staff will also compare the SIP with State of Good Repair projects and long-term planning. When possible, SIP investments and State of Good Repair investments will be coordinated so as to minimize disruption and capitalize on construction opportunities.

A range of different stations scored highly in each scenario. The map to the right shows the top 10 stations for each scenario, some of which scored highly in multiple scenarios. The following sections will explore the results of each scenario in more detail.

Legend

- **B** Baseline Stations
- **A** Accessibility Stations
- **D** TOD Stations
- **C** Neighborhood Connection Stations
- **E** Equity Stations

STATION NAME	Top 10 station
STATION NAME	Non-top 10 station
STATION NAME	Station removed from analysis

D **E** SHERADEN

INGRAM

D CRAFTON

IDLEWOOD

BELL

CARNEGIE

HERRON

EAST LIBERTY **B** **C** **E** HOMEWOOD

NEGLEY

WILKINSBURG

B **D** **C** **E**
HAMNETT

B **C** **E**
ROSLYN

B **D** **C** **E**
SWISSVALE

B **A** **D** **C**
PENN STATION

NORTH SIDE

WOOD STREET

STEEL PLAZA

ALLEGHENY *GATEWAY*

FIRST AVENUE

STATION SQUARE

SOUTH HILLS JUNCTION

C **E** PALM GARDEN

DAWN

WESTFIELD

FALLOWFIELD

HAMPSHIRE

BELASCO

SHIRAS

B **A** STEVENSON

D **C** POTOMAC

DORMONT JUNCTION

C **D** MT. LEBANON

B **A** POPLAR

ARLINGTON

D CASTLE SHANNON

D OVERBROOK JUNCTION

ST. ANNE

A SMITH ROAD

C **D** WASHINGTON JUNCTION

A CASSWELL

HIGHLAND

B **A** BETHEL VILLAGE

B **A** **C** **E** DORCHESTER

SOUTH HILLS VILLAGE

BOGGS **B** **E**

BON AIR **E**

DENISE

SOUTH BANK

McNEILLY

KILLARNEY

MEMORIAL HALL

WILLOW

HILLCREST **A**

LYTLE

MESTA **E**

SOUTH PARK ROAD **A**

MUNROE

SARAH

LOGAN ROAD

KINGS SCHOOL ROAD

BEAGLE **A**

SANDY CREEK

WEST LIBRARY

LIBRARY

**Top 10 Stations Across
All Scenarios**

SCENARIOS

Each of the categories discussed in the last section (excluding Displacement) are weighted differently under the following five scenarios: Baseline, Accessibility, Transit Oriented Development, Neighborhood Connection, and Equity.

Categories / Scenarios	Existing Conditions	People	Connectivity	Development Opportunity	Equity
Baseline	20%	20%	20%	20%	20%
Accessibility	40%	10%	40%	0%	10%
TOD	5%	40%	5%	45%	5%
Neighborhood Connection	0%	40%	50%	5%	5%
Equity Focus	20%	0%	20%	0%	60%

Top 10 Stations in Each Scenario

	Baseline	Accessibility	TOD	Neighborhood Connection	Equity Focus
1	Penn Station	Penn Station	Penn Station	Hamnett Station	Homewood Station
2	Hamnett Station	Dorchester Station	Castle Shannon Station	Penn Station	Boggs Station
3	Homewood Station	Casswell Station	Hamnett Station	Homewood Station	Swissvale Station
4	Swissvale Station	Bethel Village Station	Overbrook Junction	Roslyn Station	Hamnett Station
5	Bethel Village Station	Hillcrest Station	Potomac Station	Swissvale Station	Sheraden Station
6	Dorchester Station	Stevenson Station	Swissvale Station	Potomac Station	Bon Air Station
7	Stevenson Station	Hamnett Station	Washington Junction	Dorchester Station	Roslyn Station
8	Roslyn Station	Poplar Station	Mount Lebanon Station	Washington Junction	Palm Garden Station
9	Boggs Station	Smith Road Station	Sheraden Station	Palm Garden Station	Mesta Station
10	Poplar Station	South Park Road Station	Crafton Station	Mount Lebanon Station	Dorchester Station

■ BASELINE

The Baseline scenario weights the five metrics equally at 20%. This scenario ranks stations based on their general and overall need, without prioritizing any specific metric or category. The baseline scenario will be the primary scenario when identifying stations that are feasible for a station area plan.

The top 10 stations with the highest baseline scores are:

1. **Penn Station (East Busway)**
   Located on the eastside of Downtown Pittsburgh, Penn Station is an access point to Downtown. Penn Station has a high existing conditions score, as well as a high development score.

2. **Hamnett Station (East Busway)**
   Located in the East End, Hamnett Station is located in Wilkinsburg, an area with high equity need. It is also a station with high connectivity, connecting nearby high-need communities to routes to Downtown Pittsburgh.

3. **Homewood Station (East Busway)**
   Homewood Station scored the highest on equity, it is located in a region with a high equity need population. It is also a densely populated area.

4. **Swissvale Station (East Busway)**
   Located just outside the East End of the city, Swissvale Station is located in a region with high equity need. There is also a large parcel of PRT land which could be considered for TOD development.

5. **Bethel Village Station (Red, Blue Lines)**
   Bethel Village Station scored highly in the existing condition category, and has a number of development opportunities and community amenities. At the time of this report, the station is undergoing a planning project to improve accessibility.

6. **Dorchester Station (Red, Blue Lines**
   Dorchester Station scored highly in the existing condition category; the station lacks station amenities. The station also has a relatively high equity score and a large senior population.

7. **Stevenson Station (Red Line)**
   Stevenson Station scored highly in the existing condition category; the station lacks station amenities. The station is also located in the densely-populated and walkable Dormont Borough.

8. **Roslyn Station (East Busway)**
   Roslyn Station is in Swissvale, an are with high equity need, and scored relatively highly in the other categories.

9. **Boggs Station (Blue, Silver Lines)**
   Boggs Station serves Beltzhoover, a neighborhood with very high equity need. It also has relatively poor existing conditions

10. **Poplar Station (Red Line)**
    Poplar Station is in Mount Lebanon, and has very poor existing conditions; the station lacks any amenities and is one of the older stations in the system.

On the next page is a map of the top ten ranked stations in the baseline scenario.

SHERADEN

INGRAM

CRAFTON

IDLEWOOD

BELL

CARNEGIE

HERRON

EAST LIBERTY **3**

HOMEWOOD

NEGLEY

WILKINSBURG

2 HAMNETT

8 ROSLYN

1 PENN STATION

NORTH SIDE

WOOD STREET

STEEL PLAZA

ALLEGHENY *GATEWAY*

FIRST AVENUE

STATION SQUARE

SOUTH HILLS JUNCTION

4 SWISSVALE

PALM GARDEN

DAWN

BOGGS 9

WESTFIELD

BON AIR

FALLOWFIELD

DENISE

HAMPSHIRE

BELASCO

SHIRAS

SOUTH BANK

7 STEVENSON

POTOMAC

DORMONT JUNCTION

MT. LEBANON

McNEILLY

10 POPLAR

KILLARNEY

ARLINGTON

MEMORIAL HALL

CASTLE SHANNON

OVERBROOK JUNCTION

WILLOW

ST. ANNE

SMITH ROAD

Legend

STATION NAME Top 10 baseline station

WASHINGTON JUNCTION

STATION NAME Non-top 10 baseline station

CASSWELL

STATION NAME Station removed from analysis

HILLCREST

HIGHLAND

LYTLE

MESTA

5 BETHEL VILLAGE

SOUTH PARK ROAD

6 DORCHESTER

MUNROE

SARAH

SOUTH HILLS VILLAGE

LOGAN ROAD

KINGS SCHOOL ROAD

BEAGLE

SANDY CREEK

WEST LIBRARY

LIBRARY

◼ ACCESSIBILITY

This scenario seeks to identify stations that rank higher in metrics that indicate a station is in need of amenities that address accessibility needs or stations in which there are more transit riders with disabilities. This scenario prioritizes stations with high scores in the Connectivity and Existing Conditions categories, and is influenced by the station's Equity score.

The top 10 stations with the highest accessibility scores are:

1. **Penn Station (East Busway)**
   Penn Station scored highly on existing conditions, with a high score on the number of ramp deployments. It is also well connected to Downtown, which provides access to many needed resources.

2. **Dorchester Station (Red, Blue Lines)**
   Dorchester Station is an older station that requires amenity upgrades such as seating, canopies, and bike racks. The station also has a relatively high equity score and a large senior population.

3. **Casswell Station (Red, Blue Lines)**
   Casswell Station is an older station that requires amenity upgrades such as seating, canopies, and bike racks. It has a very walkable context with not too much topography but is in need of better pedestrian connections.

4. **Bethel Village Station (Red, Blue Lines)**
   Bethel Village Station scored highly on existing conditions. It's among the oldest stations, in need of amenity installations such as seating, canopies, and bike racks. At the time of this report, the station is undergoing a planning project to improve accessibility.

5. **Hillcrest Station (Silver Line)**
   Hillcrest Station scored highly on existing conditions. It lacks amenities such as seating, canopies, and bike racks. The station area also lacks greenspace and landscaping, which can lend to a less pleasant station experience.

6. **Stevenson Station (Red Line)**
   Stevenson Station is an older station that requires amenity upgrades such as seating, canopies, and bike racks. The station is also located in the densely-populated and walkable Dormont Borough.

7. **Hamnett Station (East Busway)**
   While Hamnett Station scores fairly well for existing conditions, it has a very high connectivity score. It is a very walkable area with access to numerous bus lines.

8. **Poplar Station (Red Line)**
   Poplar Station is among the oldest stations, in need of amenity installations such as seating, canopies, and bike racks. It has a very walkable context with not too much topography but is in need of better pedestrian connections.

9. **Smith Road Station (Red, Blue, Silver Lines**
   Smith Road Station is one of the oldest stations in the evaluation. It requires amenity upgrades such as seating, canopies, and bike racks.

10. **South Park Road Station (Silver Line)**
    South Park Road Station scored highly on existing conditions. It has a very walkable context with not too much topography but is in need of better pedestrian connections.

TRANSIT ORIENTED DEVELOPMENT

Under the Transit Oriented Development scenario, the weight system prioritizes stations that have a higher development potential. The metric categories of People and Development Opportunity are weighted more significantly in this scenario, as feasibility often relies on the existing population and opportunities for growth as well as available property and agreeable regulations. The remaining metrics continue to play a smaller role in this scenario.

The top 10 stations with the highest Joint Development scores are:

1. **Penn Station (East Busway)**
   Penn Station scored highly under the people category. Under the development opportunity category, it has a high metric score for underutilized land and scored highly for pro-TOD Zoning.

2. **Castle Shannon Station (Red Line)**
   Castle Shannon Station scored highest on development opportunities, with a large amount of PRT property.

3. **Hamnett Station (East Busway)**
   Hamnett Station scored highly in the people category, with a dense residential population and opportunities to grow ridership. Under the development opportunity category, it has a high TOD zoning score.

4. **Overbrook Junction (Red Line)**
   Overbrook Junction station scored highly under the development opportunities category, with a decent amount of PRT property and agreeable zoning for TOD development.

5. **Potomac Station (Red Line)**
   Potomac Station scored highly under the people category, with a large population within the walkshed. The zoning in the area is also agreeable for TOD development.

6. **Swissvale Station (East Busway)**
   Swissvale Station scored highly under development opportunities category, it has a large amount of PRT property and agreeable zoning for TOD development.

7. **Washington Junction (Red, Blue, Silver Lines)**
   Washington Junction station scored highly under the development opportunities category, it has a large amount of PRT property and a large amount of underutilized land.

8. **Mount Lebanon Station (Red Line)**
   Mount Lebanon Station scored highly in the people category, with a decently sized population and a large number of car users which could lead to increased ridership.

9. **Sheraden Station (West Busway)**
   Sheraden Station scored high in the development category, it has a large amount of PRT property and agreeable zoning for TOD development.

10. **Crafton Station (West Busway)**
    Crafton Station scored high in the development category, with the highest amount of underutilized land around the station and relatively agreeable zoning for TOD development.

NEIGHBORHOOD CONNECTION

Under the Neighborhood Connection scenario, stations that warrant a focus on station access improvements are prioritized. This puts priority on the People and Connectivity metric categories, focusing on the surrounding environment, rather than on the conditions of the station itself.

The top 10 stations with the highest Neighborhood Connection scores are:

1. **Hamnett Station (East Busway)**
   Hamnett Station scored high on connectivity, with strong pedestrian connections and high population density.

2. **Penn Station (East Busway)**
   Penn Station scored highly under the connectivity category, with a large number of individuals that travel into the walkshed for work. It also has a high metric score for the number of bus routes within the walkshed.

3. **Homewood Station (East Busway)**
   Homewood Station scored highly under the connectivity category, with a large potential for increased ridership and agreeable topography for development and alternative modes of transportation.

4. **Roslyn Station (East Busway)**
   Roslyn Station scored highly under the connectivity category, with a strong score for intersection density and agreeable topography for development and alternative modes of transportation.

5. **Swissvale Station (East Busway)**
   Swissvale Station scored highly under the connectivity category, with a high intersection

density and agreeable topography. While it does not have the highest population or much job density, there is potential for increased ridership.

6. **Potomac Station (Red Line)**
   Potomac Station scored highly under the people category, with a high population score and high potential for increased ridership and agreeable topography for development and alternative modes of transportation.

7. **Dorchester Station (Red, Blue Lines)**
   Dorchester Station scored highly under the people category, with a high potential for increased ridership and agreeable topography for development and alternative modes of transportation.

8. **Washington Junction (Red, Blue, Silver Lines)**
   Washington Junction scored highly under the people category, with a high potential for increased ridership and agreeable topography for development and alternative modes of transportation.

9. **Palm Garden Station (Red)**
   Palm Garden Station scored highly under the connectivity category, with a potential for increased ridership and access to south Beltzhoover if better connections are provided.

10. **Mount Lebanon Station (Red Line)**
    Mount Lebanon Station scored high under the people category with a high potential for increased ridership and agreeable topography for development.

EQUITY

PRT is committed to providing quality transit to underserved communities. The Equity scenario identifies stations that serve minority communities, people with disabilities, and other marginalized communities. This scenario primarily utilized the PRT Equity Index of Mobility Need of Mobility Need, but also weights Existing Conditions and Connectivity to better understand the need of the station and station area from a transit perspective.

The top 10 stations with the highest Equity scores are:

1. **Homewood Station (East Busway)**
   The Homewood Station serves both the neighborhoods of Point Breeze North and Homewood. Homewood has some of the highest equity need in the county, with low levels of income, large minority populations, and low car ownership.

2. **Boggs Station (Red, Blue, Silver Lines)**
   Boggs Station serves the neighborhood of Beltzhoover, which has a large minority population, and is both decently rent burdened and lower income.

3. **Swissvale Station (East Busway)**
   Swissvale Station is the terminus of the East Busway and serves a large minority population, which is also lower income. There is a sizeable population of female lead households as well.

4. **Hamnett Station (East Busway)**
   Hamnett Station serves the neighborhoods of Wilkinsburg and Edgewood and while Edgewood does not have high equity need, Wilkinsburg does. Wilkinsburg has a large minority population and low car ownership. In addition, there are high levels of housing-cost burdened and low income households.

5. **Sheraden Station (West Busway)**
   Sheraden Station, the first stop on the West Busway outside of Downtown, serves both Sheraden and parts of Crafton. The station area has a large minority population, and a high number of households led by women.

6. **Bon Air Station (Blue, Silver Lines)**
   While the Bon Air Station area does not score as highly as other stations in the equity index, other factors such as existing conditions and connectivity move Bon Air Station up on this list.

7. **Roslyn Station (East Busway)**
   Roslyn Station serves parts of Swissvale, and the station area has a large minority population and a high level of poverty. The station area also has a large rent burdened population.

8. **Palm Garden Station (Red Line)**
   While the station walkshed overlaps with South Hills Junction, it scored highly under the equity scenario largely due to existing conditions and connectivity.

9. **Mesta Station (Silver Line)**
   Mesta Station is in Bethel Park, and has some average levels of equity need, including an above average amount of rent burdened households, as well as an above average population of people with a disability.

10. **Dorchester Station (Red, Blue Lines)**
    Dorchester Station is in Bethel Park, and has some average levels of equity need, including a sizeable population over the age of 65, and a not insignificant population which is rent burdened with low wages.

CONCLUSION

The 2024 Station Evaluation represents a significant step forward in PRT's efforts to create vibrant, accessible, and sustainable transit-oriented communities. By refining the evaluation process to include quantitative metrics and diverse scenarios, PRT has developed a replicable and adaptable framework for prioritizing station investments. The inclusion of equity and displacement considerations ensures that future TOD initiatives will be guided by a commitment to inclusivity and community-centered planning.

Every five years, PRT will perform a station evaluation and revisit the Station Improvement Program list of priority stations. Station Area Plans are large scale efforts and require cooperation from the municipality and community to identify improvements. Station Area Plans include three focuses: access to the station, TOD opportunity, and station design. As a result, identified improvements will extend beyond PRT property and cooperation is required to create a shared vision and implementation. As this process evolves, PRT will continue to engage with local governments, community stakeholders, and partners to refine and implement improvements.

As the Station Improvement Program progresses, PRT will make an informed and coordinated effort to follow the evaluation while remaining fiscally responsible. Staff will compare the Station Improvement Program with State of Good Repair projects and long-term planning projects. When possible, Station Improvement Program investments and State of Good Repair investments will be coordinated so as to minimize disruption and capitalize on construction opportunities.

By revisiting the evaluation every five years, PRT remains committed to a dynamic, data-driven approach that adapts to changing conditions and opportunities. Together, these efforts will help Pittsburgh Regional Transit strengthen its role as a leader in sustainable urban development, fostering growth and accessibility for communities across the region.

APPENDICES

APPENDIX A: FINAL RANKINGS

Station Name	Baseline	Accessibility	Transit Oriented Development	Neighborhood Connection	Equity	Displacement
ARLINGTON STATION	0.424	0.453	0.357	0.326	0.506	0.0819
BEAGLE STATION	0.369	0.521	0.190	0.335	0.488	0.1648
BELL STATION	0.328	0.346	0.261	0.277	0.426	0.1487
BETHEL VILLAGE STATION	0.476	0.553	0.378	0.386	0.551	0.1063
BOGGS STATION	0.443	0.478	0.262	0.362	0.720	0.4445
BON AIR STATION	0.432	0.461	0.299	0.361	0.628	0.4726
CASSWELL STATION	0.416	0.553	0.251	0.369	0.531	0.1016
CASTLE SHANNON STATION	0.437	0.358	0.480	0.368	0.458	0.1102
CRAFTON STATION	0.386	0.340	0.388	0.382	0.445	0.1921
DAWN STATION	0.373	0.352	0.312	0.329	0.513	0.1892
DENISE STATION	0.396	0.457	0.263	0.359	0.554	0.3477
DORCHESTER STATION	0.472	0.598	0.325	0.423	0.574	0.0872
FALLOWFIELD STATION	0.374	0.370	0.306	0.311	0.505	0.1383
HAMNETT STATION	0.519	0.535	0.432	0.599	0.653	0.2997
HAMPSHIRE STATION	0.410	0.452	0.303	0.306	0.547	0.1630
HIGHLAND STATION	0.366	0.471	0.212	0.257	0.504	0.1070
HILLCREST STATION	0.417	0.547	0.252	0.368	0.542	0.0884
HOMEWOOD STATION	0.509	0.510	0.373	0.496	0.755	0.3200
IDLEWOOD STATION	0.299	0.289	0.251	0.317	0.398	0.2314
INGRAM STATION	0.368	0.339	0.324	0.373	0.488	0.1335
KILLARNEY STATION	0.364	0.432	0.246	0.305	0.484	0.1708
KINGS SCHOOL ROAD STATION	0.353	0.457	0.212	0.335	0.470	0.1269
LIBRARY STATION	0.375	0.396	0.307	0.361	0.468	0.3741
LOGAN ROAD STATION	0.339	0.429	0.199	0.287	0.471	0.0672
LYTLE STATION	0.415	0.447	0.326	0.339	0.532	0.0609
MCNEILLY STATION	0.394	0.418	0.321	0.323	0.492	0.2585

2024 Station Evaluation

Station Name	Baseline	Accessibility	Transit Oriented Development	Neighborhood Connection	Equity	Displacement
MEMORIAL HALL STATION	0.360	0.456	0.238	0.350	0.452	0.1028
MESTA STATION	0.409	0.507	0.243	0.378	0.577	0.0595
MOUNT LEBANON STATION	0.423	0.425	0.391	0.386	0.484	0.0608
MUNROE STATION	0.382	0.503	0.202	0.300	0.548	0.0656
OVERBROOK JUNCTION	0.418	0.394	0.409	0.306	0.463	0.1734
PALM GARDEN STATION	0.395	0.451	0.245	0.400	0.591	0.3381
PENN STATION	0.567	0.674	0.516	0.586	0.518	0.0961
POPLAR STATION	0.440	0.527	0.310	0.345	0.558	0.0865
POTOMAC STATION	0.432	0.446	0.407	0.425	0.464	0.1436
ROSLYN STATION	0.454	0.449	0.370	0.442	0.613	0.3441
SANDY CREEK STATION	0.353	0.463	0.213	0.325	0.459	0.2007
SARAH STATION	0.367	0.494	0.190	0.332	0.517	0.0618
SHERADEN STATION	0.434	0.342	0.390	0.348	0.632	0.4372
SHIRAS STATION	0.405	0.493	0.252	0.309	0.567	0.2921
SMITH ROAD STATION	0.432	0.524	0.302	0.382	0.543	0.0985
SOUTH BANK STATION	0.380	0.448	0.253	0.342	0.519	0.2272
SOUTH HILLS VILLAGE STATION	0.388	0.376	0.359	0.338	0.461	0.0684
SOUTH PARK ROAD STATION	0.429	0.521	0.283	0.333	0.569	0.0636
ST ANNE STATION	0.405	0.478	0.288	0.341	0.518	0.1679
STEVENSON STATION	0.470	0.542	0.377	0.379	0.544	0.1782
SWISSVALE STATION	0.485	0.435	0.404	0.441	0.695	0.3727
WASHINGTON JUNCTION	0.440	0.451	0.401	0.408	0.490	0.0908
WEST LIBRARY STATION	0.392	0.476	0.288	0.341	0.465	0.2450
WESTFIELD STATION	0.382	0.444	0.248	0.280	0.544	0.1455
WILLOW STATION	0.357	0.369	0.299	0.307	0.448	0.1419

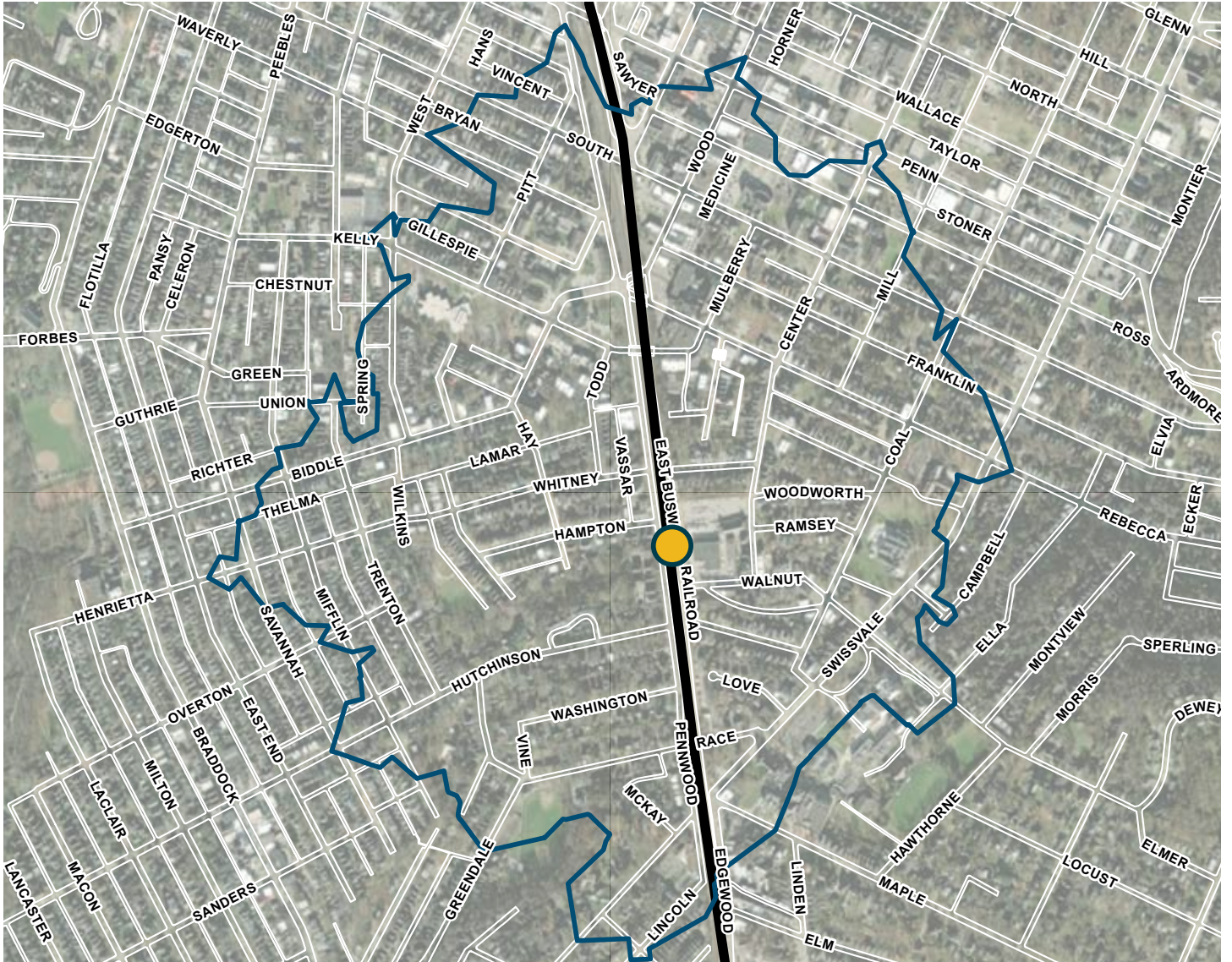# APPENDIX B: BASELINE WALKSHEDS PENN STATION
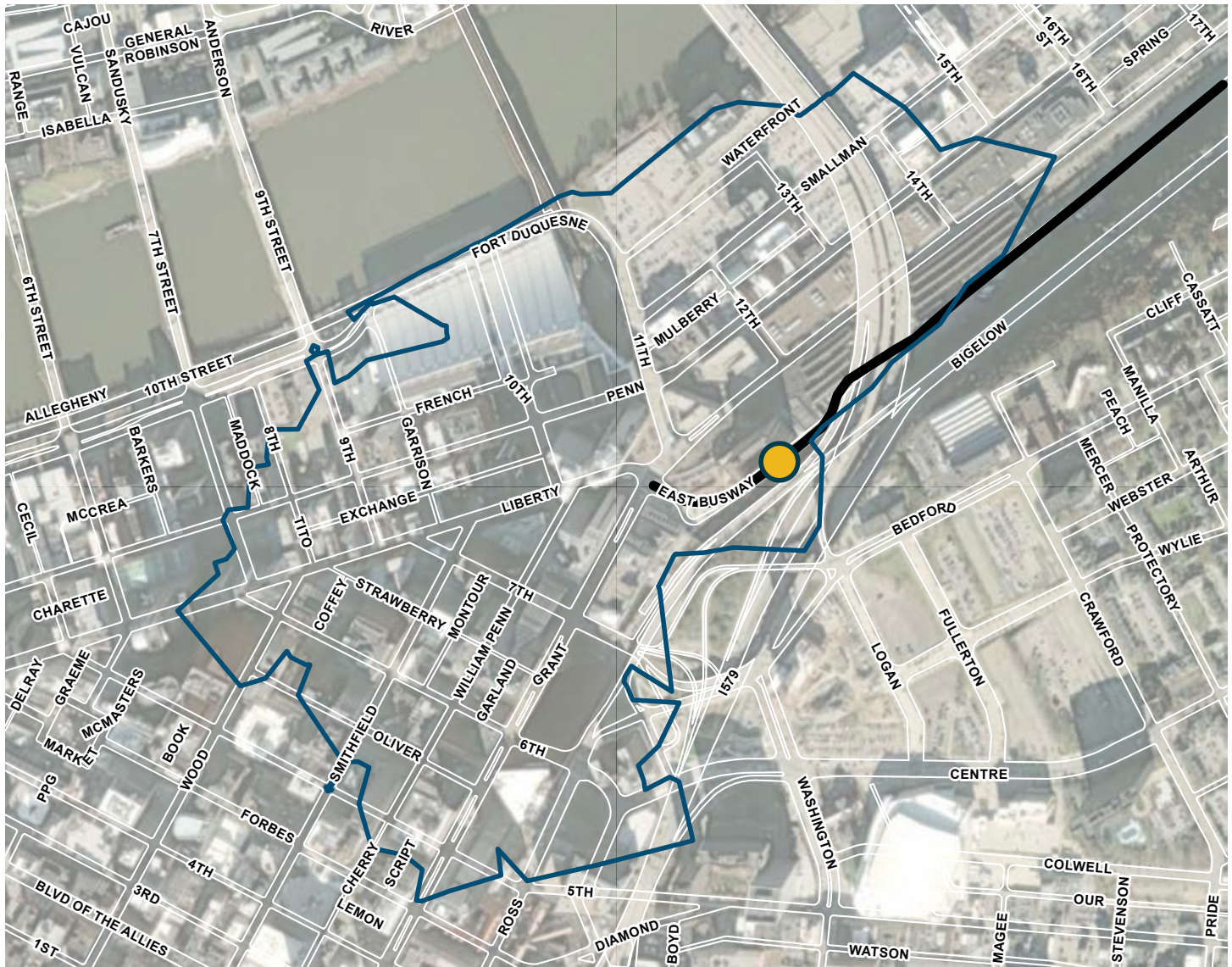
Legend

- 🟠 Station
- ▢ Walkshed
- ▬ Fixed Guideway

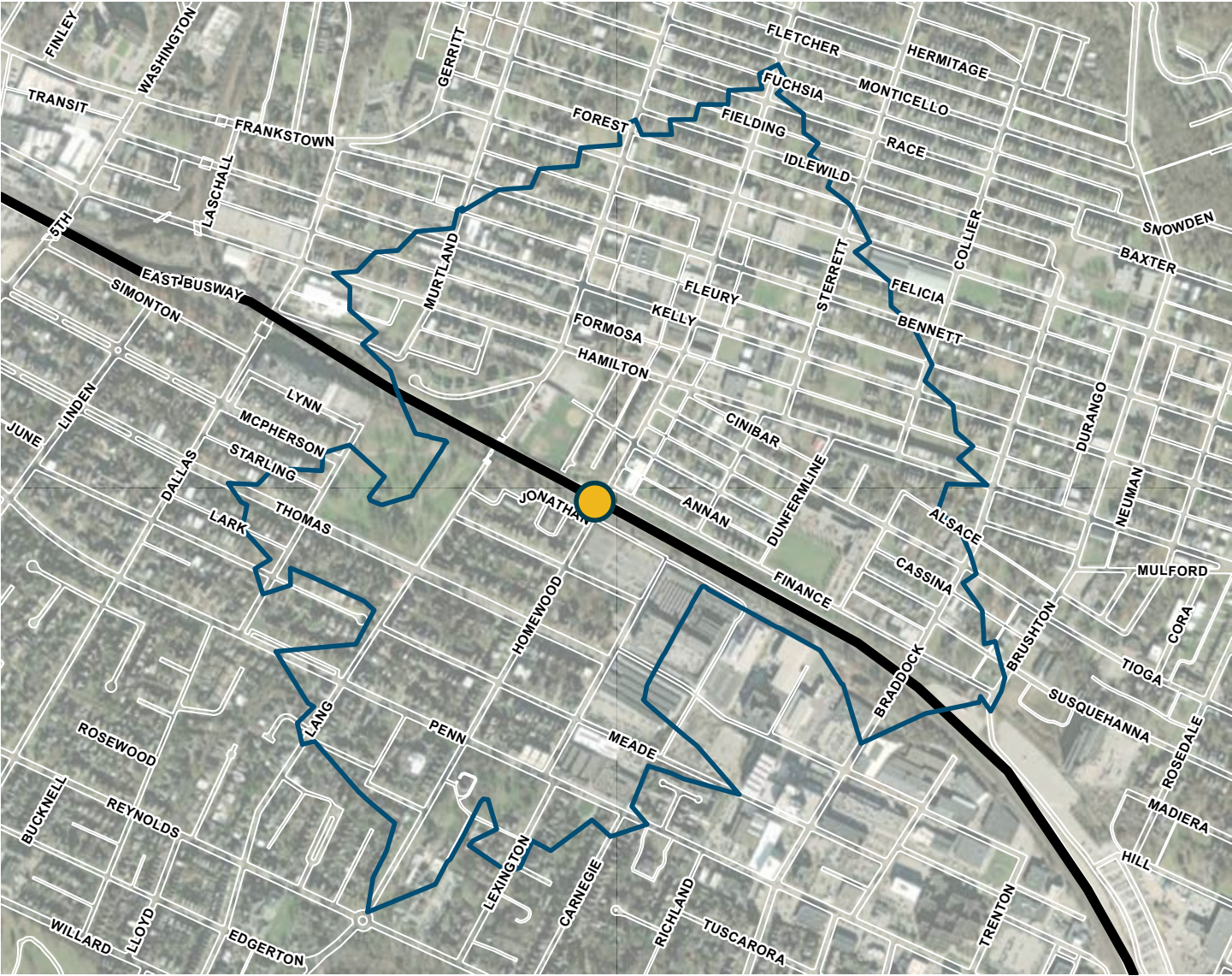# HAMNETT STATION

Legend

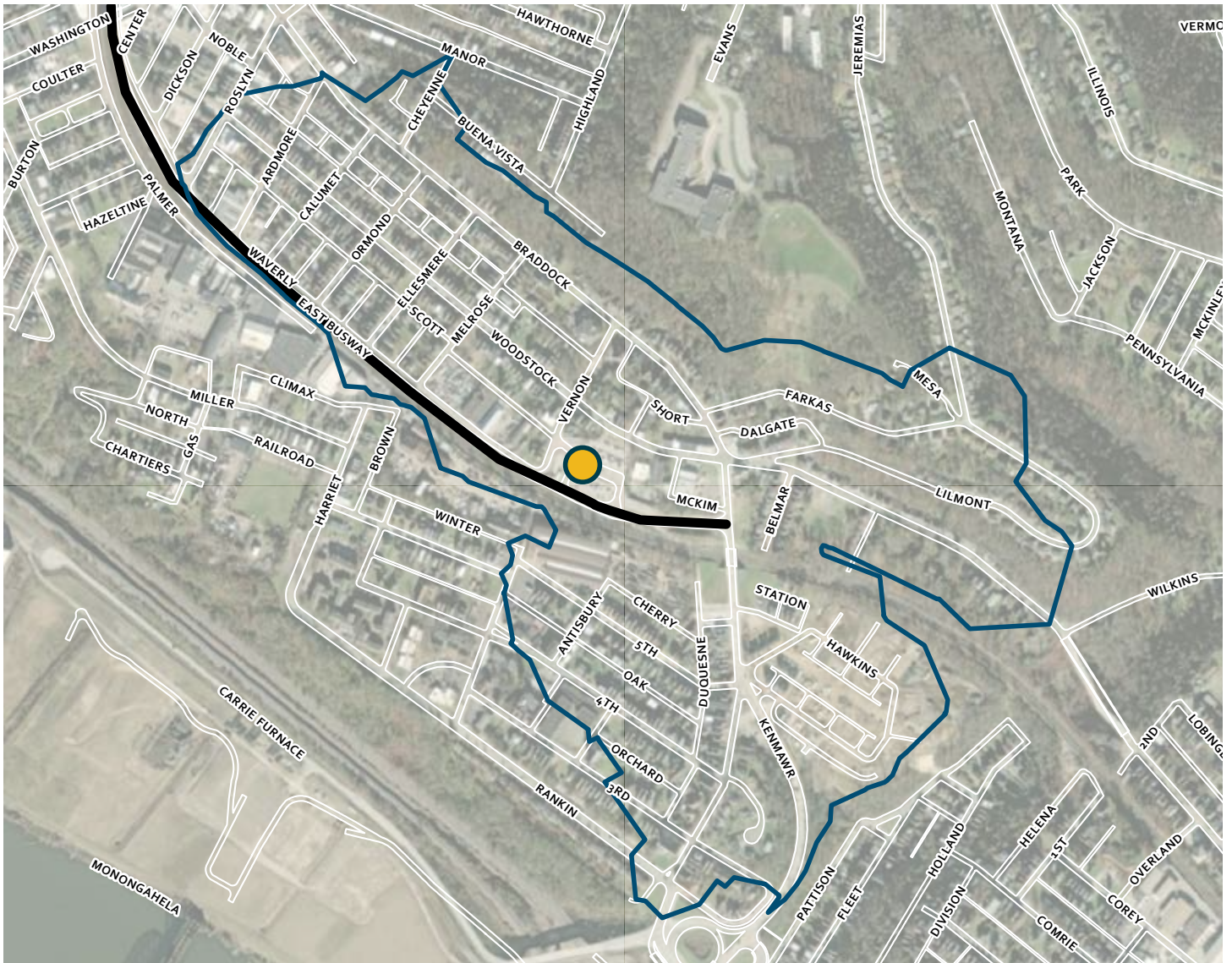● Station

▭ Walkshed

▬ Fixed Guideway

HOMEWOOD STATION

Legend

⬤ Station

▭ Walkshed
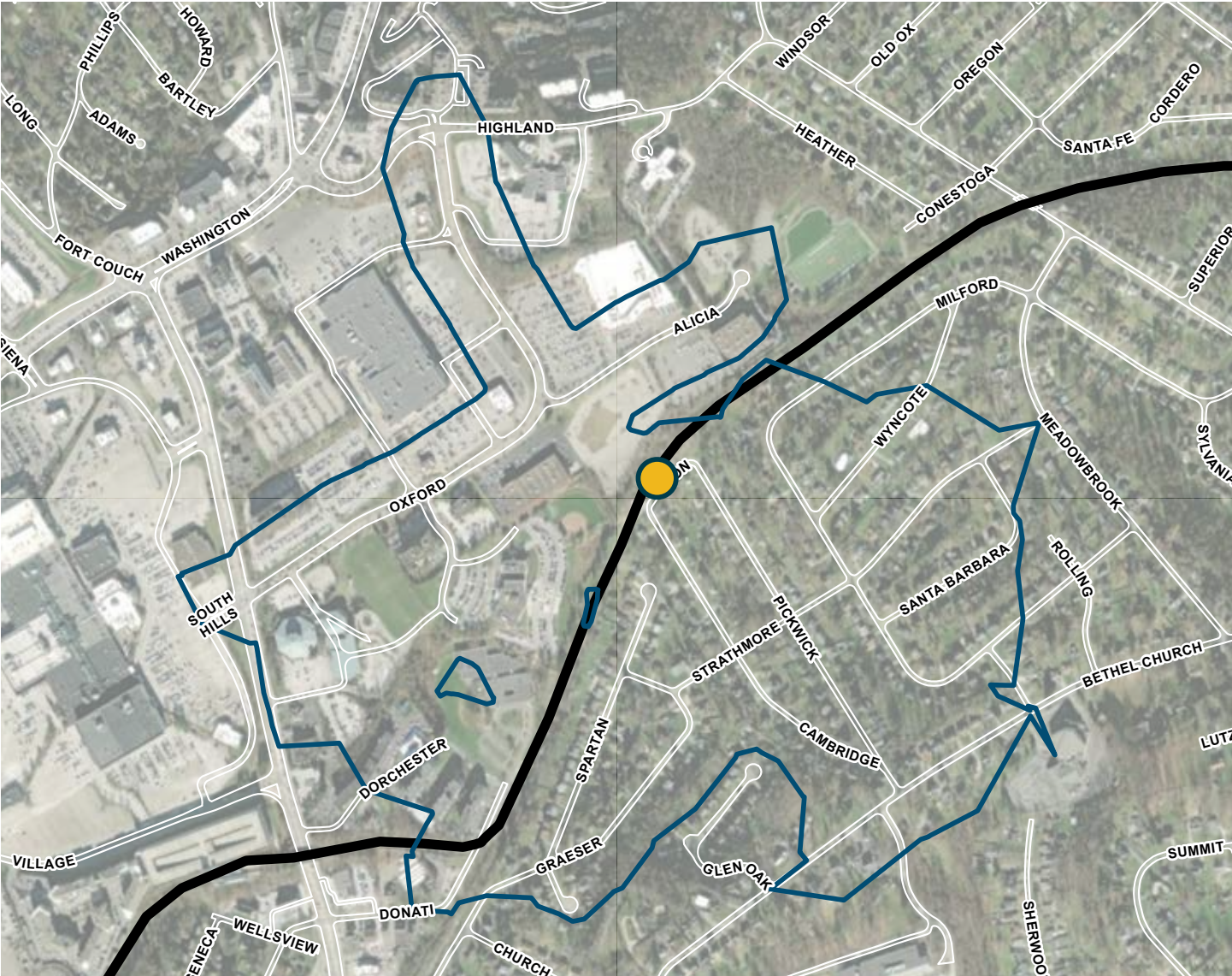
▬ Fixed Guideway

SWISSVALE STATION

Legend

🟡 Station

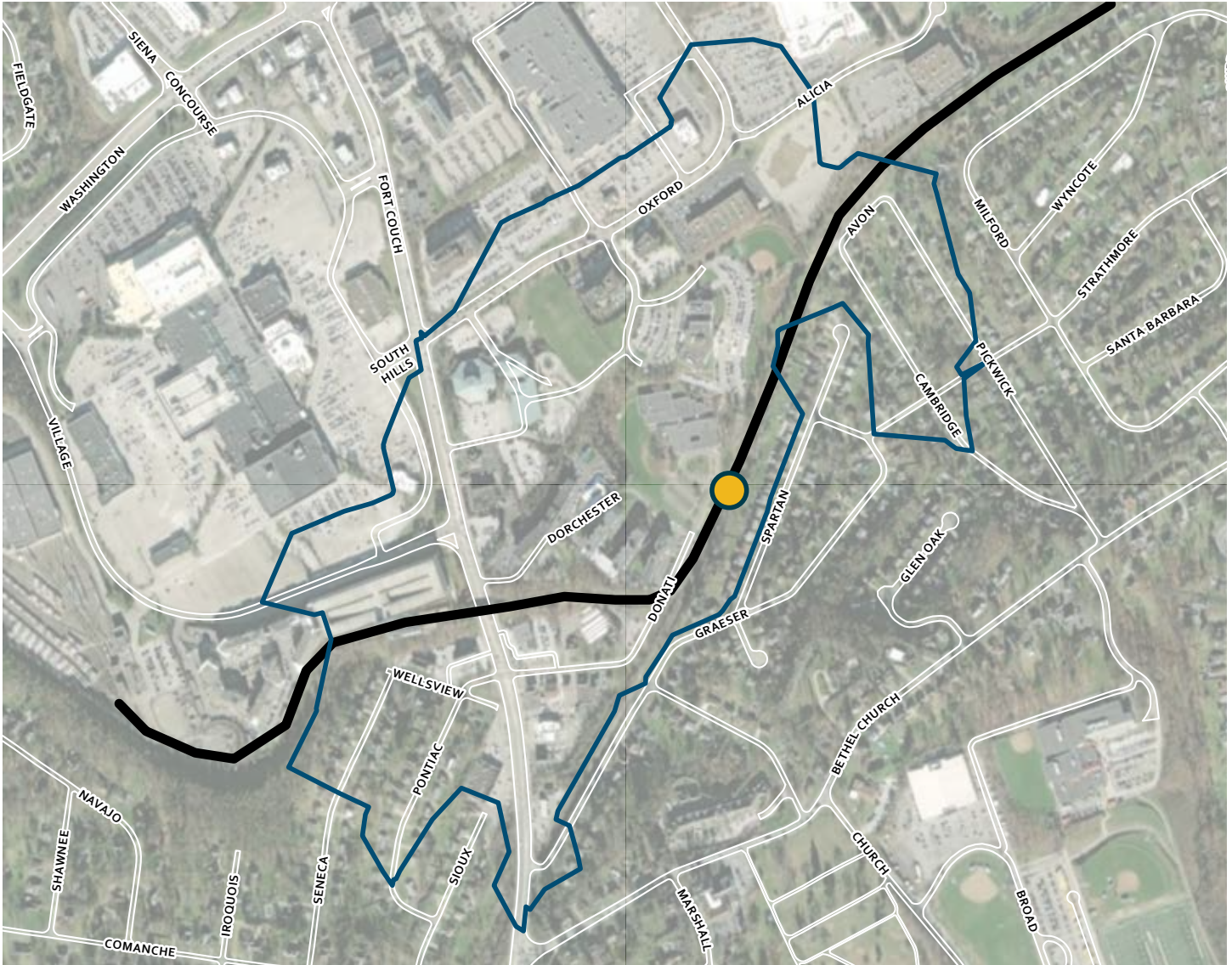▢ Walkshed

▬ Fixed Guideway

BETHEL VILLAGE STATION

Legend

🟠 Station

▢ Walkshed
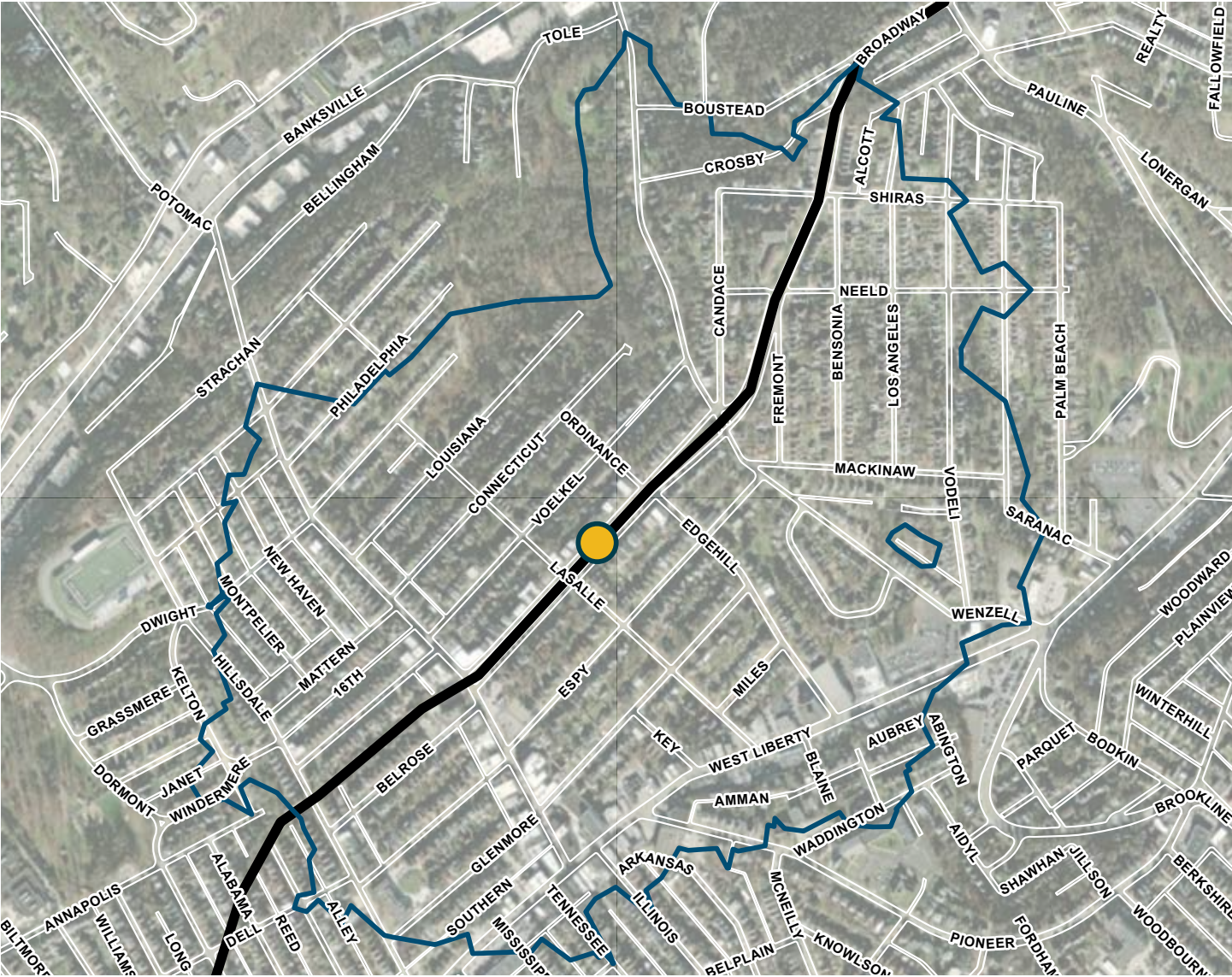
▬ Fixed Guideway
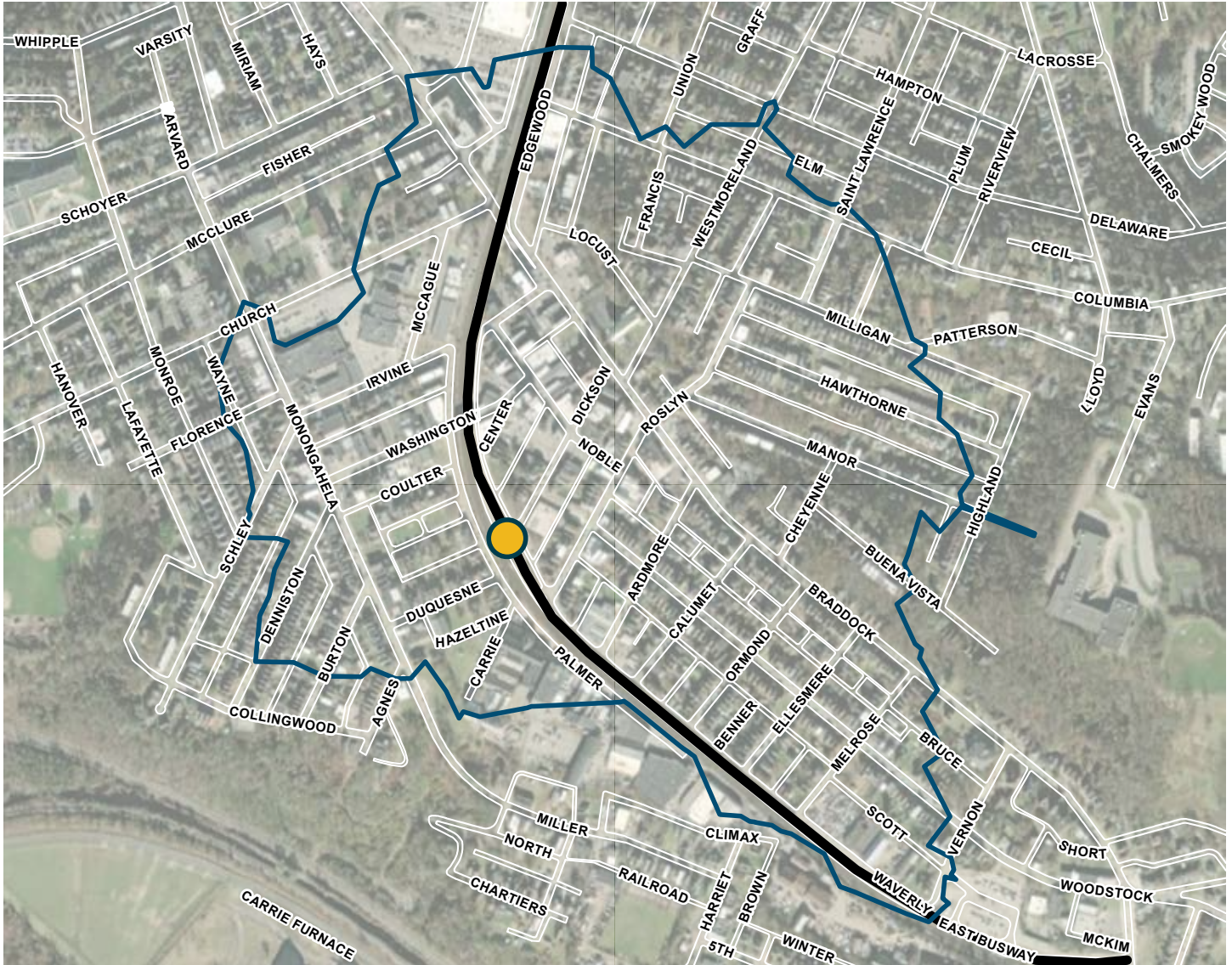
DORCHESTER STATION

Legend

⬤ Station

▭ Walkshed

▬ Fixed Guideway

STEVENSON STATION

Legend

🟡 Station

▭ Walkshed

▬ Fixed Guideway

ROSLYN STATION

Legend

⬤ Station

▢ Walkshed

▬ Fixed Guideway

BOGGS STATION

Legend

- **Station**
- **Walkshed**
- **Fixed Guideway**

POPLAR STATION
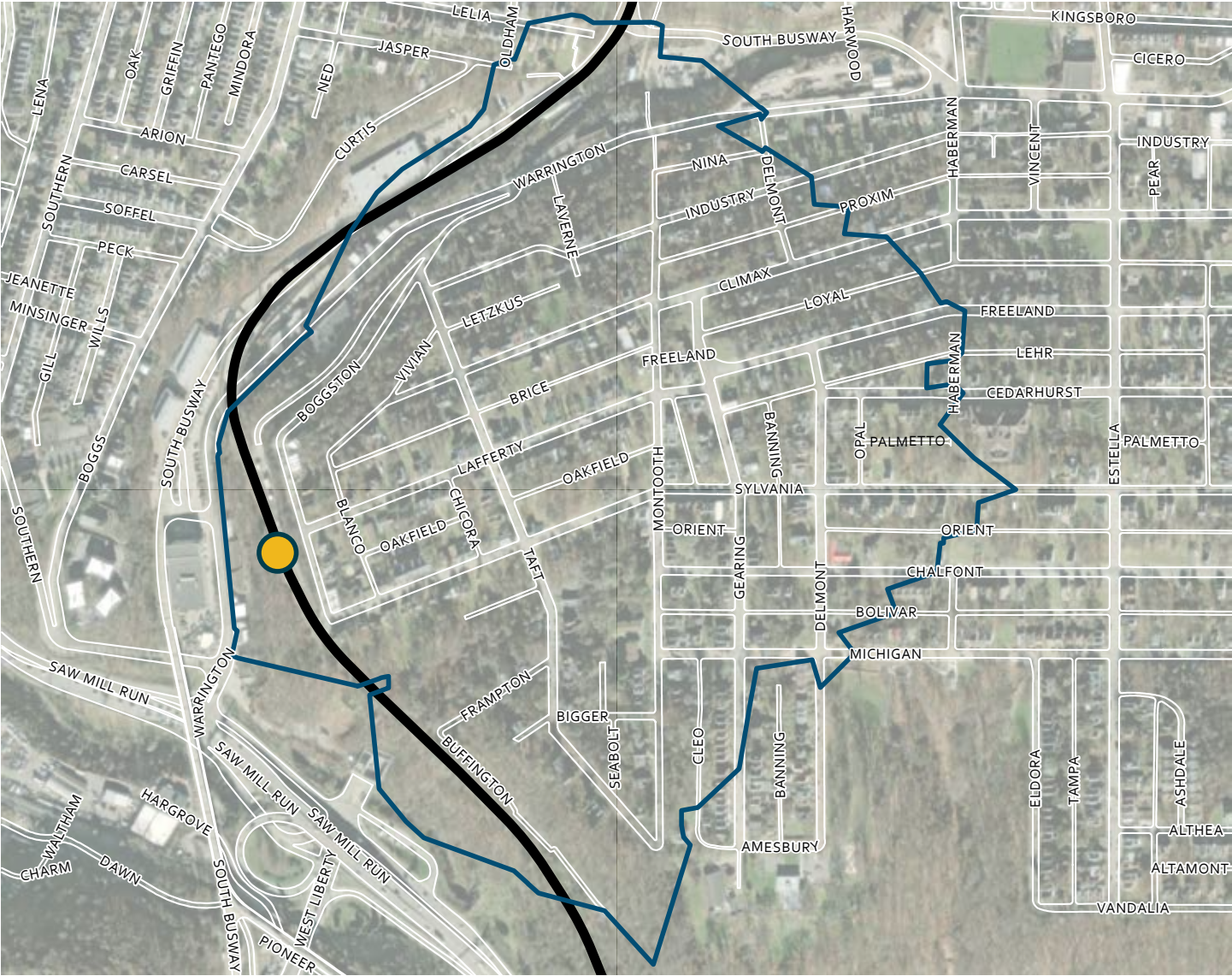
Legend

🟠 Station

☐ Walkshed

▬ Fixed Guideway
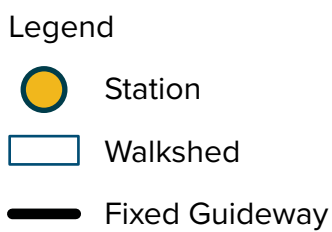
◼ APPENDIX C: METRIC METHODOLOGY

EXISTING CONDITIONS

The conditions of a station and other PRT property are elements which PRT have control over and can make direct improvements upon. Stations with lower quality Existing Conditions will be prioritized in this analysis.

AGE OF STATION

Stations in PRT's system vary in age and design standards. The age of the station can be an indicator of the infrastructure quality, the presence of amenities, and level of accessibility. It is a useful metric to use to set the groundwork for other evaluation tools.

Data source:
- PRT Transportation Asset Management Plan (TAMP) 2023 (not publicly available)

To determine the age of a station, PRT used data from the Transportation Asset Management Plan (TAMP) TAMP 2023. To score each station, the oldest station received a score of one, and all other station ages were scored as a percentage of the oldest.

Older stations receive higher prioritization. PRT will update older stations to meet design, accessibility, and other modern standards.

PERMEABLE SURFACE:

Permeability is the ability for a ground material to absorb and transmit liquid, namely rainwater. Impermeable surfaces include asphalt, buildings, compacted ground, and barren areas. Permeable surfaces include grassland, planted areas, forests, and water. Greenspace and pervious surfaces are important to the environmental health of a community. Plants can reduce heat, improve soil, and provide beautification. Pervious surfaces absorb and filter rainwater that would otherwise run off, collect debris, and create flooding. In addition, these spaces are more enjoyable for a community to experience and spend time in.

Data source:
- USGS National Land Cover Database (NLCD) 2021
- Data | Multi-Resolution Land Characteristics (MRLC) Consortium

The NLCD data was clipped in ArcGIS to each half-mile walkshed, and the acreage of permeable surface within each station's walkshed was calculated. To score each station, the station with the least permeable surface (measured as the most impermeable surface) received a score of one, and all other station ages were scored as a percentage of the station area which is least permeable.

Station areas with less permeable surfaces receive higher prioritization. PRT will design stations to include permeable surfaces and collaborate with partners in the station area to encourage a similar development approach.

TREE CANOPY:

Tree canopies provide protection from the sun, keep surrounding areas cool, and can indicate the biodiversity of an area. Tree canopies, along with permeable surfaces, are used in this analysis to estimate the urban heat island effect within the walkshed.

Data source:
- Pennsylvania Statewide High-Resolution Tree Canopy (2015), University of Vermont

Spatial Analysis Laboratory
- https://www.pasda.psu.edu/uci/ DataSummary.aspx?dataset=3170

The University of Vermont data was clipped in ArcGIS to each half-mile walkshed and the acreage of tree canopy within each station's walkshed was calculated. To score each station, the station with the least tree canopy (measured as the highest percentage of area without tree canopy) received a score of one, and all other station ages were scored as a percentage of the station area with the least tree canopy.

Station areas with less tree canopy receive higher prioritization. PRT will design stations to include new trees where appropriate and will coordinate with partners in the station area to encourage tree planting.

DISTANCE BETWEEN STATIONS:

"Too many transit stops make travel slow, which not only has an effect on ridership, but also affects the operating costs of transit and the ability to maximize services within the system" (Transit Service Standards). LRT stations should be distanced between one-quarter mile (1,300 feet) and one-half mile (2,600 feet) apart to ensure both adequate coverage and efficiency.

Data source:
- PRT Rail Station Priority Data (YEAR)

Using data from PRT's Rail Station Priority data, each station was given a binary score of either zero or one, with stations further than a quarter of a mile apart in both directions receiving a score of zero, and those a quarter of a mile or closer in either direction receiving a score of one.

Stations that are further than a quarter mile apart have higher prioritization. PRT will focus on redesigning stations that maximize services.

WHEELCHAIR RAMP DEPLOYMENTS:

Wheelchair ramp deployment data for fixed guideways show which stations are most used by wheelchair users, and can assist in identifying area which should be prioritized for accessibility improvements.

Data source:
- PRT Internal Data (2024)

Using internal PRT data on ramp deployments by stations, a ramp deployment score was computed. To score each station, the station with the most wheelchair ramp deployments received a score of one, and all other station ages were scored as a percentage of the station with the most deployments.

More wheelchair ramp deployments result in a higher priority. Stations with frequent wheelchair or ramp deployments will be prioritized for redesign.

PLATFORM SHELTER/ CANOPY:

PRT transit riders rely on PRT's system throughout the seasonal changes. Station platforms should provide protection from rain and snow and ensure comfort during hot, sunny days. Platform canopies contribute to the station's identity and maintain design continuity throughout the system.

Data Source:
- PRT Field Observation; Internal Analysis (Summer 2024)

Each station was given a binary score of either zero or one. If a station lacked a platform shelter/canopy on one or both platforms, it received a score of one; otherwise, it received a score of zero. Lack of canopies results in higher prioritization.

PRT will design new stations with adequate canopies.

SEATING:

Ensuring accessibility at transit stations is both a Federal Transit Administration (FTA) requirement and a PRT value. Seating at a station provides respite for transit users who may not be able to stand for long periods of time and is a key element of accessibility. The FTA requires that 50% of seating must have backs.

Data source:
- PRT Field Observation; Internal Analysis (Summer 2024)

Each station was given a binary score of either zero or one. If a station does not have a bench on both platforms, it receives a score of one; otherwise, it receives a score of zero. Lack of adequate seating at the station results in higher prioritization.

PRT will design new stations to include accessible seating.

BIKE RACKS:

Bike racks should be installed at each station to support multi-modal access to stations, which allows cyclists to easily access the station. In an effort to support multi-modal commuting this provides residents with an additional mode of transport to nearby stations.

Data source:
- PRT Field Observation; Internal Analysis (Summer 2024)

Each station was given a binary score of either zero or one. If a station does not include a bike rack it received a score of one otherwise it received a score of zero. Lack of bike racks at the station results in higher prioritization.

PRT will include cycling infrastructure in station design.

STATION CATEGORIZATION

In PRT's 2018 Light Rail Transit Station Design Guidelines, there is a station categorization which ranks stations based on platform height, platform length, station ridership, and passenger growth potential. Stations were categorized from five through one, and stations with high and long platforms, and high ridership receiving a categorization of one, and stations with low and varied platform lengths and low ridership receiving a score of five. Stations in between have variable ridership and platform traits, and are also scored based on expected ridership growth and decline (refer to pp 12-13 of the Station Design Guidelines for a detailed methodology description).

Data Source:
- Port Authority of Allegheny County Light Rail Transit Station Design Guidelines (2018)
- https://www.rideprt.org/siteassets/inside-the-pa/surveys-and-reports/lrtguidelines72018.pdf

To translate these categorizations into scores for the Station Evaluation, category one stations received a score of one, while category five stations received a score of zero. Categories 2, 3, and 4 scored 0.75, 0.5, and 0.25 respectively.

PEOPLE

PRT aims to grow ridership, serve as many people as possible, and provide a good customer experience. Therefore, this analysis focuses on station areas with high ridership as well as dense populations.

The American Community Survey (ACS) 5-year estimates 2018-2022 dataset was used to calculate walkshed total estimates for population, density of jobs and housing, and commute by car. To estimate totals for each walkshed based on census tract totals, we used ArcGIS to determine which census tracts overlap each walkshed and to determine what percent of the walkshed falls within each census tract. This allowed us to proportionally allocate the census tract totals to the walksheds, providing a more accurate estimate of the totals within each walkshed.

POPULATION:

There is an opportunity to increase ridership in station areas with denser population. Proximity to stations is a key component to ease of access.

Data Source:
- TIGER/Line Shapefile, 2020
- DP05 | ACS Demographic and Housing Estimates, ACS 5-Year Estimates 2018 – 2022: https://data.census.gov/table/ACSDP5Y2022.DP05

Using ArcGIS, census tracts are clipped to the station area walksheds to calculate the percentage of each census tract lying within the station walkshed. To create a population estimate for each walkshed, each census tract population is multiplied by the percent that the census tract which lies within the walkshed, and then summed to calculate a total population estimate.

Each station was given a score from zero to one as a percentage of 4,500 (with populations larger than that also receiving a 1). This eliminates outliers with much larger populations, which skews scores.

Station areas with larger populations will receive higher priority. PRT will design stations to meet the needs of larger populations.

EMPLOYMENT FLOWS IN NEIGHBORHOOD:

Public transit is largely used to commute to and from home and places of employment. Areas that have large numbers of jobs are more likely to have high levels of transit usership, as well as the ability to encourage more transit usership.

Data source:
- Longitudinal Employer-Household Dynamics (LEHD) data: https://onthemap.ces.census.gov/

Walksheds were individually imported into the LEHD On the Map tool, which calculated and exported the number of jobs within each walkshed.

Each station was given a score from zero to one based on a curve, with the number of jobs at or above 4,500 receiving a score of one. This eliminates outliers with many more jobs, which skews scores.

Station areas with higher numbers of jobs receive higher priority. PRT will design stations to meet the needs of larger populations.

DENSITY OF JOBS & POPULATION:

Station areas with high density of population and employment may have higher ridership due to an increased number of destinations, as well as walkability in a mixed-use area.

Data Source
- TIGER/Line Shapefile, 2020
- DP05 | ACS Demographic and Housing Estimates, ACS 5-Year Estimates 2018 – 2022: https://data.census.gov/table/ACSDP5Y2022.DP05
- LEHD: https://onthemap.ces.census.gov/

The density of jobs and population is calculated per square acre, with the sum of the counts from the population metric and the employment flow metric.

Station areas with higher densities of jobs and housing receive higher priority. PRT will design stations to meet the needs of larger populations.

COMMUTE BY CAR:
Good station design and a pleasant transit experience can encourage new riders to a system. In areas where many people commute by car (alone or carpooling), there is an opportunity to increase transit usage and decrease personal car usage.
Dat
a Source:
- S0801 | Commuting Characteristics by Sex, ACS 5-Year Estimates 2018 – 2022:: https://data.census.gov/table/ACSST5Y2022.S0801

Using ArcGIS, census tracts are clipped to the station area walksheds to calculate the percentage of each census tract lying within the station walkshed. To create a commute by car estimate for each walkshed, each census tract commute by car population is multiplied by the percent that the census tract which lies within the walkshed, and then summed to calculate a total commute by car estimate. Stations were given a score from zero to one. The station with the highest commute by car receives a one, and the rest of the stations are scored as a percentage of that station area.

Station areas with high personal car commuters receive higher priority. PRT will design stations to incentivize use of public transportation.

RIDERSHIP STATUS: (X2)
Ridership status indicates how many people use a station, both inbound and outbound, on an average weekday. Internal data (which is also publicly available) was used to determine ridership status.

Data source:
- Pittsburgh Regional Transit (PRT) Internal Data (2024)

Each station was given an initial score from zero to one as a percentage of the station with the highest ridership. These initial scores were then multiplied by two to produce the final, weighted score. Ridership status is one of two unique metrics (the other being PRT property), where the score out of one is multiplied by two, giving the metric a larger weight in the analysis.

Stations with higher ridership will receive higher priority. PRT will focus on designing stations which maximize service.

CONNECTIVITY
Connecting people to as many origins and destinations as possible is an important goal for any transit agency. Station areas with good connectivity or potential for connectivity will receive a higher priority.

INTERSECTION DENSITY:
Although the density of intersections within a walkshed cannot be changed, stations with a high number of intersections offer greater opportunities for connectivity and mixed-use development.

Data Source:
- Allegheny County Addressing Street Centerlines (DATE)
- https://data.wprdc.org/dataset/allegheny-county-addressing-street-centerlines

Within each of the walksheds, each of the intersections were counted by evaluating how many times street center lines intersected with each other. This number was then divided by total walkshed area in acres to determine the density of intersections per acre. Each station was given a score from zero to one as a percentage of the station area with the highest density of intersections.

Station areas with a higher density of intersections receive higher priority.

PEDESTRIAN CONNECTION:
A station area should be connected to the surrounding neighborhood by a well maintained, easy to identify, and easy to use sidewalk connection. There are instances where transit users' only option is to walk on streets with no sidewalks, walk through parking lots with no pedestrian infrastructure, and otherwise navigate spaces which were not designed with pedestrians and those using wheelchairs in mind.

Data source:
- PRT Field Observation; Internal Analysis (Summer 2023)

PRT staff members visited stations to determine if there are adequate pedestrian connections immediately from the station to the surrounding area. Stations received a score of 1 if pedestrian infrastructure is provided from all station access points to the community, a score of 0.5 if some pedestrian infrastructure is provided (but not all access points have pedestrian infrastructure), and 0 if no pedestrian infrastructure is provided.

Stations lacking pedestrian connections to the surrounding neighborhood will be prioritized for improvement.

BIKE LANES:
PRT is interested in encouraging multi-modal transportation options to stations. This metric assesses the total lane-miles of bike lanes within the station walkshed.

Data source:
- BikePGH's Pittsburgh Bike Map Geographic Data (August 2019)
- https://data.wprdc.org/dataset/shape-files-for-bikepgh-s-pittsburgh-bike-map

Each station was given a score from zero to one as a percentage of the station with the most lane-miles of distance of bike lanes. Walksheds with more existing bikes lanes are given a priority.

BUS ROUTES:
On-street bus routes enable transfers between different modes of transit, potentially increasing ridership at a station. This has the potential to make the station a regional asset, rather than just a local one.

Data source:
- Pittsburgh Regional Transit (PRT) Internal Data

The number of bus routes that intersect a walkshed determines the score of the station area. Each station was given a score from zero to one based on a percentage of 23 bus routes. This eliminates outliers (mainly downtown) with much larger numbers of bus routes, which skews scores.

Station areas with more on-street routes have higher priority. PRT will design stations which can help increase transfer opportunities.

TOPOGRAPHY:

The Pittsburgh region has very aggressive topography, with many steep hills and sharp changes. This topography can make access to and development of station areas difficult. PRT cannot control the topography of the station at this level, and development and walkability are two very important elements of this analysis.

Data source:
- Allegheny County Slopes, Allegheny Places Design Team (2010)
- https://www.pasda.psu.edu/uci/DataSummary.aspx?dataset=1202

The acreage of a walkshed indicated as having a slope of over 25% was summed, and then divided by the total acres of the walkshed. This determined the percent coverage of undevelopable property within the walkshed. Each station was given a score from zero to one as a percentage of the station area with the least coverage by steep slopes.

Station areas with less aggressive topography receive higher priority. PRT will design stations and station areas which lend themselves towards expansion, walkability, and future development.

DEVELOPMENT OPPORTUNITY

The primary goal of transit oriented development is to work towards development at transit stations. The following metrics focus on how probable and feasible development is around stations. While they are not the only indicators for developability, nor are they the only important aspects of TOD, they are important to consider when attempting to move forward with a project.

RESIDENTIAL DEVELOPMENT:

Ongoing, recent, and upcoming residential development in a station's walkshed can introduce new riders to the transit system and present opportunities to collaborate with developers to provide transit amenities, assets, and resources.

Data Source:
- Co-Star data provided by consultants (2024)

This metric combines the count of residential units under construction and completed between 2020-2024. Each station was given a score from zero to one as a percentage of the station area with the highest number of new residential units.

Stations with more new and upcoming residential development receive a higher priority, as they will likely lead to new residents and destinations.

UNDERUTILIZED LAND:

Land is considered underutilized if the land value is greater than the building/structure value, meaning that the property could be a good investment for new development.

Data Source:
- Allegheny County Property Assessments, Office of Property Assessments (2024)
- https://data.wprdc.org/dataset/property-assessments

Properties within a walkshed were given a binary score of one if the land had a higher value than the building, and a zero if it was not. This analysis did not consider the degree to which a property may have been underutilized.
The acreage of underutilized property was then summed and divided by the total acreage of the walkshed to create a percent underutilized

score. Each station was given a score from zero to one as a percentage of the station area with the highest coverage of underutilized land.

Station areas with more underutilized land receive higher priority. Stations which have opportunity for growth will be prioritized.

PITTSBURGH REGIONAL TRANSIT PROPERTY: (X2)

PRT owns a sizeable amount of property across Allegheny County. While most of this land is used for stations, rights-of-way, and maintenance, PRT does own land that may be considered developable. Predetermined usable property within station walksheds can be a valuable asset for station area planning.

Data Source:
- PRT_PotentialDevelopmentProperties (internal data) (2022)
- https://pgh-transit.maps.arcgis.com/home/item.html?id= 56e8c2a09ea 847f19f6ca5014 2c52abb

Each station was given a score from zero to one as a percentage of the station area walkshed with the most developable PRT property.

Station areas with more usable PRT property receive higher priority.

POPULATION CHANGE:

A growing population is an indicator of a community has the opportunity to grow ridership. Redesigning stations in growth areas can encourage new riders and address emerging community needs.

Data Source:
- TIGER/Line Shapefile 2020
- DP05 | ACS Demographic and Housing Estimates , ACS 5-Year Estimates 2014

– 2018: https://data.census.gov/table/ACSDP5Y2019.DP05?q=dp05
- DP05 | ACS Demographic and Housing Estimates , ACS 5-Year Estimates 2018 – 2022: https://data.census.gov/table/ACSDP5Y2022.DP05?q=dp05

Using the same methodology as the population metric, the population estimate from 2014 – 2018 was determined for each station area walkshed. Using these two populations, the percent change was calculated during that time. Each station was given a score from zero to one as a percentage of the station area with the largest population growth. Station areas with a population decline were given a score of zero. Station areas with higher population growth receive higher priority.

ZONING:

Zoning largely dictates what can and cannot be developed in an area. Areas without amenable zoning may not be suitable for a station redesign. Zoning can have outright TOD districts or regulations that share attributes with TOD design.

Data Source:
- Municipal zoning maps
- Bethel Park: https://experience.arcgis.com/experience/97b00efdbb274c96beb6045a9866ec49
- Carnegie: https://www.carnegieborough.com/Carnegie_Zoning_Ordinance-FINAL.pdf
- Castle Shannon: https://www.csboro.org/wp-content/uploads/2024/06/CSB-Zoning-Ordinance-7-2013.pdf
- Crafton: https://ecode360.com/11762304
- Dormont: https://ecode360.com/37592917
- Edgewood: https://ecode360.com/6760619
- Ingram: https://ecode360.com/12997253

- Mt Lebanon: https://ecode360. com/42261300#42261300
- Pittsburgh: https://ecode360. com/45474054
- Swissvale: https://www.swissvaleborough. com/DocumentCenter/View/101/ Swissvale-Zoning-Ordinance-2017-PDF
- Rankin: https://ecode360.com/31610163
- Wilkinsburg: https://ecode360. com/8425193

PRT staff analyzed the zoning and zoning text of each station area based on their municipalities. Each station area received a score ranging from zero to one based on the following criteria:
- if the zoning is not amenable to TOD,
- 0.25 if the station is on or near land that has exceptions for multi-family or multi use development,
- 0.5 some of the area around the station is zoned appropriately for TOD development according to PRT's TOD Best Practices,
- 0.75 if all of or a majority of the area around the station is zoned appropriately for TOD development according to PRT's TOD Best Practices,
- or a score of 1.0 if the station is located on or near TOD zoned land and/or in an area with a TOD plan.

Station areas with pro TOD or TOD amenable zoning or community plans receive higher priority.

EQUITY

In 2019, Pittsburgh Regional Transit updated the Equity Index of Mobility Need for each station walkshed. The equity score considers the following metrics: population of older adults, people with disabilities, people in poverty, minority, ethnicity, people under the age of 18, people with limited English proficiency, households without vehicles, and female head

of households. For more information on the Equity Index of Mobility Need, please refer to the report:

Equity Index of Mobility Need: https:// www.rideprt.org/siteassets/inside-the-pa/ transparency/data-and-statistics/paac-2019- equity-index.pdf

DISPLACEMENT

While the displacement metrics were not included in the scenario analysis, they are important metrics to determine the vulnerability of an area, and the precaution which PRT needs to approach with when proposing development.

COST-BURDENED HOUSEHOLDS:

The Census Bureau defines a household as housing cost-burdened if more than 30% of the household income is spent on rent, mortgage, or other housing needs.

Data Source:
- TIGER/Line Shapefile, 2020
- DP04 | Selected Housing Characteristics, ACS 5-Year Estimates 2018 – 2022
- https://data.census.gov/table/ ACSDP5Y2022.DP04

Using ArcGIS, census tracts are clipped to the station area walksheds to calculate the percent that each census tract makes of each walkshed. To compute a cost-burdened household estimate for each walkshed (including both rented and owned households), the number of each census tract's cost-burdened households is multiplied by the percent that the census tract makes of the walkshed, and then summed to calculate a total cost-burdened estimate.

Each station was given a score from zero to one as a percentage of the station area with the most cost-burdened households.

PRT must redesign these stations with an equity focus to avoid contributing to displacement. PRT can relieve the displacement pressure by developing affordable housing in a TOD.

CHANGE IN COST-BURDENED HOUSEHOLDS:

As discussed above, the housing cost-burdened population is a clear indicator of displacement threat. The change in this population can signify how a community is shifting closer to or further away from displacement. Station areas with an increase in housing cost-burdened population receive a higher priority.

Data Source:
TIGER/Line Shapefile, 2020
- DP04 | Selected Housing Characteristics, ACS 5-Year Estimates 2013 – 2017: https://data.census.gov/table/ACSDP5Y2017.DP04
- DP04 | Selected Housing Characteristics, ACS 5-Year Estimates 2013 – 2017 and 2018 – 2022: https://data.census.gov/table/ACSDP5Y2022.DP04

The same methodology used in the Cost-burdened households metric was used here, applying it to the 5-year estimate from 2013-2017 as well. The percent difference was then calculated to determine the severity of change of housing cost-burdened households.

Each station was given a score of zero to one as a percentage of the station area with the largest increase of cost-burdened households receiving a one. Areas which had a decrease of cost-burdened households received a score of zero.

CHANGE IN MINORITY POPULATION:

An obvious pattern in the decrease of minority population in an area is a strong indicator of displacement.
Data Source:

- TIGER/Line Shapefile, 2020
- DP05 | ACS Demographic and Housing Estimates , ACS 5-Year Estimates 2013 – 2017: https://data.census.gov/table/ACSDP5Y2017.DP05
- DP05 | ACS Demographic and Housing Estimates , ACS 5-Year Estimates 2018 – 2022: https://data.census.gov/table/ACSDP5Y2022.DP05

The same methodology used in the Change in Cost-burdened households metric was used here. The percent difference was then calculated to determine the severity of change of minority populations in a station area.

Each station was given a score from zero to one as a percentage of the station area with the largest decrease in minority population. Areas which had an increase of minority population received a score of zero.

AREAS OF PERSISTENT POVERTY:

Areas of persistent poverty (APP) are defined as census tracts with "a poverty rate of at least 20 percent as measured by the 2014-2018 5-year data series available from the American Community Survey of the Bureau of the Census" (Areas of Persistent Poverty & Historically Disadvantaged Communities, USDOT). These areas are at higher risk of future gentrification, especially when new infrastructure development is introduced to the area.

Data Source:
- Area of Persistent Poverty by US Department of Transportation (computed using ACS 5-Year Estimate 2014-2018)
- https://www.arcgis.com/apps/ dashboards/75f ebe4d9e6345ddb2c3ab42a4aae85

Using the ArcGIS summarize within tool, the percent coverage of APP within a walkshed was calculated by dividing APP acreage over total walkshed acreage.

Each station was given a score of zero to one as a percentage of the station area with the largest amount of APP.

HISTORICALLY DISADVANTAGED COMMUNITIES:

Historically disadvantaged communities are census tracts defined as "disadvantaged in the Climate & Economic Justice Screening Tool (CEJST), created by CEQ, which identifies such communities that have been marginalized by underinvestment and overburdened by pollution" (Areas of Persistent Poverty & Historically Disadvantaged Communities, USDOT). These areas require special attention so as not to exacerbate environmental issues and not encourage gentrification.

Data Source:
- Climate & Economic Justice Screening Tool (geoplatform.gov) (CEJST), created by CEQ
- https://screeningtool.geoplatform.gov/

Using the ArcGIS summarize within tool, the percent coverage of area of HDC within a walkshed was calculated by dividing HDC acreage over total walkshed acreage.

Each station was given a score from zero to one as a percentage of the station area with the largest amount of HDC.

CHANGE IN MEDIAN INCOME:

Similar to changes in minority population, changes in income don't always signal displacement. In the best case, they reflect rising income levels across the existing community.

On the other hand, it can indicate that wealthier people are moving into a community and that those with less wealth are being forced to move away. PRT would like to improve infrastructure for communities that need it, and not threaten displacement simultaneously.

Data Source:
- TIGER/Line Shapefile, 2020
- S1901| Income in the Past 12 Months (in 2022 Inflation-Adjusted Dollars, ACS 5-Year Estimates 2013 – 2017: https://data.census.gov/table/ACSST5Y2017.S1901
- S1901| Income in the Past 12 Months (in 2022 Inflation-Adjusted Dollars, ACS 5-Year Estimates 2018 – 2022: https://data.census.gov/table/ACSST5Y2022.S1901

To calculate change in median income for a walkshed the average median income of a household from the ACS 5-year 2018-2022 estimate was subtracted from the ACS 5-year 2013-2017 estimate. Each station was given a score from zero to one as a percentage of the station area with the largest increase in median income. Areas with a decrease in income receive a zero.

CHANGE IN INCOME IN COMPARISON TO COUNTY:

Similar to changes in minority population, changes in income don't always signal displacement. In the best case, they reflect rising income levels across the existing community. On the other hand, it can indicate that wealthier people are moving into a community and that those with less wealth are being forced to move away. PRT would like to improve infrastructure for communities that need it, and not threaten displacement simultaneously.
In addition, this metric is compared to the county average change, to consider the natural increase of income that may happen over time.

This comparison incorporates an assessment that signals if the walkshed income is outpacing, matching or falling behind county income averages.

Data Source:
- TIGER/Line Shapefile, 2020
- S1901| Income in the Past 12 Months (in 2022 Inflation-Adjusted Dollars, ACS 5-Year Estimates 2013 – 2017: https://data.census.gov/table/ACSST5Y2017.S1901
- S1901| Income in the Past 12 Months (in 2022 Inflation-Adjusted Dollars, ACS 5-Year Estimates 2018 – 2022: https://data.census.gov/table/ACSST5Y2022.S1901

To calculate the change in income compared to the county average, the percent of each walkshed which is within the walkshed is determined. That percentage is used as a weight against the median income of the census tract, when calculating the average of the census tracts which intersect with the walkshed. The same methodology is used for both the 2013-2017 dataset and the 2018-2022 dataset, so that percent change can be calculated. Finally, the difference between the change in income for the walkshed and for the county is calculated to determine an overall increase, decrease, or leveling of the income.

Each station was given a score from zero to one as a percentage of the station area with the largest change in income in comparison to the county. Areas which had a negative correlation to the county change in income received a score of zero.