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Safety Interventions For Houseless Pedestrians

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SAFETY INTERVENTIONS FOR HOUSELESS PEDESTRIANS

Prepared by:
Street Perspective

Street Perspective is made of
PSU MURP 2022 Candidates:
Peter Domine, Sean Doyle, Asif Haque,
Angie Martínez Sulvarán, Nick Meusch, and Meisha Whyte



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Glossary of Terms

Community – A group of people living together and sharing common interests and goals.

Community-based organization – Not-for-profit resource hubs that provide specific services to a community or targeted audience.

Conflict Zone – Locations of combined campsite reporting data near pedestrian crash data within 250 ft of the High Crash Network. The methodology of spatial analysis results in locations which could provide areas of prioritization for pedestrian improvements for people experiencing homelessness.

Crash – The proper term for a collision involving any mode. Accidents are not mentioned as they are deemed unpreventable whereas crashes can be prevented.

City of Portland (the City) – Public agency responsible for the oversight of City bureaus, including Portland Bureau of Transportation, and responsible for bureau funding allocations.

Displacement – The negative effects of a plan, policy, development, or law resulting in the relocation of individuals or communities.

Disability – A physical or mental impairment that substantially limits a major life activity as defined by the Americans with Disabilities Act.

Domicile Unknown – Housing identification term used by the Multnomah County Health Department and Medical Examiner for a deceased individual without an established permanent residence.

Encampment/campsite – A temporary accommodation where an unhoused person meets their physiological needs as well as a place where personal possessions are typically stored.

Equity – Creating conditions that allow all to reach their full potential.

High Crash Network (HCN) – Identified by the PBOT Vision Zero plan, these are the City of Portland’s most dangerous streets and intersections by number and severity of crashes for motor vehicles, pedestrians, and bicycles.

Houseless/ness – As defined by the U.S. Department of Housing and Urban Development, “homelessness” refers to a person living either unsheltered or in

temporary shelter or transitional housing, and lacking a permanent place to live. For purposes of this report, the term “houseless” or “unhoused” is used instead, as housing refers to the physical shelter, and does not necessarily equate a home, which includes a sense of place and community.

Mobility Device – Any device used to help someone with a disability get around with less reliance on others.

Mode – Refers to the type of transportation a person uses to get from one place to another such as walking, cycling, rolling, sitting, sleeping, or camping within the public right-of-way.

Pedestrian – Any person walking, standing, rolling, sitting, sleeping, or camping within the public right-of-way.

Right-of-way – Public property including streets where mode share occurs.

Rolling – A mode that encompasses ADA devices such as a wheelchair, walker, or powerchair.

Service Providers – Organizations working to serve people experiencing homelessness by providing goods and services.

Sweeping – The forced removal of people living unhoused and their possessions from a particular private or public site.

Street Perspective – The project team made up of six Portland State University Master of Urban and Regional Planning candidates, responsible for the development of this report.

Traffic Violence – The collective choice by a society to favor car-centric design resulting in fatalities and serious injuries to right-of-way users.

Unsheltered – Someone whose primary nighttime residence is a public or private place not designed for or ordinarily used as a regular sleeping accommodation, including a car, abandoned building, bus or train station, airport, park, or camping ground.

Vision Zero – Framework adopted by the City of Portland to eliminate or significantly reduce fatalities and serious injuries caused by transportation crashes.

Acronyms

ADA – Americans with Disabilities Act

BIPOC – Black, Indigenous, and people of color

CDC – Center for Disease Control and Prevention

GIS – Geographic Information Systems

HCN – High Crash Network

HUD – United States Department of Housing and Urban Development

JOHS – Joint Office of Homeless Services of the City of Portland and Multnomah County

ODOT – Oregon Department of Transportation

ORS – Oregon Revised Statutes

PBOT – Portland Bureau of Transportation

PUDL – Portland Urban Data Lake

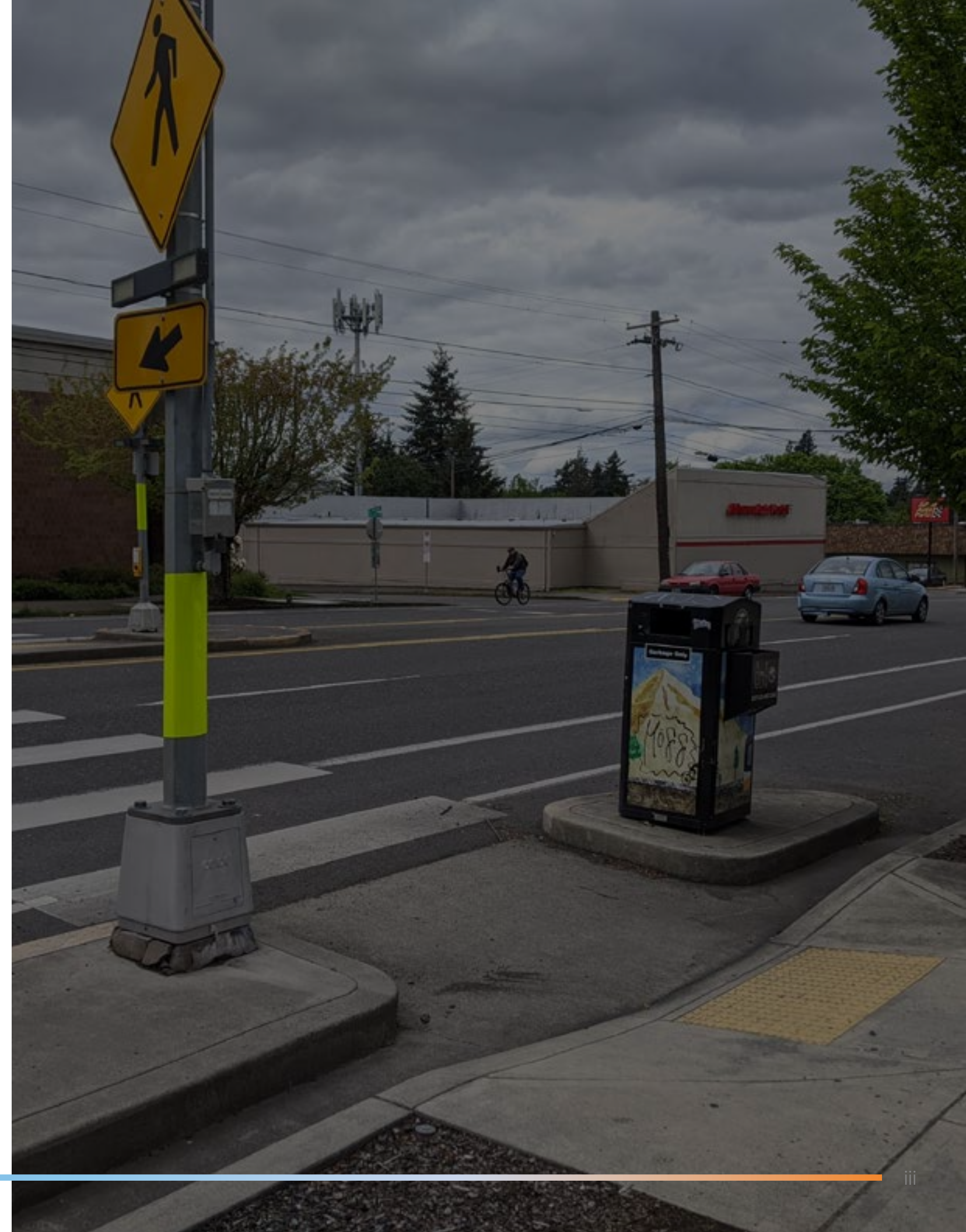
PIT – Point in Time Count

PPB – Portland Police Bureau

RRFB – Rectangular Rapid-Flashing Beacon

RV – Recreational Vehicle

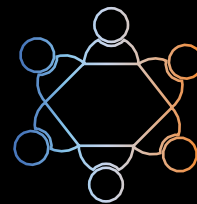
SRV – Safe Rest Village





Executive Summary

Safety Interventions
for Houseless Pedestrians



Street Perspective is made of
PSU MURP 2022 Candidates:
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The Project

In 2016, the City of Portland adopted the **Vision Zero Action Plan** with the goal of eliminating traffic deaths and serious injuries on Portland's streets. The **Portland Bureau of Transportation (PBOT)** also makes a commitment in all of its plans to create a more equitable transportation system by prioritizing areas of the city with a disproportionate number of BIPOC community members and people with lower incomes, all of whom face a greater risk from traffic violence. To achieve its Vision Zero goals, the City and PBOT have undertaken a number of actions, including redesigning streets through traffic calming and traffic management, and outreach and education. While progress has been made since the Vision Zero plan's adoption, there has recently been an alarming increase in traffic crashes and fatalities, particularly among people experiencing houselessness.

The PBOT Vision Zero team partnered with **Street Perspective**—the Portland State University Master of Urban and Regional Planning student Workshop team—to examine **how to mitigate the risk of traffic-related harm to people experiencing houselessness**. Through this project, Street Perspective has developed a report of existing conditions, promising practices, site-specific analysis, outreach, and a toolkit of recommendations to better understand and address the needs and vulnerabilities of people experiencing houselessness in Portland.

Background

In 2021, 63 people were killed in traffic crashes on Portland's streets and highways, the highest number of fatalities since the 1990s. Of these crashes, 60% of fatalities occurred on the **High Crash Network (HCN)**, PBOT's identified network of streets and intersections with the highest number of crashes for motor vehicles, pedestrians, and bicyclists. Out of all fatal crashes in 2021, 27 were pedestrians, and **19 were reported as people experiencing houselessness**. Many more were undoubtedly injured and were unreported.

Houselessness is a complex problem facing every city in the United States. The worsening trend of traffic-related harm toward people experiencing houselessness in Portland and beyond is intertwined with many other complicated issues. This toolkit's scope is meant to support PBOT's Vision Zero goal to eliminate all traffic-related fatalities and serious injuries, especially for those living unhoused, and to create a more equitable transportation system.

Existing Conditions

The demographics of people experiencing houseless, their living situations, and their access to basic needs and services, all increase the risk of traffic-related harm. The vast majority of people experiencing houselessness live with physical and other disabilities which make navigating the streets much more difficult. The risk of traffic-related harm is further exacerbated by the prevalence of houseless communities living along the HCN.

Spatial analyses of the HCN, reported campsites, and proximate traffic crashes involving pedestrians all combine to create potential Conflict Zones. This analysis explores these Conflict Zones, as well as an assessment of access to basic needs. Further explored is an internal analysis of City- and PBOT-owned land for potential criteria-specific rest areas for people experiencing houselessness. From this analysis, three locations along the HCN with a high prevalence of Conflict Zones were selected for field observations and site-specific recommendations in the Site Analysis section.

Site Analysis

Three sites from the Existing Conditions analysis were chosen for field observations and site-specific recommendations. These sites are:

- **The Burnside Location** (W Burnside St & NW 2nd Ave)
- **The Hollywood Location** (NE Sandy Blvd, NE Halsey St & NE César E. Chávez Blvd)
- **The Hazelwood Location** (NE Glisan St & NE 122nd Ave)

Each exhibit different built environment contexts and traffic patterns along the HCN. All three locations provide access to a wide variety of goods and services, including a bottle redemption center, which was a commonly observed destination for houseless pedestrians. Campsites were observed in a variety of locations such as the open spaces between highway intersections and on medians, as well as along shoulders and sidewalks.

At all three locations drivers were observed speeding, failing to yield to pedestrians, and driving aggressively in general. Each location would benefit from traffic management and calming, crossing improvements and pedestrian signal prioritization, and "daylighting" streets by removing on-street parking and other visual barriers. Although

these safety improvements could apply to any street, prioritizing locations with a high prevalence of houseless pedestrian activity and history of traffic crashes could—as demonstrated in the Existing Conditions methodology—prove useful for future implementation.

Promising Practices

Many tools and countermeasures have been developed and adopted in Portland to improve pedestrian safety, but applying them to specifically address the safety of people experiencing houselessness is novel. Among the most promising strategies applied in Portland and nationwide were:

- PBOT’s Safe Streets Initiative and similar programs nationwide have shown the capacity of cities to quickly adapt their resources to new crises such as the COVID-19 pandemic;
- Infrastructure improvements already widely used in Portland could be tailored to address the safety of pedestrians living unhoused;
- Motel vouchers, Safe Rest Villages, and sanctioned campsites provide people experiencing houselessness the option of a safe place to sleep with basic amenities;
- Safe parking programs for RV and car camping could all improve the safety of unhoused pedestrians.

Community Engagement

Street Perspective interviewed a number of organizations that work directly with houseless communities as well as unhoused individuals to gain a better understanding of travel behaviors, perceptions, and potential interventions to reduce the risk of traffic-related harm for people experiencing houselessness.

The outreach revealed a strong need for more places where people can reside beyond congregate shelters and better access to basic services such as restrooms, garbage disposal, and showers. Ending the controversial and detrimental practice of “sweeping” houseless communities was another major takeaway. Sweeping, along with other forms

of harassment from private security, police, and housed people, were cited as a major reason for people experiencing houselessness locating along the HCN and other dangerous, high-speed roadways. With regard to traffic safety, the need to reduce speeding, improve pedestrian crossings, and hold drivers accountable for dangerous behavior were all strongly supported. Along with the promising practices review, the takeaways from this engagement were then used to develop recommendations.

Recommendations

The goal of these recommendations—based on best practices research and feedback from the community—are to help PBOT identify and implement safety measures to protect people experiencing houselessness from traffic-related harm. There are many near-term measures PBOT could take on its own to address street safety, as well as more long-term, multi-agency recommendations aimed at addressing houselessness more broadly. These recommendations—categorized as infrastructure, policy, and programming—include:

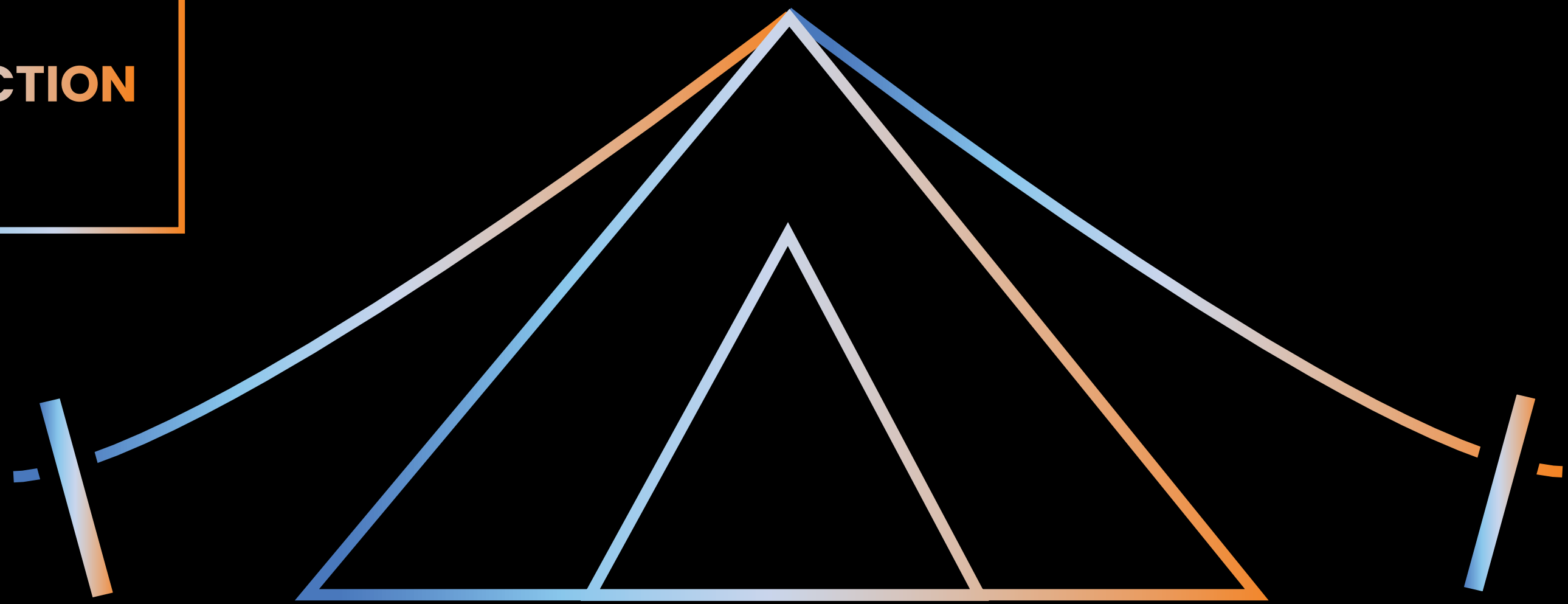
- Shelter and necessities;
- Enhanced visibility and pedestrian prioritization;
- Traffic enforcement and legal protection; and
- Improving information.

In addition, site-specific recommendations of the three previously examined locations—the Burnside Location, Hollywood Location, and Hazelwood Location—are provided. These site-specific recommendations include infrastructure improvements such as speed signs/cameras, new or repainted crosswalks, street adjustment, additional lighting, and other measures. Many of these recommendations and related promising practices such as the Safe Streets Initiative are currently being implemented in some form throughout Portland. Likewise, while many traffic calming and pedestrian improvements are well known to PBOT, many of these measures could be further enhanced and tailored to better serve people experiencing houselessness.



Street Perspective

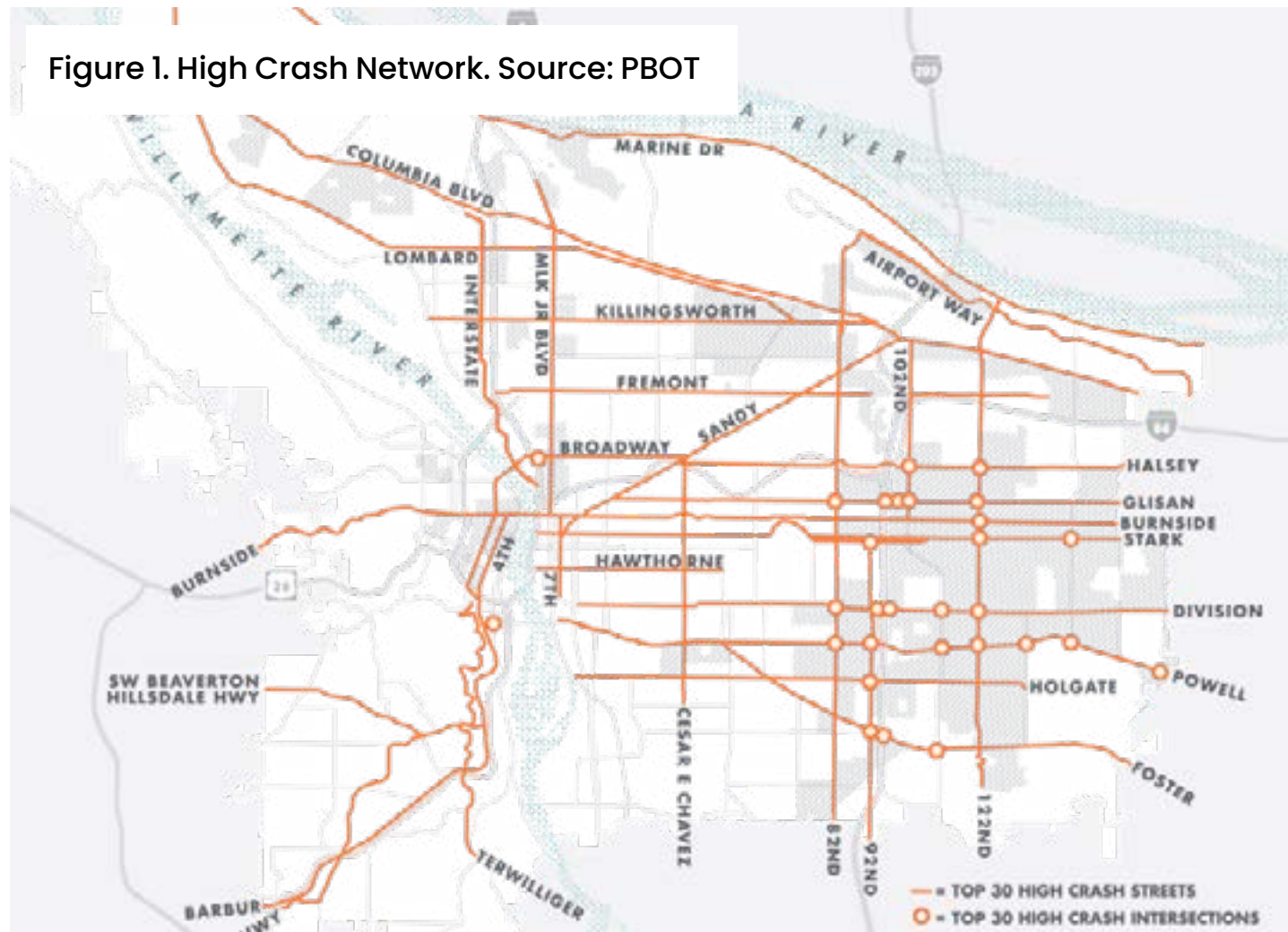
TOOLKIT INTRODUCTION



Project Background

When PBOT's **Vision Zero Action Plan** was adopted in 2016, walking accounted for 10% of all trips made, yet pedestrians made up nearly one-third of all traffic-related deaths. In recent years, people experiencing houselessness have been widely overrepresented in pedestrian fatalities. Between 2017 and 2019, houseless people made up less than 2% of Portland's population, yet they accounted for nearly 20% of the people killed by drivers. By this measure, people experiencing houselessness were 10 times more likely to be hit and killed than other pedestrians. In 2021, pedestrian deaths increased from a three-year average of 38% of traffic-related deaths to 43%, and people experiencing houselessness accounted for 70% of pedestrian deaths. **Many of these crashes and deaths occurred on the City's High Crash Network (HCN) near highways, off-ramps, and along high-speed corridors in land zoned for industrial or open space uses** (See Figure 1).

Figure 1. High Crash Network. Source: PBOT



The COVID-19 pandemic has had a major impact on houselessness and transportation. The social and economic fallout of the pandemic—and the already tight housing market and high costs of living in Portland—have all led to an increase in the number of people experiencing houselessness. While these crises impact people of all backgrounds, people of color and other marginalized communities have been disproportionately affected. Related specifically to housing, for example:

- People of color are more likely to be renters and/or cost burdened—spending more than 30% of their income on housing.
- As millions of Americans have lost their housing since the beginning of the pandemic, it has become increasingly difficult to find stable and affordable housing again.
- Illegal racial discrimination is still frequently encountered by people of color in the housing market, adding another barrier to finding, affording, and maintaining housing.

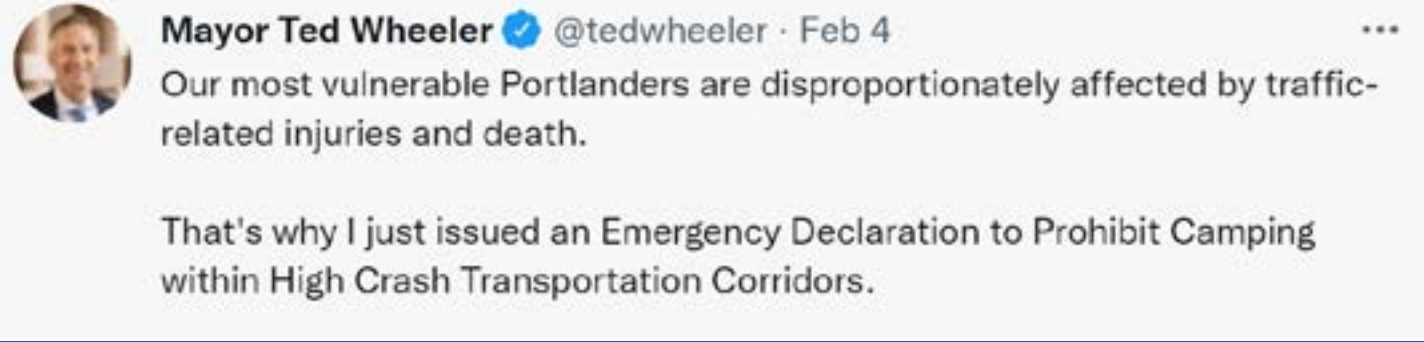
“People experiencing houselessness accounted for 70% of pedestrian deaths in 2021 [in Portland].”

Similarly, access to shelter and services were also limited due to the pandemic, leaving many people with no alternative than to find refuge along streets or in open spaces next to highways. While the pandemic initially reduced traffic due to work and social restrictions, speeding and reckless driving went up. Traffic has largely returned to pre-pandemic levels, putting those living unhoused at greater exposure to the risk of traffic violence

While shelter is essential to address houselessness, access to food, restrooms and hygiene facilities, medical treatment, and other services are also paramount. A 2016 survey of 550 people living unsheltered in Portland found 40% of respondents reported experiencing medical issues related to a lack of hygiene resources. In the same survey, 22% of respondents reported having been denied access to meals or services due to a lack of hygiene, and 20% reported having been denied access to shelter for the same reason.

These services are essential to public health and safety, and all require travel and mobility. Along with poorly designed streets, gaps in infrastructure, and fast-moving traffic, all of these factors pose additional challenges for houseless people to navigate the streets safely in order to access their needs. Without safer access to these necessities readily available, every trip to find food or a bathroom or to charge a phone puts unhoused pedestrians at higher risk of being hit by drivers.

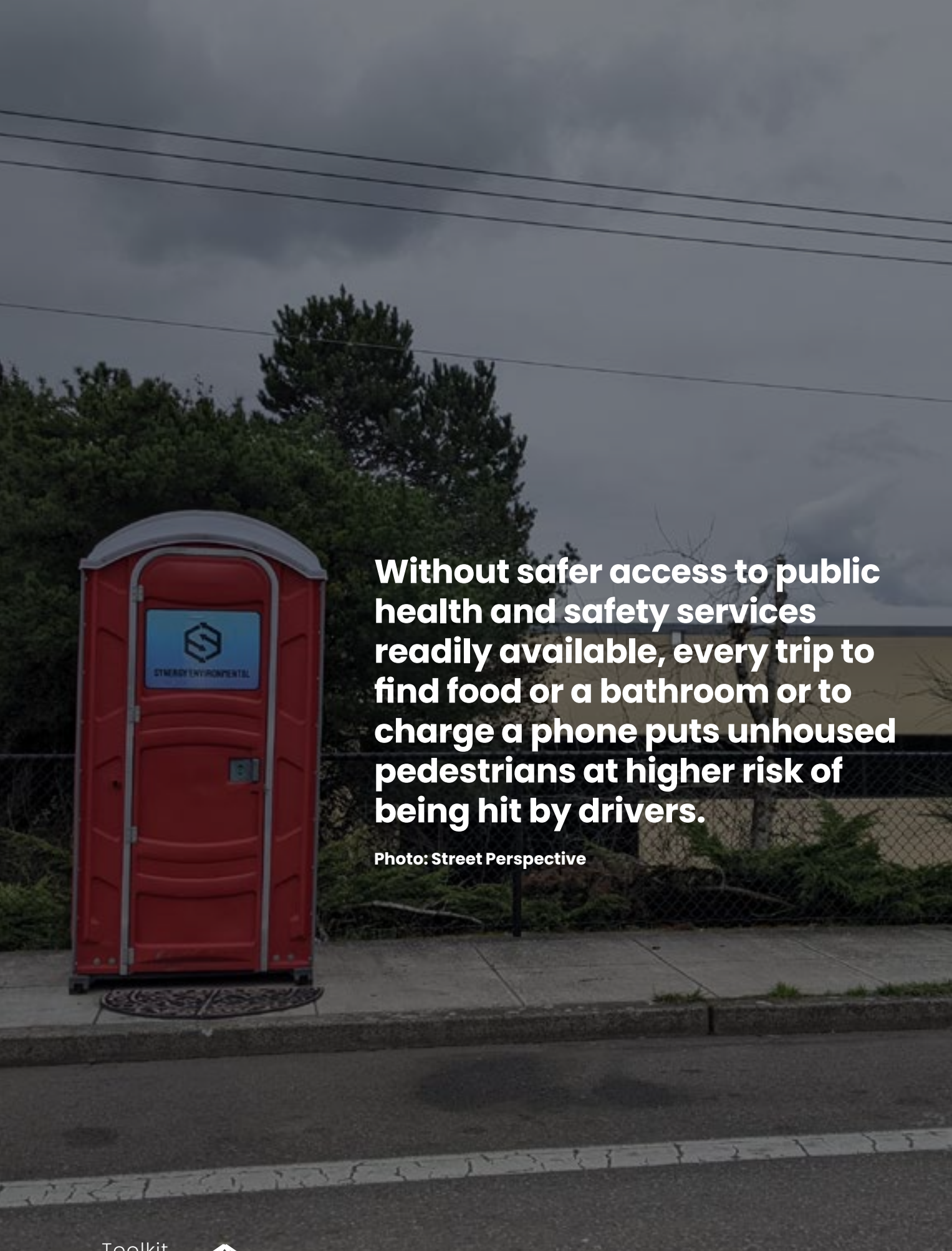
Among these and other challenges, on February 4, 2022, Mayor Wheeler issued an emergency declaration prohibiting camping and enforcing the sweeping of houseless communities along the HCN “With no right of return.” Given the City’s history of sweeping, this is not a sustainable solution—people will return when left with no place else to go. The recommendations in this toolkit provide alternative ways PBOT could address the needs of people experiencing houselessness while reducing their risk of traffic-related harm. Although every aspect of houselessness cannot be solved solely through a transportation lens, and PBOT alone cannot meet all of these needs, this toolkit is meant to provide a starting point for exploring new options to address this crisis. Given PBOT’s commitment to Vision Zero and equity, the fact that people experiencing houselessness face an amplified risk caused by unsafe road conditions, driver behavior, and harmful City policies, is cause for serious consideration and remediation.



Above: Twitter post by Ted Wheeler on February 4th, 2022. This emergency order does three things:
1) Prohibits camping along high-speed corridors,
2) Prioritizes the work of the Impact Reduction Team to post and remove (sweep) camps in these areas,
3) It enables them to keep these sites free of camping with no right of return.

The COVID-19 pandemic has had a major impact on houselessness and transportation. The social and economic fallout of the pandemic have all led to an increase in the number of people experiencing houselessness.

Photo: Street Perspective



Without safer access to public health and safety services readily available, every trip to find food or a bathroom or to charge a phone puts unhoused pedestrians at higher risk of being hit by drivers.

Photo: Street Perspective

Equity

This report aligns with PBOT’s Vision Zero and equity goals by creating an equity-centered, data-driven, and accountable plan. PBOT’s Vision Zero Action plan defines traffic safety equity as “creating streets that are safe for all Portlanders, in all areas of the city, to move by all modes.” People experiencing houselessness face a number of intersectional barriers including physical disabilities, mental health and addiction challenges, systemic racism and prejudice against different identities, and many more obstacles exacerbated by the previous two years of the COVID-19 pandemic.

Given these numerous burdens, it is important to approach this project with equity, compassion, and humility at the forefront. In this regard, Street Perspective uses the term “houseless” or “unhoused” rather than the traditionally-used term “homeless.” As described by Do Good Multnomah, a local Portland non-profit, “Home is a social connection. Home is memories. It’s the streets. It’s friends and family. Home is so much more than a physical space.”

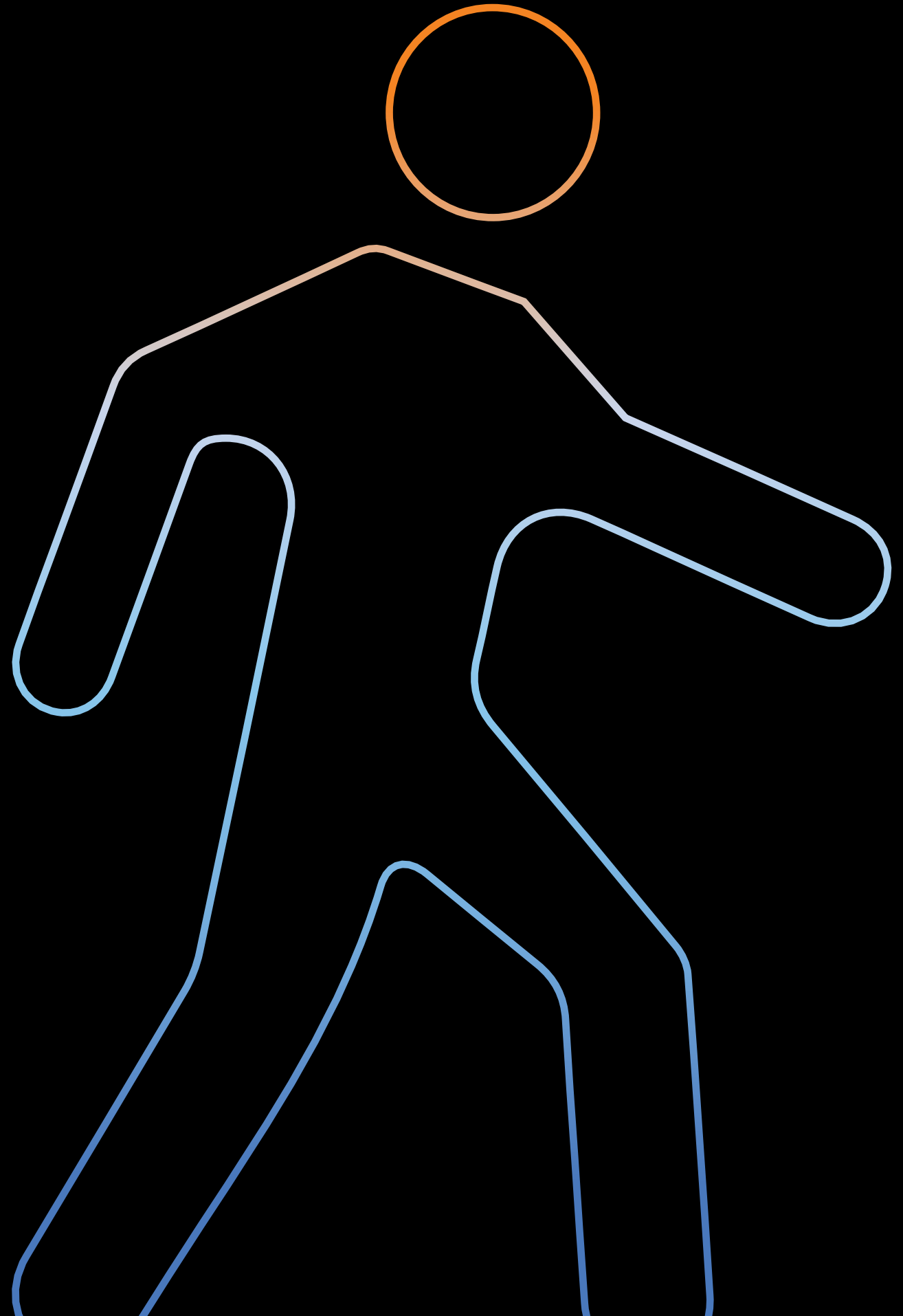
Street Perspective acknowledges the complex nature of the crisis of houselessness in Portland and across the nation. Street Perspective is aware of the enormity of the systemic structural, procedural, and distributional factors that can lead to a person becoming houseless. Just as the problem of houselessness is far reaching, so too is the problem of traffic violence. It is not in the scope of this project to analyze and address all of the issues related to houselessness, but to understand how they apply to traffic safety for people experiencing houselessness in Portland. With equity at the forefront, the Street Perspective team acknowledges that every incident of traffic violence and every voice of those experiencing houselessness is unique, and will be treated with respect and compassion, and will be used in this project to help PBOT create safer streets for all Portlanders.

“ [Traffic equity is] creating streets that are safe for all Portlanders, in all areas of the city, to move by all modes. ”
– PBOT Vision Zero Action Plan



Street Perspective

EXISTING CONDITIONS



Demographics of People Experiencing Houselessness

The United States Department of Housing and Urban Development (HUD) Point in Time Count (PIT Count) is among the most comprehensive and widely used sources of information on people experiencing houselessness. Conducted annually on a single night per year by cities across the United States, the PIT Count gives a snapshot of the number, characteristics, and conditions of people experiencing houselessness, both sheltered and unsheltered. Because of the COVID-19 pandemic, counts for 2020 and 2021 were not conducted, and the most recent and complete available data is from the 2019 count.

The PIT Count uses the HUD definition of “homeless” as those who are living unsheltered, in emergency shelter, and in transitional housing. HUD defines “unsheltered” as someone whose primary nighttime residence is a public or private place not designed for or ordinarily used as a regular sleeping accommodation, including a car, abandoned building, bus or train station, airport, park, or camping ground. HUD also defines “chronic homelessness” as a person having one or more disabilities and being homeless for a year or more continuously, or cumulatively over a three-year period.

“**[Homeless are] those who are living unsheltered, in emergency shelter, and in transitional housing.**”

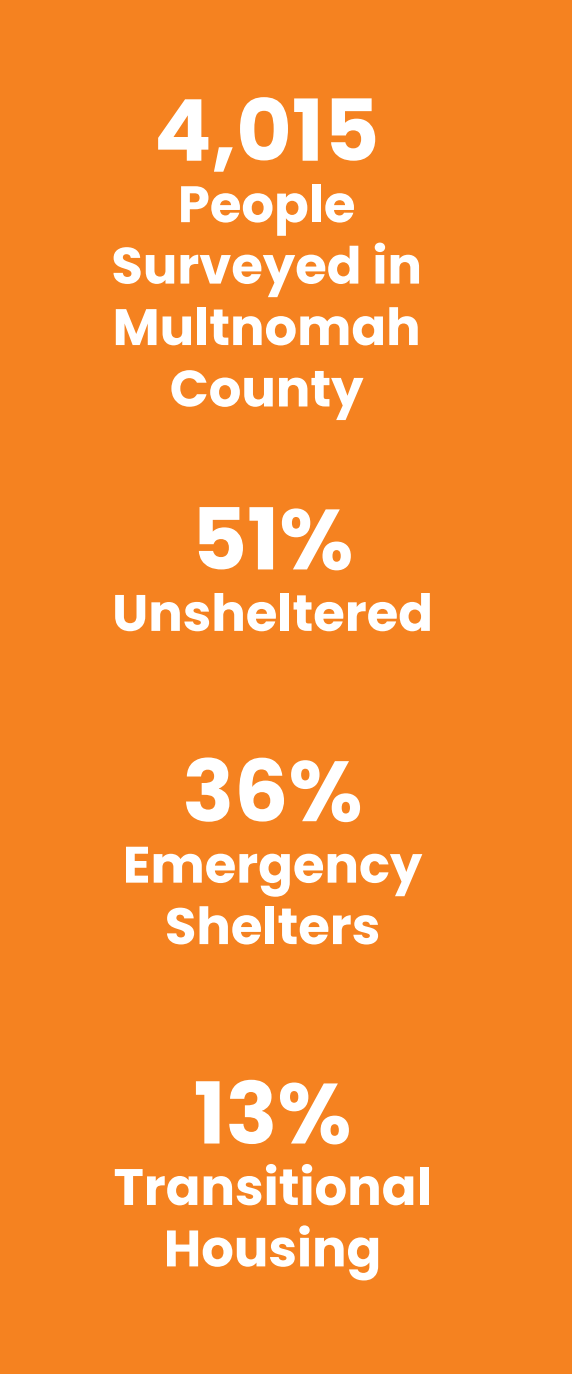
– US Department of Housing and Urban Development

Key Findings from the 2019 Point in Time Count

The 2019 PIT Count in Multnomah County surveyed 4,015 individuals, 51% of whom were living unsheltered, 36% in emergency shelter, and 13% in transitional housing. While the overall number of people experiencing houselessness was lower in 2019, the number of unsheltered individuals rose 22% since the 2017 count. Similarly, while “chronic homelessness” is difficult to determine, the 2019 Count identified 1,769 chronically homeless people, a 37% increase from 2017. Among those who were identified as chronically homeless, a vast majority of 77% were unsheltered adults without children. In general, the homeless population in 2019 was observed to be older, experiencing more disabling conditions such as addiction disorders and mental illness, and were homeless for longer periods than in previous years.*

People of color made up a disproportionately large percentage of the homeless population in 2019 at 38%, a slight increase from 2017. This is a significant overrepresentation of people of color in the identified homeless population, given that people of color make up only 30% of the population of Multnomah County.

**Although a count was conducted in January 2022, the only data currently available is the number of people experiencing houselessness. Since the 2019 count, Multnomah County saw an increase of more than 1,200 people living unhoused, a nearly 30% increase*



Nearly a quarter of the houseless population in Portland are over age 55; more than half were living with a disability.

Photo: Pexels

Of particular concern in the 2019 PIT Count, the age for houseless Portlanders had significantly increased, with nearly a quarter of the houseless population over age 55. The rapid rise of houselessness among older people was also forecasted to increase to 33% by 2020. Correspondingly, this age group was found to have an increased prevalence of disabling conditions and experiencing chronic homelessness. Portland's aging houseless population is also more likely to be living with a greater number of medical issues and physical limitations, making mobility increasingly difficult.

According to the 2019 PIT Count, over 70% of Multnomah County's houseless population experienced more than one disability ranging from mental illness, physical disabilities, substance abuse, and more. **Of those living unsheltered, 56% were living with a disability.** There are many challenges houseless individuals face when attempting to navigate dangerous streets to meet their basic needs. Intersecting disabilities with houselessness puts these individuals at much greater risk than other pedestrians. These obstacles often exacerbate disabilities, making it more challenging for houseless individuals to seek services and meet their basic needs.

Causes of Death Among People Experiencing Houselessness

Since 2011, the Multnomah County Medical Examiner has tracked the housing status of deceased individuals classified as "Domicile Unknown" (i.e., houseless) for those without an established permanent residence. The Domicile Unknown report was created in partnership with the Multnomah County Health Department, Medical Examiner, and Street Roots in order to provide a detailed account of the number, cause, and characteristics of the deaths of people experiencing houselessness.

In the latest report from 2020, 126 of 202 individuals initially flagged as potentially "domicile unknown" were classified as experiencing houselessness in Multnomah County. This number accounts for 9% of all deaths investigated by the Multnomah County Medical Examiner—a disproportionately high percentage as people experiencing houselessness make up less than 2% of the total county population.

Key findings of the 2020 Domicile Unknown report include:

- 75% of accidental deaths (71 total) were attributed to drug or alcohol consumption.
- 25% of accidental deaths were due to trauma (i.e., physical injury); deaths caused by injuries from traffic crashes would be classified here.
- Deaths were nearly evenly distributed across seasons, with 52% occurring in the spring and summer (April – September) and 48% occurring in the fall and winter (October – March).
- 49% of all deaths occurred in outdoor public spaces such as parks, streets, sidewalks, and encampments.

Furthermore, Street Perspective reviewed 10 police reports of crashes resulting in the death of a pedestrian between 2020 and 2021. Although they were as yet not confirmed Domicile Unknown, the initial police reports indicated whether pedestrians



9% of all deaths investigated by the Multnomah County Examiner were classified as people experiencing houselessness, a disproportionately high percentage as people experiencing houselessness make up less than 2% of the total county population.

Photo: Street Perspective

were houseless. Of these crashes, nearly every one occurred in the evening, usually very late or past midnight. Weather and road conditions were not a factor, but inadequate lighting and poor visibility were cited in almost every instance. Many crashes occurred mid-block on a major city street, as well as two on a regional traffic way; one involved a pedestrian in a wheelchair within a crosswalk, but without adequate time to complete the crossing before the perpendicular light turned green. In general, the driver was not found at fault, and there were few details written by the responding officer to inform traffic safety from a planning or infrastructure perspective.

The causes and circumstances of these deaths combined with the exposure to dangerous traffic among Portland's houseless population significantly increases their assumed risk of death and serious injury. Poor road conditions and design, negligent or reckless driver behavior, and lack of safe shelter alternatives, all contribute to the disproportionate number of risks to the health and well-being of people experiencing houselessness.

Campsite and Crash Analysis

To better understand the risks unhoused communities face on Portland's streets, an analysis of crashes and campsite locations was conducted. Looking at the proximity of the High Crash Network (HCN), traffic crashes involving pedestrians, and locations of houseless encampments, revealed a narrowed field of specific locations for further investigation.

For this analysis, data from the City of Portland's One Point of Contact Campsite Reporting System—which publishes weekly and annualized reports of campsite locations—was used to locate houseless encampments. The latest data as of the week of February 14, 2022 showed 1,040 reported campsites, of which 292 were within 250 feet of the HCN. In order to identify some of the most dangerous locations for people experiencing houselessness, those 292 campsites were cross referenced with pedestrian crash locations from 2019 (the latest data available). This resulted in 20 campsites within a Conflict Zone—locations where a campsite is within 250 feet of the HCN and one or more pedestrian crashes from 2019 (Figure 2).

Figure 2. Conflict Zone Diagram.



The 20 reported campsites in Conflict Zones were near 25 crashes, in which 27 pedestrians were injured. In each of the 25 crashes, failure to yield by the motorist was a cited cause, based on PBOT data. Lack of attention, speeding, and carelessness were also commonly cited causes. Obstructed vision, recklessness, and drunk driving were less commonly cited causes. Most of these crashes happened during the weekend and during peak travel hours in the morning and evening. Three quarters of these crashes happened at intersections, two-thirds of which were 4-ways.



Failure to yield by the motorist is one of the most cited causes of crashes.

Photo: Street Perspective

Table 1. HCN Corridors of Selected Locations and Reported Campsites within 250 feet

| Corridor Name | Corridor Description (From > To) | Campsites* |
|------------------------|---------------------------------------|------------|
| NE/SE Sandy Blvd | SE 7th Ave to NE Killingsworth St | 39 |
| SE Cesar E Chavez Blvd | NE Broadway to SE Steele St | 30 |
| E/W Burnside St | City Boundary (West) to SE Gilham Ave | 29 |
| NE Halsey St | NE Sandy Blvd to NE 162nd Ave | 25 |
| NE/SE 122nd Ave | NE Marine Dr to SE Flavel St | 14 |
| SW/N/NE Broadway | SW 4th Ave to NE 57th Ave | 14 |
| NE Glisan St | NE Sandy Blvd to City Boundary (East) | 7 |
| SW 4th Ave | W Burnside St to SW Sheridan St | 6 |

Figure 3 shows the total number of campsites within 250ft of the corridors in the focus areas. Reported campsites are distinct for each corridor, resulting in double counts of some campsites at intersections. This acknowledges the greater risk for people living unsheltered at these locations compared to living along a single road segment.

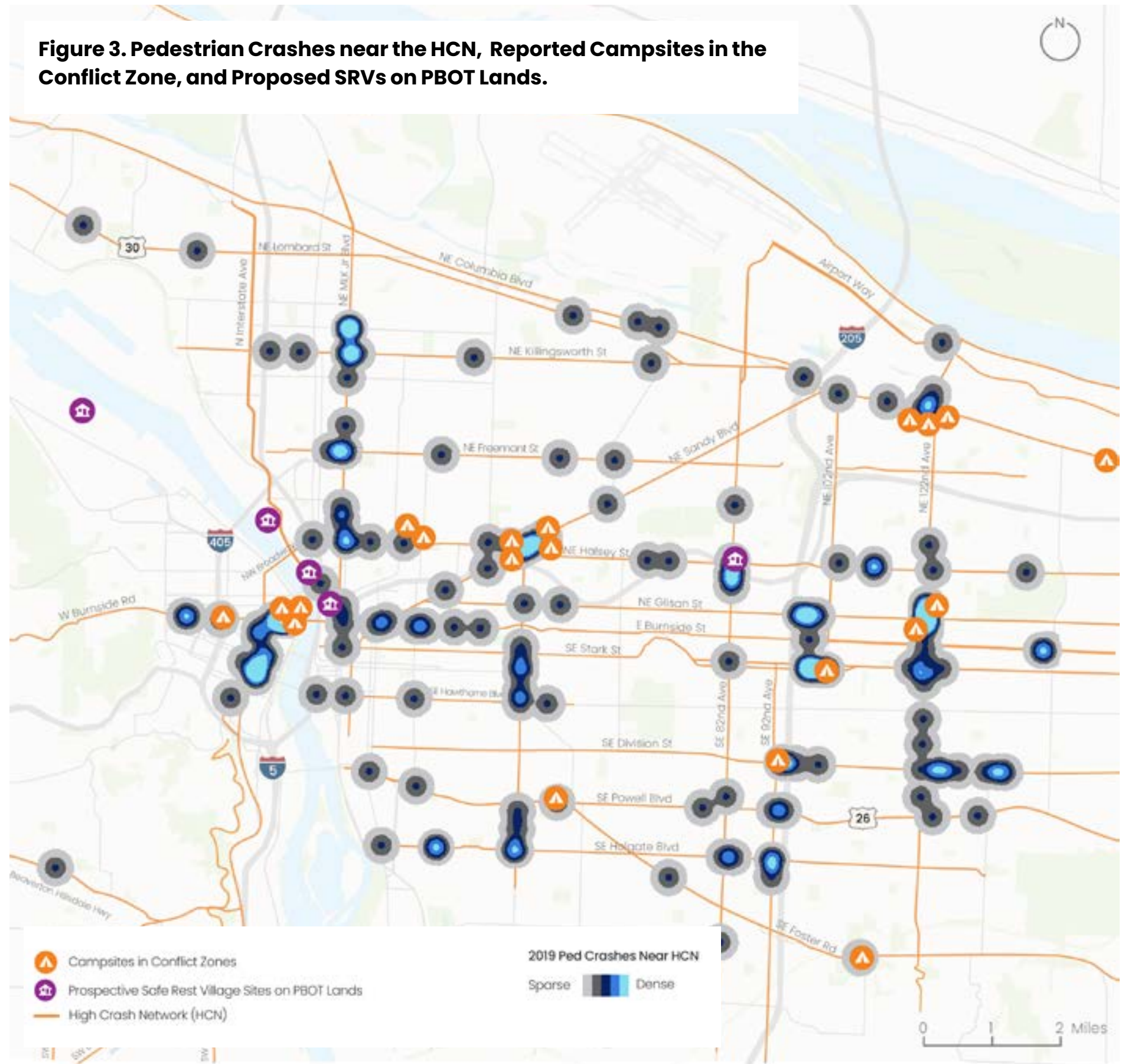
Locations with Highest Density of Crashes

Half of all campsites and crashes in Conflict Zones were concentrated along just a few HCN corridors. Street Perspective focused on the three locations with the highest density of crashes (Figure 3) for further analysis, observations, and community outreach:

- **Burnside Location:** W Burnside St near NW 2nd Ave and NW 3rd Ave (Figure 4);
- **Hollywood Location:** The area of NE Broadway, NE César E. Chávez Blvd, NE Halsey St, and NE Sandy Blvd (Figure 5);
- **Hazelwood Location:** NE 122nd Ave at NE Glisan St (Figure 6)

Figures 4-6 zoom into these areas, which include a subset of the campsites reported in Table 1. Each map shows the proximity of campsites to necessities such as transit, restrooms, and grocery stores. The figures also show PBOT-owned lands that were previously proposed as Safe Rest Villages (SRVs) locations but were not selected as one of the six SRVs the city is currently developing. The Site Analysis section provides additional detail on these three locations.

Figure 3. Pedestrian Crashes near the HCN, Reported Campsites in the Conflict Zone, and Proposed SRVs on PBOT Lands.



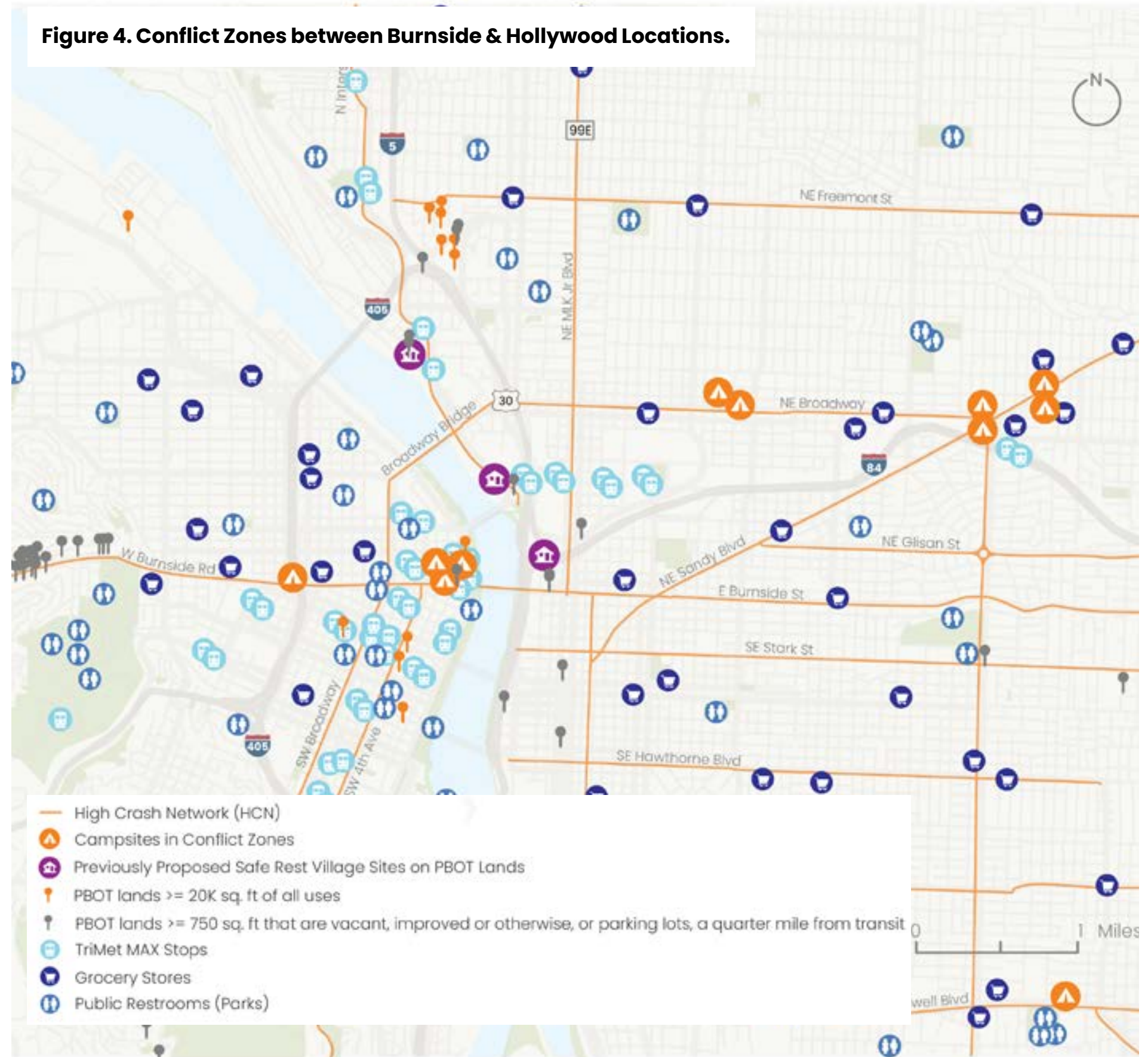
Burnside Location

At the Burnside Location, four campsites were near four pedestrian crashes. These locations comprise 16% of crashes in Conflict Zones. Considering this area has the densest pedestrian activity and population of people living unhoused in the city, the number of campsites in Conflict Zones is lower than expected (Table 1). Previously proposed SRVs on PBOT-owned lands across the Willamette River are within a couple miles of the hottest Conflict Zone at the Burnside Location.



Camping activity on sidewalks feet from W Burnside St
Photo: Street Perspective

Figure 4. Conflict Zones between Burnside & Hollywood Locations.



Hollywood Location

Additional Conflict Zones cluster near the Hollywood Location around NE Broadway and NE Sandy Blvd (Figure 5). Campsites here are served by a variety of grocery stores similar to Burnside St, but public restrooms and MAX stops are more dispersed. At the Hollywood Location, four campsites were near four pedestrian crashes. These locations comprise 16% of crashes in Conflict Zones.



Multiple campsites at a known conflict area on I-84 exit (NE 43rd Ave) to NE Halsey, looking south. Photo: Street Perspective

Figure 5. Conflict Zones at the Hollywood Location.



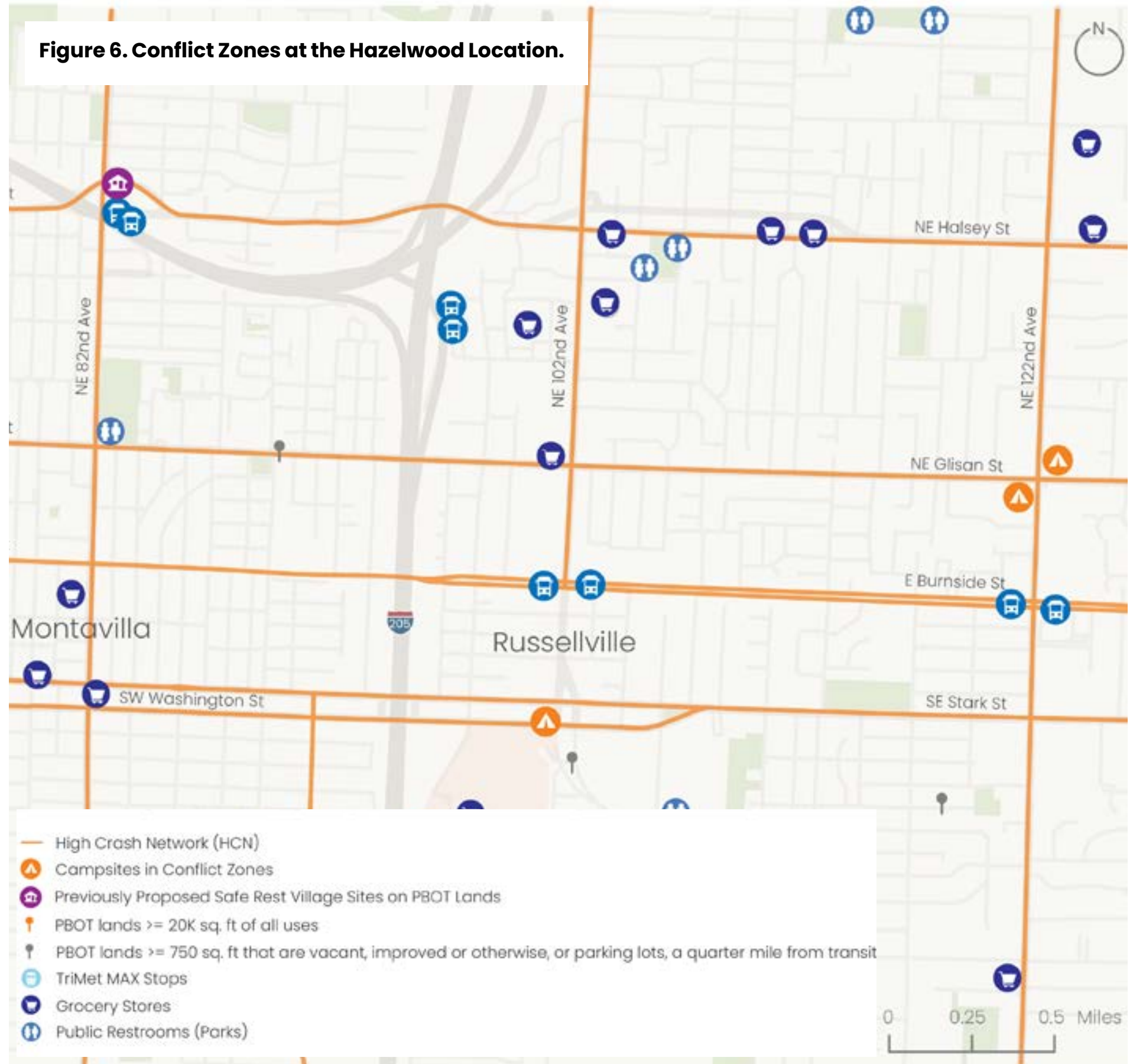
Hazelwood Location

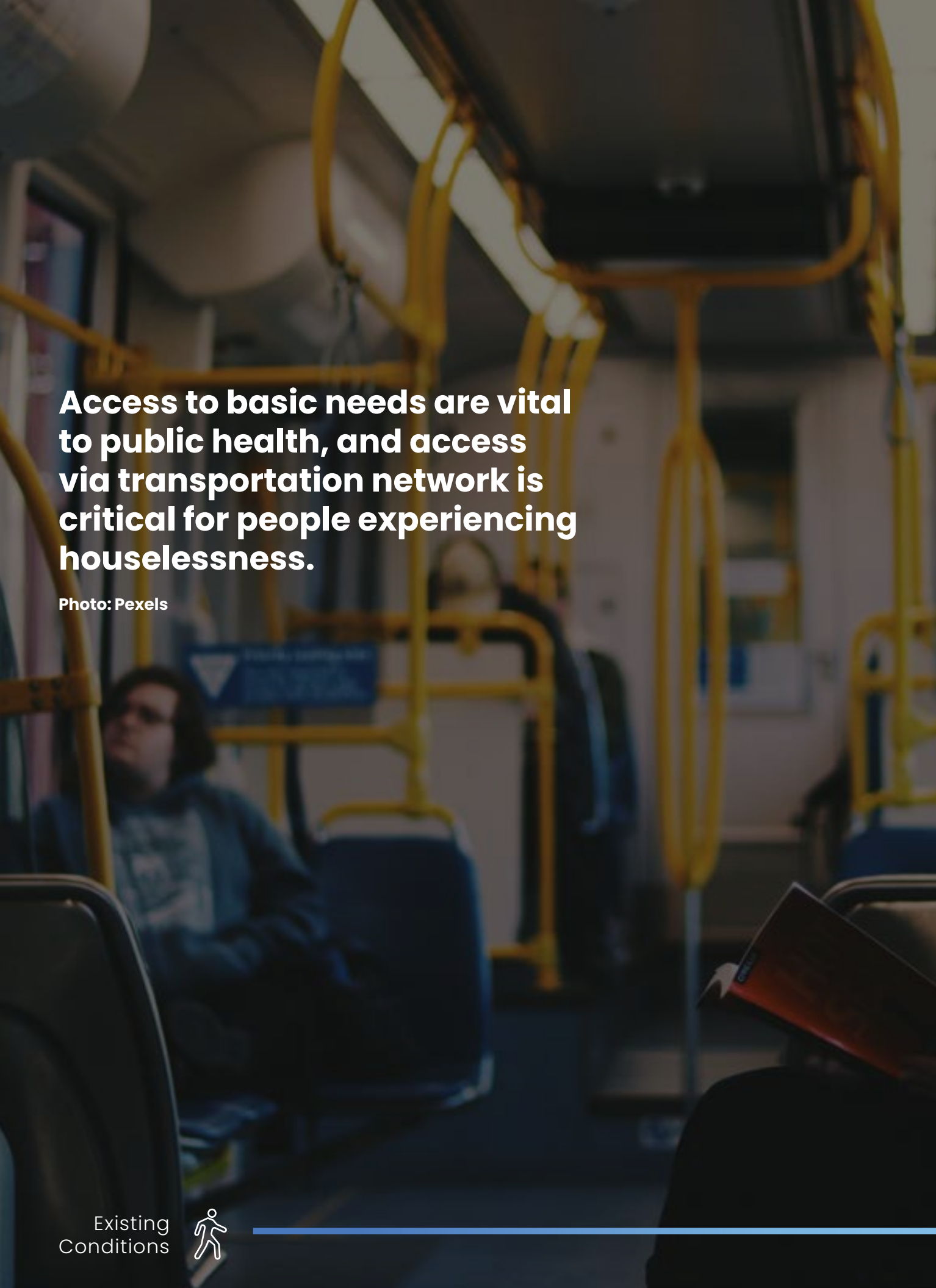
Near the Hazelwood Location, two campsites were near five pedestrian crashes, an average of about three crashes per campsite (Figure 6). This location comprises 25% of crashes in Conflict Zones. There is a proposed PBOT SRV about two miles northwest of this hotspot of campsites.



No signage to yield to pedestrians or restricting right turns on red at the intersection of NE Glisan and NE 122nd. Photo: Street Perspective

Figure 6. Conflict Zones at the Hazelwood Location.



A photograph of a person sitting on a bus, looking out the window. The bus interior features yellow handrails and blue seats. The image is slightly blurred and has a dark overlay.

Access to basic needs are vital to public health, and access via transportation network is critical for people experiencing homelessness.

Photo: Pexels

Basic Needs Analysis: Hygiene, Food Security, & Transportation

In a 2021 survey among people experiencing homelessness, access to restrooms was the second most common response—after housing—to a question about how they would feel more supported in the community. This section discusses the proximity of reported campsites to basic needs such as grocery stores, public restrooms, and public transportation. The CDC considers these basic needs vital to public health. Access via the transportation network is critical for people experiencing homelessness, and the risk created by vehicular traffic is a significant obstacle to accessing these basic needs.

Using the same campsite reporting data and 2019 pedestrian crashes as the previous section, the appendix of this analysis explores the traffic risks to campsites near grocery stores, public restrooms at or near public parks, and along public transportation routes.

Analysis of City and PBOT Lands

There are 217 city-based parcels that are garage parking structures, parks, vacant land, improved vacant land, or miscellaneous recreational facilities. These parcels are a quarter mile from campsites near the HCN. About 7% of these parcels are in Downtown Portland. Elsewhere, parcels and services become inaccessible and decentralized for people living unhoused. Considering access to unsheltered communities and their needs, downtown parcels should be analyzed for shelter and refuge services. In terms of the minimum area required for a SRV, 28 PBOT parcels are 20,000 sq. ft or larger. Twenty of these parcels, mostly parking structures or industrial lands, are 2.5 miles from downtown.

The three largest, most applicable sites are near NE 33rd Dr and NE Sunderland Ave, far from relevant services. One of these sites is becoming a SRV for cars and recreational vehicles (RVs). This adds support to the two adjacent sites to also become SRVs. Although they are distant from services, the sites are connected by bus. The sites could provide over 1.4 million sq. ft of total land for shelter space, RV/car camping, or tent camping for many people. About 84% of the total land of the sites have not been proposed for SRVs.



For sanctioned tent camping, there are 134 PBOT parcels 200 sq. ft or larger that are vacant lands, improved vacant lands, or parking lots, within a quarter mile of transit. Ninety of these parcels are 750 sq. ft or larger, which could facilitate hygiene services. Many PBOT parcels that are between 200 and 750 sq. ft are clustered south of NE Glisan St and east of SE 92nd Ave, but are unsuitable for camping due to land dimensions.



**Site beside the Columbia River at NE Marine Dr and NW 33rd Dr, around a quarter mile away from the prospective Sunderland RV SRV at NE Sunderland Ave and NE 33rd Dr
Photo: Street Perspective**

Many PBOT parcels 750 sq. ft or larger are clustered west of NW 23rd Ave on W Burnside St, and east of the Willamette River and along NW Martin Luther King Jr Blvd. The parcels west of NW 23rd Ave are densely clustered with a total square footage of over 250,000 sq. ft (Figure 1). These parcels have a rural and residential preservation land use, which is unsuitable for camping and hygiene services. Many of the lands east of the Willamette River have commercial zoned land uses, which could be more suitable.

Key Takeaways

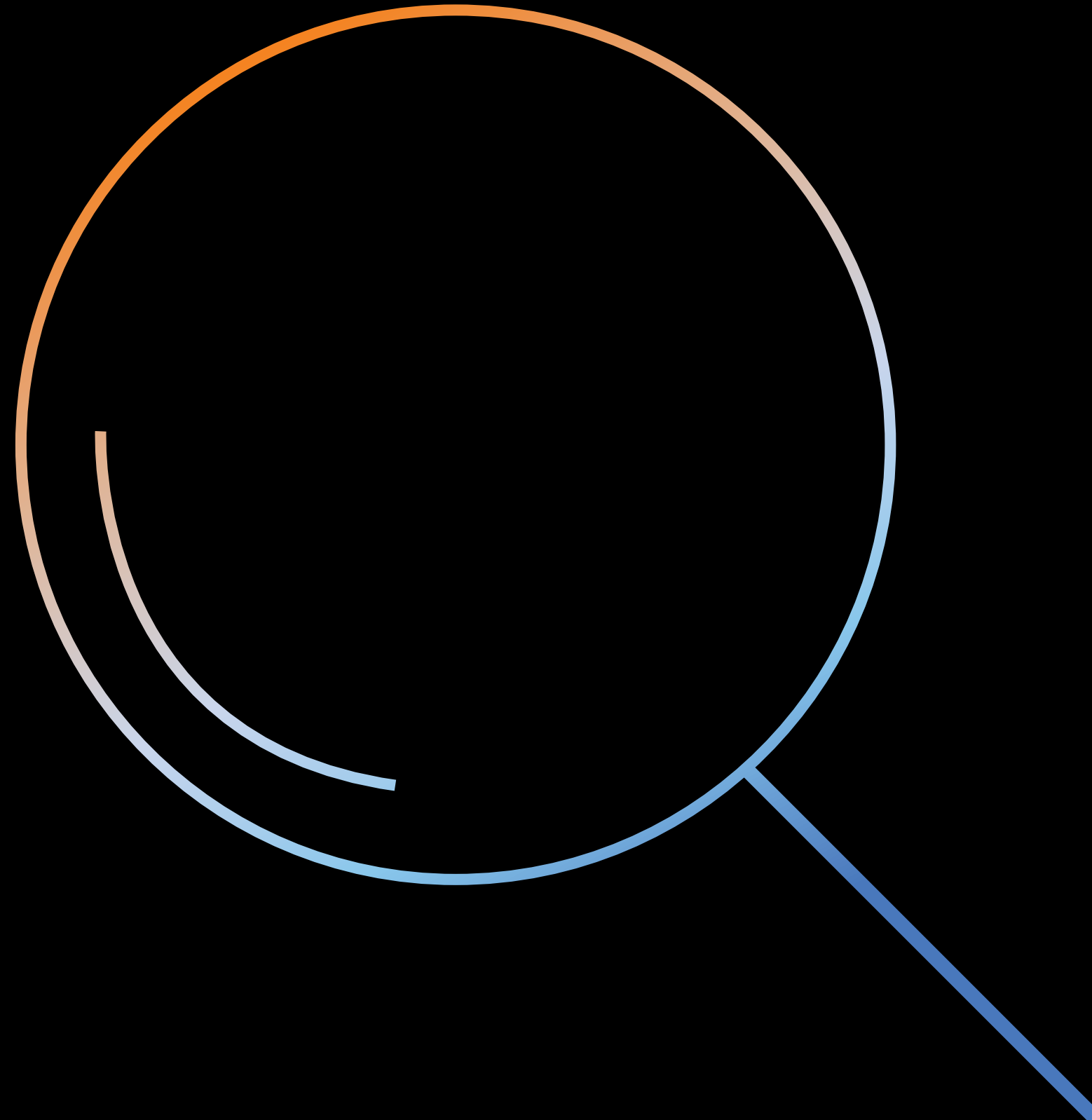
- Each analysis shows there are two or more reported campsites in the Conflict Zone.
- All three selected locations are near the HCN and have a disproportionate share of reported campsites in Conflict Zones.
- Each location also displays many transit routes and stops near the HCN.
- Two of the selected locations (Figure 6 Hazelwood Location; Figure 4 Burnside Location) have one or more grocery stores near a reported campsite in a Conflict Zone.
- The Burnside Location has the highest concentration of basic needs in comparison to the other two analyzed locations. Although W Burnside St does not have a high number of reported campsites, the number of basic needs makes it an important corridor for people experiencing houselessness and should be considered for accommodating traffic safety improvements.
- These three sites highlight that there is a significant amount of traffic risk around bus routes and stops, especially for reported campsites near the HCN





Street Perspective

SITE ANALYSES

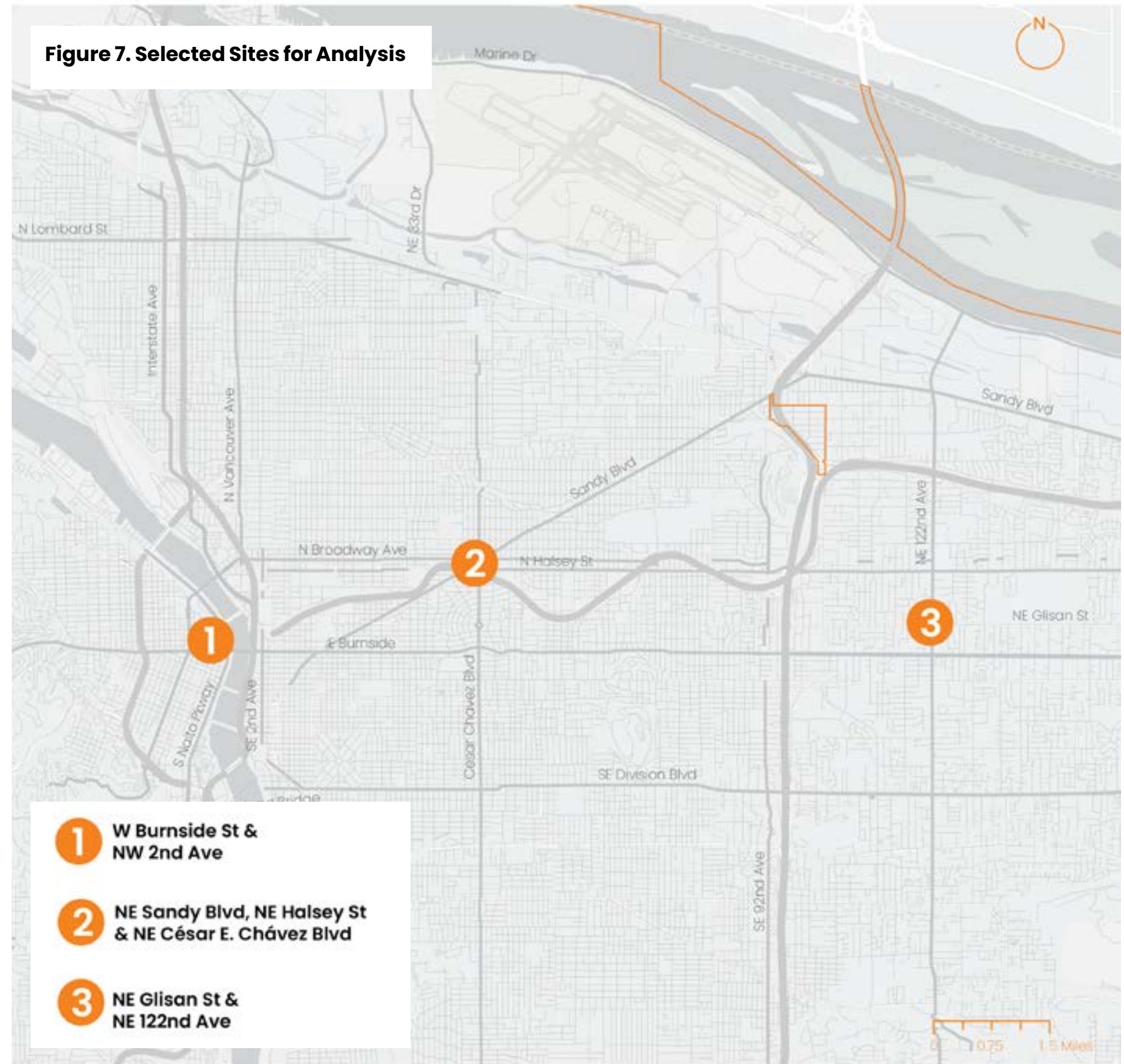


Site Analyses

Continuing from the analyses in the Existing Conditions section, Street Perspective looked at three distinct locations where there are high numbers of Conflict Zones. Each site presents different built environment contexts—urban core, freeway adjacent, and large arterial intersection, respectively—where people experiencing homelessness find shelter. These were also among some of the most dangerous intersections in the city. The takeaways addressed, while site specific, could be generalized to other areas with similar context. These sites shown on Figure 7 are:

- The Burnside Location
- Hollywood Location
- Hazelwood Location

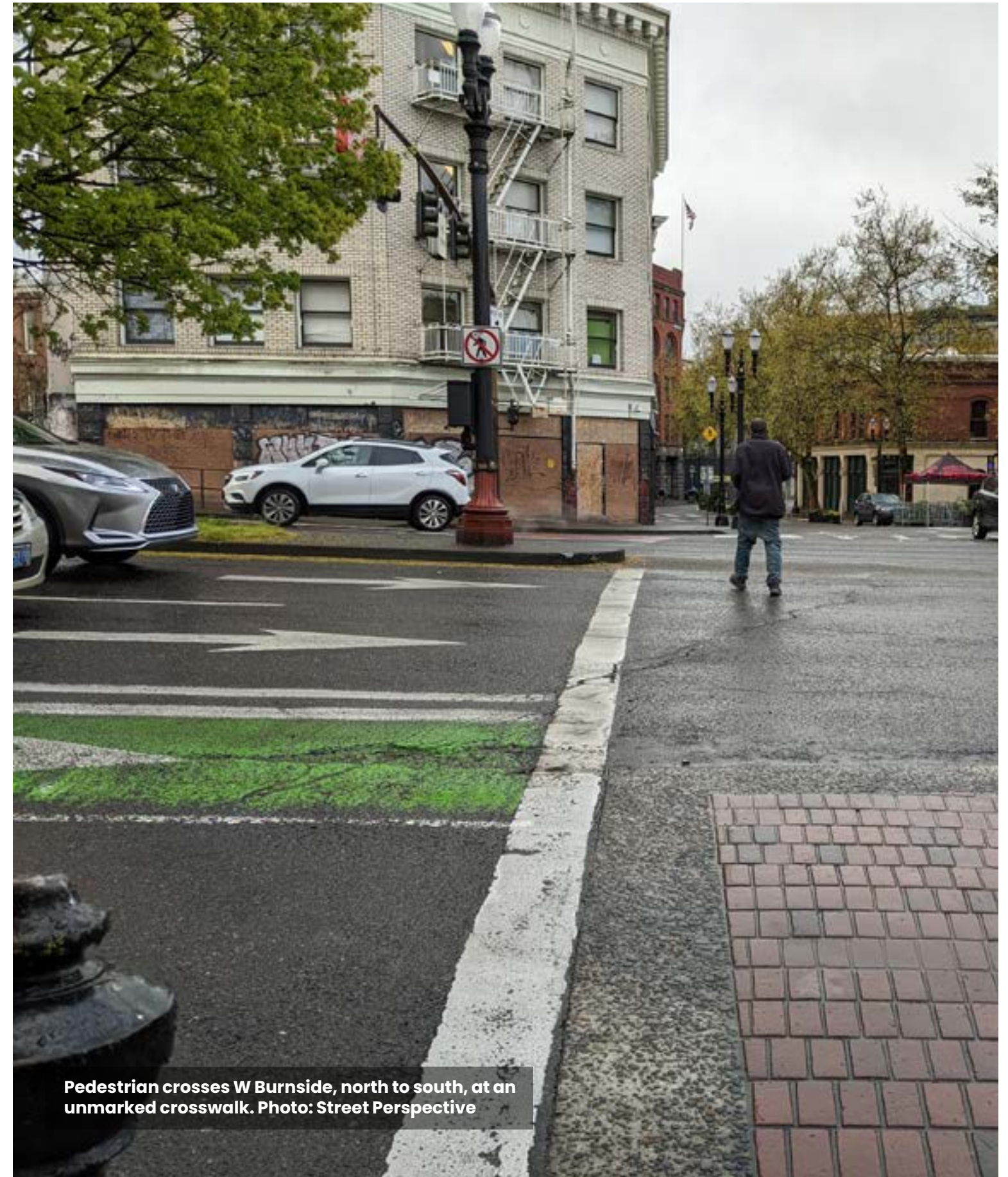
For each location, site analysis and structured observations were conducted. The analysis involved mapping the location of car camping, RVs, campsites, and pedestrian infrastructure, while taking note of the physical environment as well as pedestrian and driver behavior. Observations were conducted at each of these three sites on a weekday and weekend day. Activity was observed for one hour starting at 8am, 1pm, and 6pm on Saturday April 9, and Wednesday April 13.



The Burnside Location

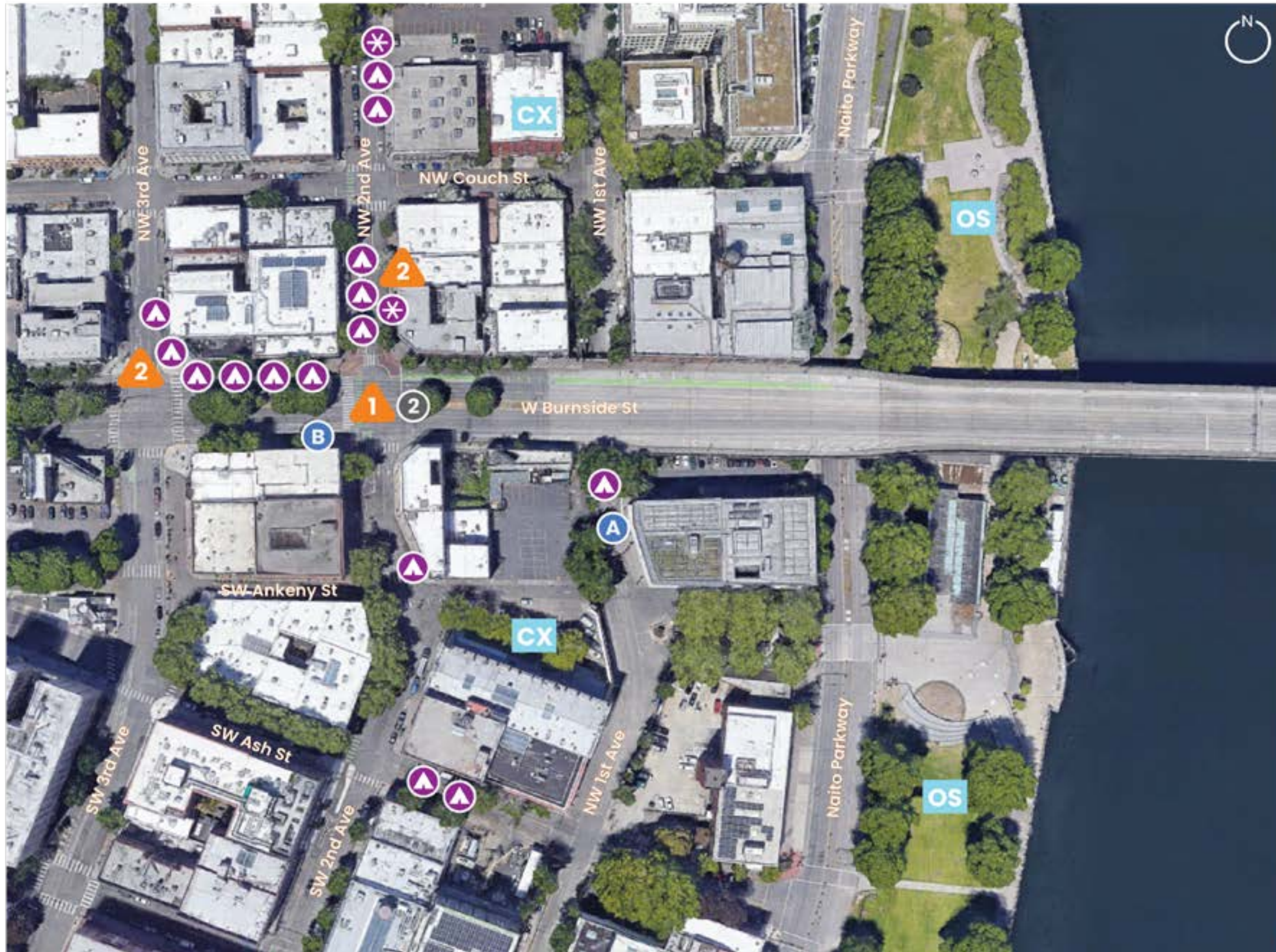
Overall this area is heavily trafficked with both pedestrians and drivers. There is a mix of observed unhoused and other pedestrians—attractions such as Voodoo Donuts and the Saturday Market, and the concentration of services for people experiencing houselessness, all contribute to the traffic.

- There are no crossings present on the east side of 2nd Ave across W Burnside St, resulting in a number of people jaywalking rather than crossing 2nd Ave and then waiting to cross W Burnside St. See potential conflict area #1 on Map 1.
- Pedestrian islands are present at 3rd Ave and W Burnside, but not 2nd Ave & W Burnside St.
- There is camping activity on sidewalks a few feet from W Burnside St, a major arterial, which could increase the risk of traffic-related harm. See potential conflict area #2 on Map 1.
- The posted speed increases from 25 to 30 MPH going east onto the Burnside Bridge where jurisdiction changes from PBOT to Multnomah County.
- Many drivers seemed aware of the high pedestrian activity and would stop if and when people moved into vehicle lanes when they should not, but not all drivers were as attentive. Approaching the bridge eastbound seemed to lead to more erratic driving and speeding past 2nd Ave.
- There is more camping north of W Burnside St toward Old Town than south of W Burnside St toward Downtown, potentially due to the Neighborhood Association boundaries and access to care.
- There is fencing up on 1st Ave under the Burnside Bridge, an area previously occupied by camps. Space is currently vacant with the exception of security guards. The area could be used as a safer alternative to sidewalk camping.
- RVs were not present which may imply a greater restriction of larger vehicles within the Central Commercial zone, although car camping was observed.



Pedestrian crosses W Burnside, north to south, at an unmarked crosswalk. Photo: Street Perspective

Map 1: The Burnside Location



1 W BURNSIDE ST & NW 2ND AVE

Safety Interventions for Houseless Pedestrians
Existing Conditions: Physical Assessment of High Crash Intersections

Neighborhood

Old Town / Downtown

Land Uses

| | |
|---------------------------------|-------------------------|
| CX Central Commercial | OS Open Space |
|---------------------------------|-------------------------|

Main Streets

| | |
|---|---|
| W BURNSIDE ST Road owner: PBOT Street classification: Major Arterial Speed limit: 25-30 mph Road width: 84 ft Median Strip: Yes | NW 2ND AVE Road owner: PBOT Street classification: Collector Speed limit: 20 mph Road width: 46 ft Median Strip: No |
|---|---|

Transit
A. MAX Stop B. Bus Stop

Missing Infrastructure
1. Sidewalks 2. Crosswalks
3. Traffic lights 4. Bike Path

Campsites
▲ Tents ✳ RVs - Cars

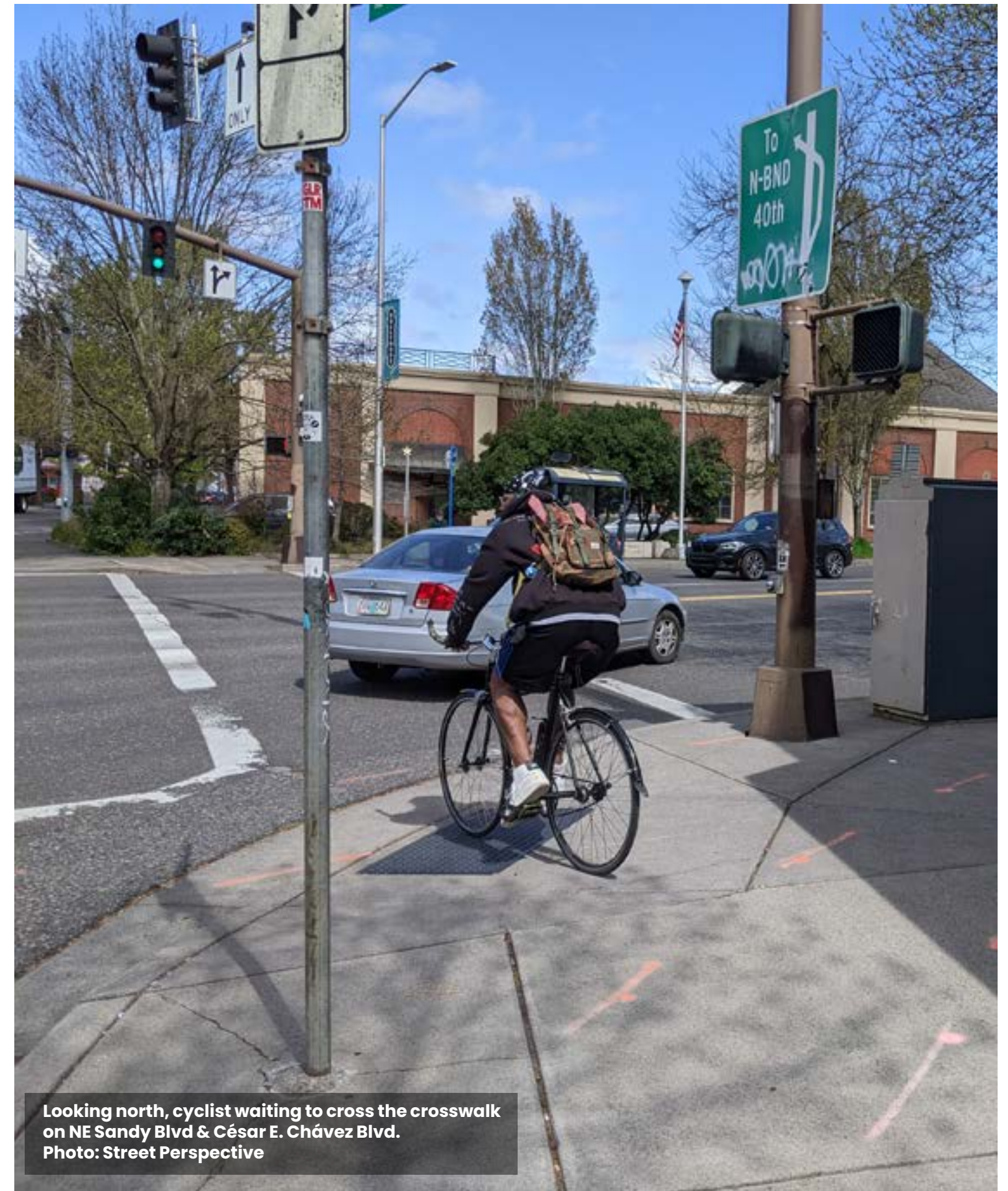
Potential Conflict Areas
1. Lack of crossing
2. Extensive camping adjacent to street

Date/Time of Visit: April 11, 2022. Evening.

The Hollywood Location

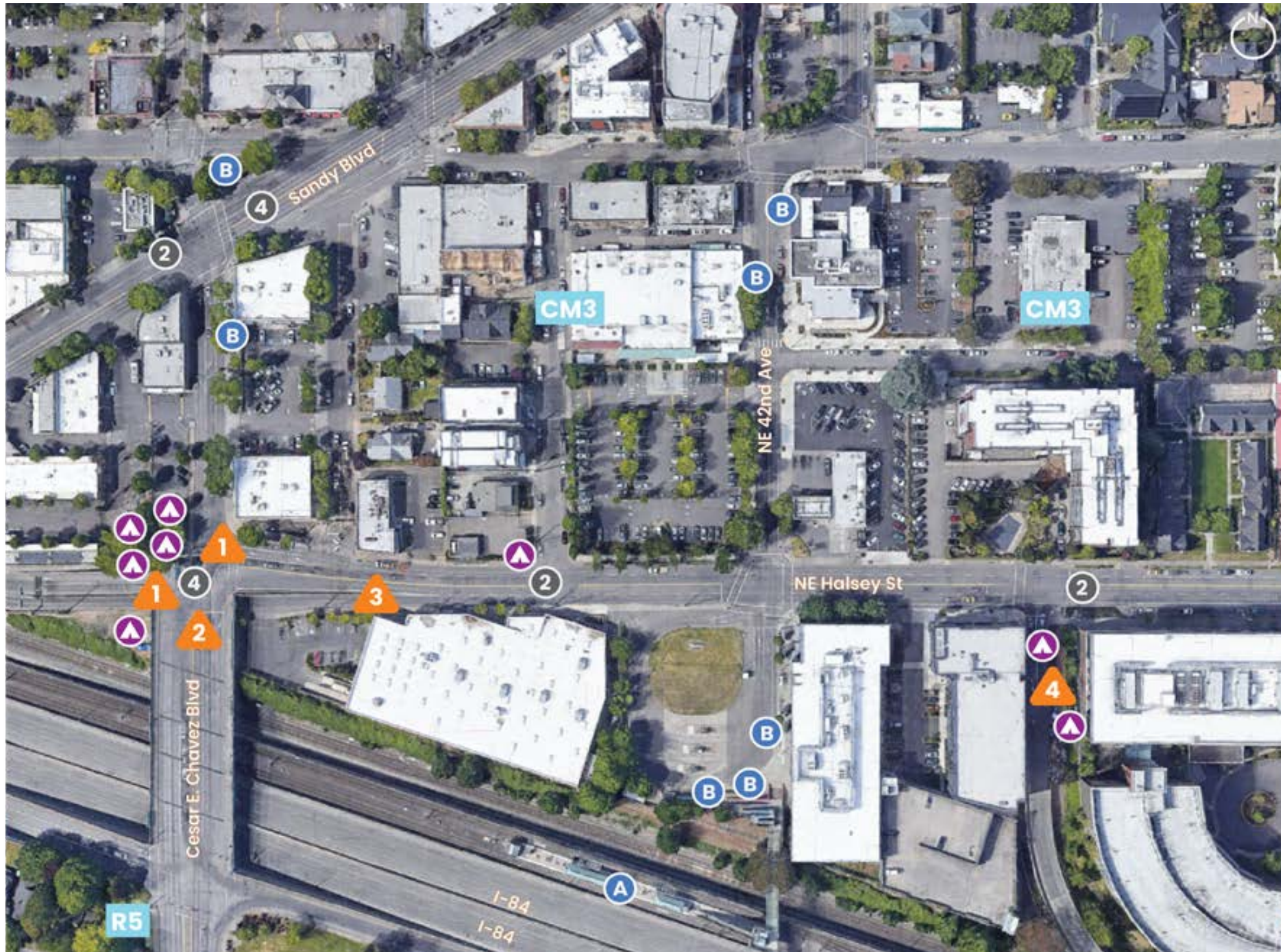
Overall aggressive driving was observed as well as high volumes of pedestrian traffic largely due to the Hollywood transit station and numerous bus stops.

- On the north side of the intersection at NE Halsey & César E. Chávez Blvd, the pedestrian walk signal activates after the green left turn arrow for cars, leading to near misses and encouraging jaywalking. See potential conflict area #1 on map.
- There is a missing crosswalk on the south side of the intersection at NE Halsey St & César E. Chávez Blvd. See potential conflict area #2 on Map 2.
- Pedestrian crossings are far apart, leading to jaywalking. Mid-block at NE Halsey St & NE 41st Ave there are existing curb cuts in front of the Target store, but no marked crossing. These should be marked and left turns potentially restricted from NE 41st onto NE Halsey St. See potential conflict area #3 on Map 2.
- There are high levels of camping adjacent to fast-moving traffic exiting I-84 onto NE Halsey St. See potential conflict area #4 on Map 2.
- There are fewer campsites present near the interstate exit than were visible on Google Street View in recent months, possibly due to sweeping by the City.
- Walking space is constrained due to campsites along the pedestrian path going east towards César E. Chávez Blvd on NE Halsey St.
- Speed limits are not posted on NE Halsey St and NE César E. Chávez Blvd.
- There is no signage at intersections to notify drivers to yield to pedestrians.
- Speeding was commonly observed with drivers seemingly trying to beat lights through this area. Drivers waiting for others trying to make left turns from NE Halsey St onto NE 41st Ave or NE 42nd Ave could contribute to some of the observed impatience and aggressive driver behavior.
- Overall traffic calming is needed to reduce speeds.
- Visibility was heavily restricted due to parked cars at corners, especially on NE 41st Ave, blocking views for pedestrians and drivers.



Looking north, cyclist waiting to cross the crosswalk on NE Sandy Blvd & César E. Chávez Blvd.
Photo: Street Perspective

Map 2: The Hollywood Location



2 NE SANDY BLVD, NE HALSEY ST & NE CÉSAR E. CHÁVEZ BLVD

Safety Interventions for Houseless Pedestrians
Existing Conditions: Physical Assessment of High Crash Intersections

Neighborhood

Hollywood
Laurelhurst

Land Uses

CM3
Commercial
Mixed Use 3

R5
Residential
Single Dwelling

Main Streets

NE HALSEY ST

Road owner:
PBOT
Street classification:
Minor Arterial
Speed limit:
30 mph
Road width:
58 ft
Median Strip
No

NE CESAR E CHAVEZ

Road owner:
PBOT
Street classification:
Major Arterial
Speed limit:
30 mph
Road width:
68 ft
Median Strip
Yes (Painted)

Transit

A. MAX Stop B. Bus Stop

Missing Infrastructure

1. Sidewalks 2. Crosswalks
3. Traffic lights 4. Bike Path

Campsites

△ Tents ✖ RVs - Cars

Potential Conflict Areas

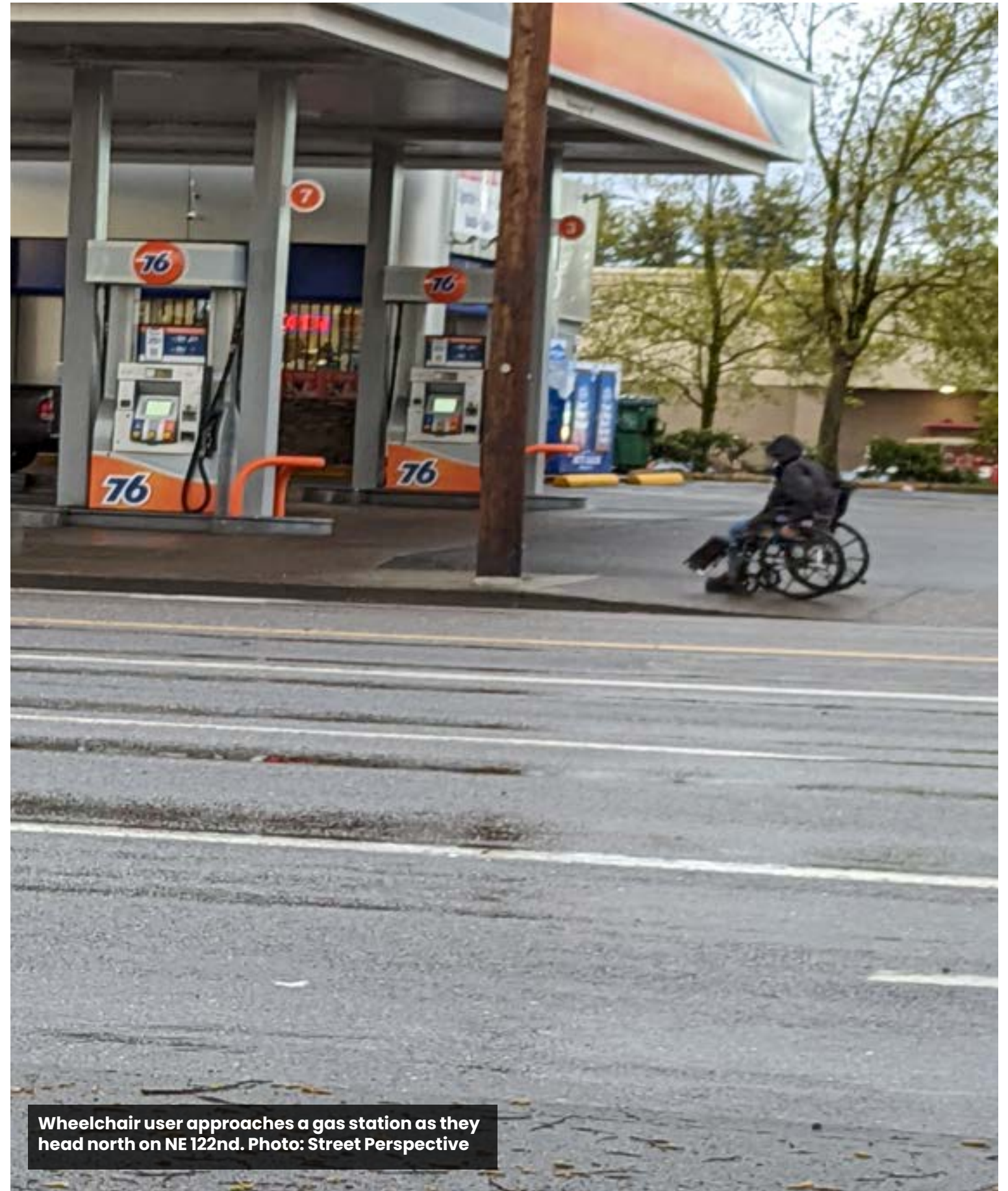
1. Poor signal timing creating a risk of pedestrian automobile conflict
2. Lack of crossing
3. Blind spot for vehicles driving East on Halsey and a lack of a crosswalk in front of Target.
4. Extensive camping adjacent to freeway exit ramp

Date/Time of Visit: March 30, 2022. Morning

The Hazelwood Location

Both NE Glisan St and NE 122nd Ave have basic pedestrian facilities, but road width, short pedestrian crossing intervals, long signal cycles, and high traffic speeds and volumes all create dangerous conditions for pedestrians. Pedestrians must wait through long signal cycles before crossing and often must defer to turning cars even when pedestrians have the right-of-way.

- Drivers were observed routinely failing to yield to pedestrians.
- There is no signage to yield to pedestrians or signage restricting right turns on red. See potential conflict area #1 on Map 3.
- Pedestrians regularly had to wait long periods to cross two legs of the street (90 second cycles per leg) and multiple pedestrians had to wait while cars kept turning in front of them even when the walk signal was active .
- Properties on three of the four corners of the intersection have parking lots and/or car-oriented uses: a gas station (NE corner), and fast food drive-throughs (NW and SW corners). Sidewalks have numerous curb cuts to provide vehicle access to these properties, increasing the risk of conflict. See conflict area #2 on Map 3.
- The closest campsite observed was on the northeast sidewalk of NE Glisan, possibly due to the lack of neighboring residents and its proximity to a convenience store, a bus station, and a bottle redemption center.
- There was a notable share of presumably unhoused people carrying bags of bottles north on 122nd to a full service BottleDrop Redemption Center just northeast of the intersection.
- Other north/south pedestrian traffic was likely related to the Blue line MAX stop on Burnside.
- The only other crosswalks across NE 122nd Ave and NE Glisan St are about a quarter mile to the west, south, and east from the intersection. There is a mid-block crossing about 700 feet north of the intersection near the BottleDrop Redemption Center.



Wheelchair user approaches a gas station as they head north on NE 122nd. Photo: Street Perspective

Map 3: The Hazelwood Location



3 NE GLISAN ST & NE 122ND AVE

Safety Interventions for Houseless Pedestrians
Existing Conditions: Physical Assessment of High Crash Intersections

Neighborhood

Northeast Portland
Hazelwood

Land Uses

| | |
|------------------------------------|--------------------------------------|
| CE Commercial Employment | CMI Commercial Mixed Use 1 |
|------------------------------------|--------------------------------------|

Main Streets

| | |
|--|--|
| NE GLISAN ST Street owner: PBOT Street classification: Major Arterial Speed limit: 30 mph Street width: 72 ft Median Strip No | NE 122ND AVE Street owner: PBOT Street classification: Minor Arterial Speed limit: 35 mph Street width: 76 ft Median Strip No |
|--|--|

| | |
|-------------------------------|-------------|
| Transit A. MAX Stop | B. Bus Stop |
|-------------------------------|-------------|

Missing Infrastructure

| | |
|-------------------|---------------|
| 1. Sidewalks | 2. Crosswalks |
| 3. Traffic lights | 4. Bike path |

Campsites

| | |
|-------|------------|
| Tents | RVs - Cars |
|-------|------------|

Potential Conflict Areas

- Right hand turn permitted on red
- Access/exit from gas station obstructing sidewalks

Date/Time of Visit: April 9, 2022. Morning.



Bottle return facilities seemed to be a common destination for observed unhoused people; improving pedestrian and bike access to these facilities would be beneficial.

Photo: Adobe Stock

Key Takeaways

There were seven general takeaways that apply to all sites:

- Pedestrian traffic was higher on Saturday than Wednesday. Mid-day was usually the busiest time, with the exception of the Burnside Location where morning was the most active—though there were high levels of activity throughout the day, especially on Saturday.
- Bottle return facilities seemed to be a common destination for observed unhoused people at two intersections. There is a full service BottleDrop Redemption Center at NE Glisan St & NE 122nd Ave, and an abundance of grocery stores located near NE Sandy Blvd, NE Halsey St, & NE César E. Chávez Blvd; improving pedestrian and bike access to these facilities would be beneficial.
- All of these locations would benefit from traffic calming and additional signage (such as turning vehicles must yield to pedestrians), signal adjustments, and crossing improvements.
- Identified intersections within the HCN are all adjacent to zoned commercial corridors, indicating land uses houseless communities would need to access for goods and services.
- Common land uses at HCN intersections include gas stations and drive-throughs, which primarily serve vehicles. Pedestrian-safe design guidelines for these types of uses would be beneficial.
- Open spaces, median strips, and green areas within highway intersections are commonly used by people experiencing houselessness and are very difficult to access.
- People experiencing houselessness use medians and pedestrian islands to ask drivers for assistance. Some of these are wide enough for a person in a wheelchair, for example, but others are very narrow.



Street Perspective

PROMISING PRACTICES



Promising Practices

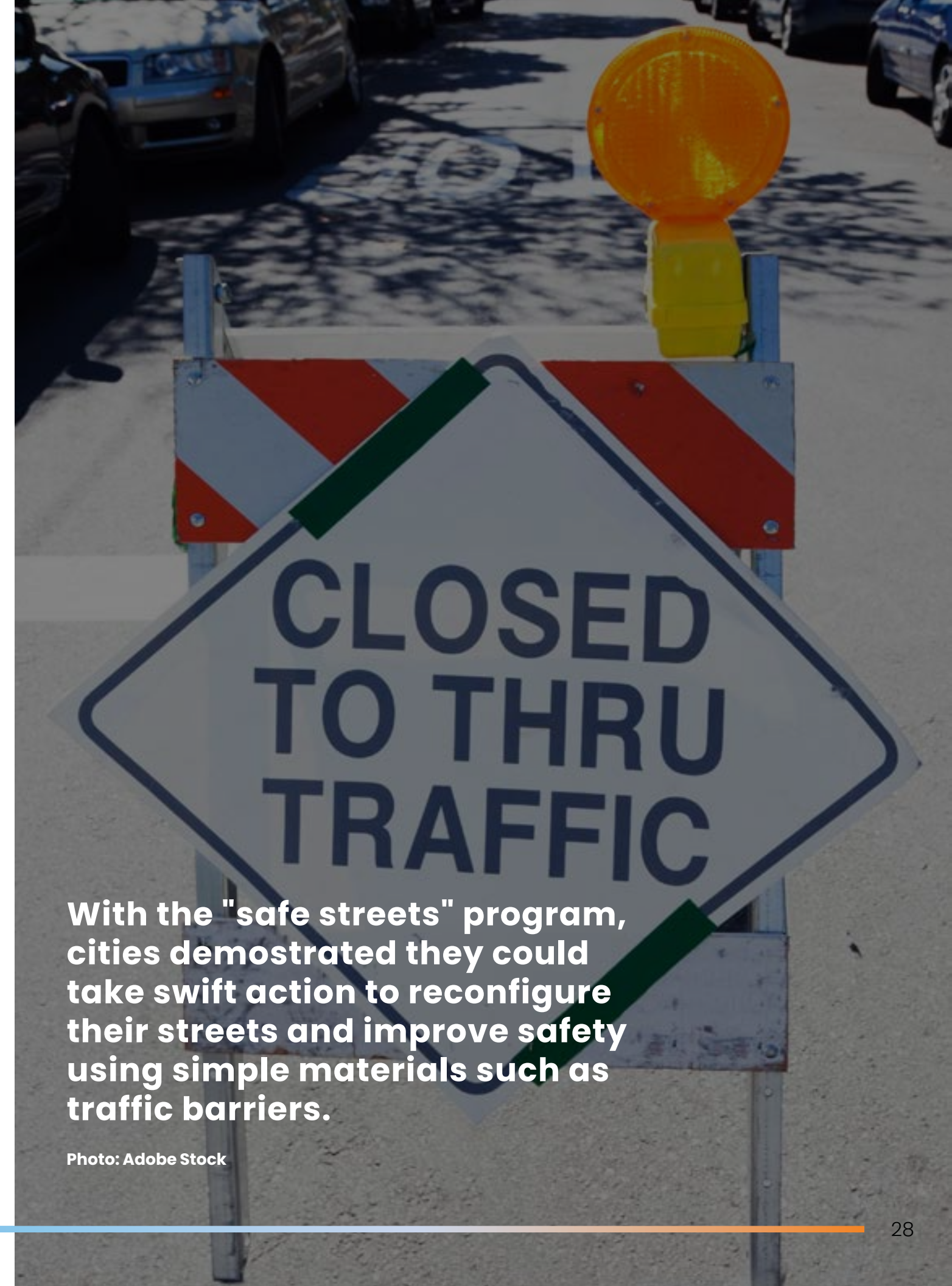
There are numerous existing tools and practices cities use to make streets safer for people walking, many of which have been adopted in Portland. Applying these practices in a way that specifically addresses the vulnerability and safety of pedestrians experiencing houselessness is novel, both in Portland and beyond. Beyond the street, this section also discusses some of the most promising practices in facilitating different kinds of shelter and refuge. PBOT could leverage its resources to assist in providing new shelter options as well as safer streets for people experiencing houselessness.

Safe Streets

One early response to the COVID-19 pandemic in early 2020 were “safe streets” programs. Cities worldwide demonstrated they could take swift action to reconfigure their streets and improve safety using simple materials such as traffic barriers, paint, and signs to restrict vehicle access and provide more space for physical and social distancing.

Portland’s Safe Streets Initiative restricted vehicle access on 100 miles of low-traffic streets in order to reduce cut-through traffic and create more open space for recreation. The program has proven successful and popular enough to warrant long-term implementation of structures such as concrete planters to serve as more permanent barriers. Similarly, the Healthy Businesses program and the Portland Public Street Plazas program allowed private businesses and communities to make temporary changes to the streets to give people more space to enjoy activities such as outdoor dining and shopping. By utilizing the public right-of-way, these programs helped many small businesses survive the past two years of the COVID-19 pandemic.

There has been some backlash against these “safe streets” type programs, however, particularly regarding their implementation in underserved communities. One example is Oakland’s Slow Streets program. After initial pushback



With the “safe streets” program, cities demonstrated they could take swift action to reconfigure their streets and improve safety using simple materials such as traffic barriers.

Photo: Adobe Stock



from some communities, Oakland's Slow Streets was revised as the Essential Places program, which focuses on safer access to basic needs and services such as grocery stores and health care along busy and dangerous streets. The Essential Places program utilized the City's High Injury Network to prioritize shifting resources away from residential neighborhoods and recreation toward safety improvements to access essential services.

Since the beginning of the pandemic, as so many cities have adapted their streets to provide more space for people outside of cars, NACTO has created a series of design guides for the implementation of "slow streets" style programs. Cities have clearly shown they have the resources and capabilities to quickly enact street safety improvements in times of crisis, and similar programs could be implemented toward safety improvements for houseless communities on Portland's streets. Likewise, these safety improvements would no doubt benefit all street users, regardless of housing status.

Key Points:

- Cities have shown they have the capacity and resources to quickly adapt to new crises.
- These adaptations need to prioritize vulnerable communities and underserved areas.
- Building off of existing programs such as the Safe Streets Initiative, PBOT could apply similar measures to the HCN and houseless communities.
- Streets with essential places and access to basic needs should be prioritized.

Infrastructure

There are many previously identified and well-studied infrastructure improvements known to reduce vehicle speeds and pedestrian injuries and fatalities. Speed humps, chicanes, traffic curbs, and diverters have all been found to improve pedestrian safety and traffic at large. Other traffic calming measures such as narrowing or reducing the number of lanes, and removal of on-street parking, have all been found to improve pedestrian safety, especially at unsignalized crosswalks on multi-lane roads.

Improving nighttime lighting, along with the provision of reflective clothing to those living unhoused could also increase visibility. Many of the police reports of fatal pedestrian crashes that Street Perspective reviewed indicated low visibility as a major factor in these crashes. In almost every case, the victims were reported as not wearing reflective clothing, contributing to a lack of driver awareness. Improving lighting in tandem with removing on-street obstacles such as parked cars, would also improve pedestrian visibility, particularly at corners, near crosswalks, and at mid-block crossings

As many houseless people live with disabilities, addressing the needs of pedestrians with disabilities should be highly considered. Prioritizing improvements to problematic infrastructure, especially along the HCN, and bringing it up to ADA compliance should be expedited. Similar measures such as textured pavement, audible and vibrating pedestrian signals, and larger and more visible signs have also proven

Identified results of infrastructure improvements



Speed reduction after speed humps were installed



Reduction in all crashes after road narrowing



Speed reduction after chicanes and diverters were installed



Pedestrian crash reduction after restricting parking off-street near intersections

Source: See Appendix C.

A person wearing a blue long-sleeved shirt is using a wheelchair on a city street. The background is blurred, showing a car and buildings. The text is overlaid on the bottom right of the image.

Addressing the needs of houseless pedestrians with disabilities should be prioritized, especially improvements to problematic infrastructure along the HCN.

Photo: Adobe Stock

effective. Other infrastructure improvements that could be applied to protect people experiencing houselessness include:

- Early and exclusive pedestrian crossing signals—a “leading pedestrian interval”—give pedestrians the green before cars, reducing the conflict between modes;
- Canceling shared green phases for pedestrians and vehicles at conflict in the roadway, and reducing the cycle time between pedestrian signals;
- Canceling green waves and adjusting throughput speeds for vehicles in non-peak hours;
- Changing the traffic signal programming to benefit pedestrian flows;
- Adding audible signs with the green phase and pedestrian detectors that extend clearance time and automate detection;
- Moving the stop line further away from mid-block crossings;
- Converting left-turn phasing to protected only will reduce left-turn crashes of all severities. This is particularly important in the context of aging populations experiencing houselessness;
- Improved signage using the “strong yellow green” color, and signage for motorists to yield to pedestrians crossing;
- Signage for “Turning Traffic Must Yield to Pedestrians” has reduced left turn conflicts by up to 60% and right turn conflicts by up to 30%.
- Enforcement of traffic laws will play an important role, as it has been found to increase pedestrian safety at night, especially where there has been publicity and education about motorists yielding in crosswalks.

Key Points:

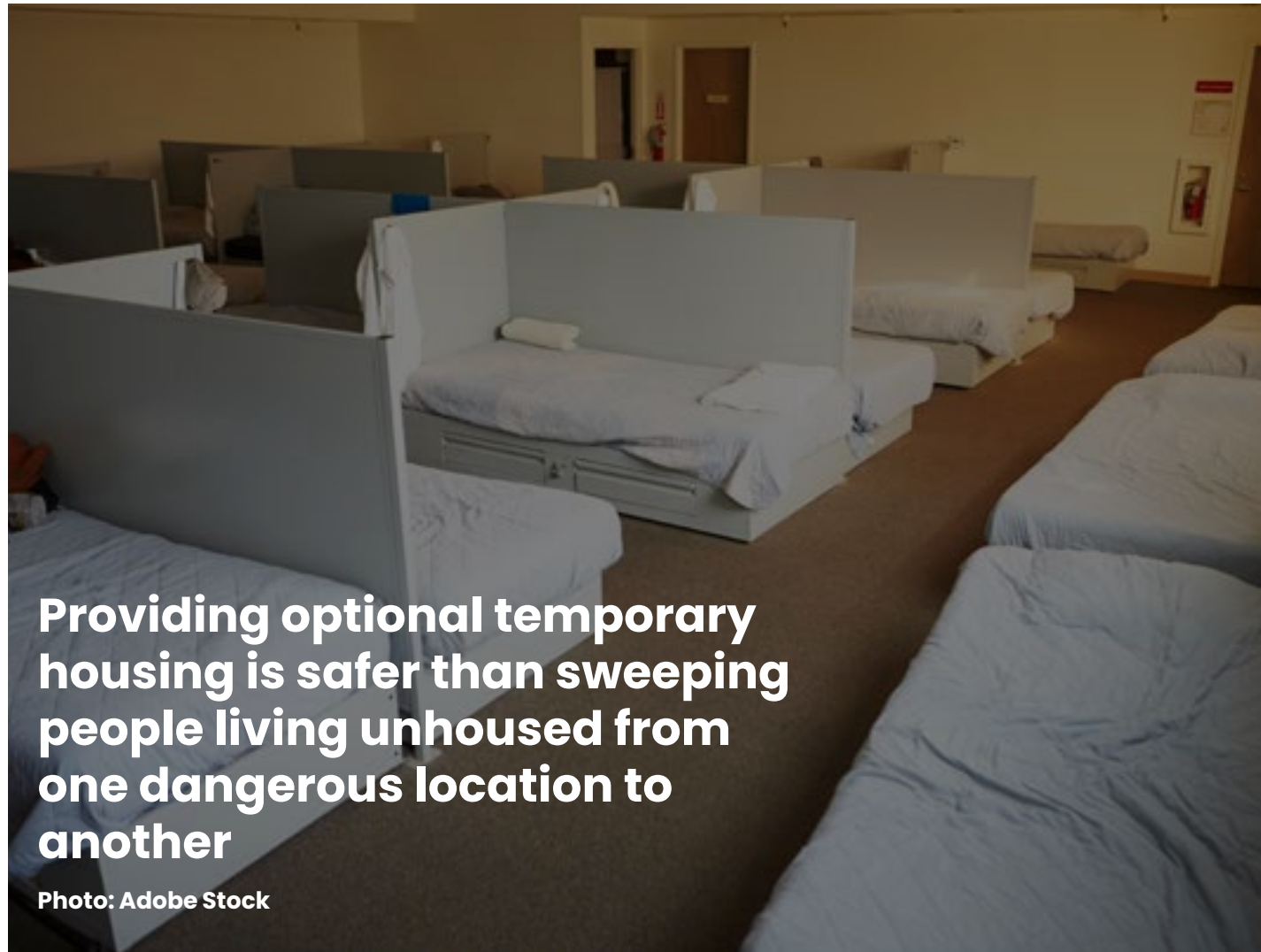
Many infrastructure improvements have been found to improve pedestrian safety, which could apply to the safety of pedestrians living unhoused. Speed-reduction and traffic calming measures, enhanced street lighting and visibility of pedestrians, removal of obstacles to visibility, pedestrian warning signs for drivers, and the addition of crosswalks, ADA compliance, signal prioritization, cautionary paint and infrastructure demarcation for pedestrians, could all improve the safety for houseless pedestrians.



Motel Vouchers, Safe Rest Villages, and Sanctioned Campsites

Regardless of the type of temporary housing program, providing optional temporary housing is essential to reducing the risk of traffic-related harm to houseless pedestrians. Motel voucher programs, Safe Rest Villages (SRVs), and sanctioned campsites show great promise when used together and voluntarily.

Expanding motel vouchers, as done by the Joint Office of Homeless Services (JOHS) during the early days of the COVID-19 pandemic, would provide a safe place to stay, especially for more vulnerable and elderly people experiencing houselessness. The City's SRV Program selects locations based on a number of criteria, including that the sites must be at least 20,000 square feet and be able to house 40 to 60 residents.



Providing optional temporary housing is safer than sweeping people living unhoused from one dangerous location to another

Photo: Adobe Stock

Unfortunately, these criteria and others have filtered out many land parcels that were proposed for SRV sites. At the same time as the SRV Program is currently launching, Portland's City Code still prohibits camping on public property and in the public right-of-way. With the passage of House Bill 3115, local governments in Oregon are now revising their codes to allow people to sit, lie, sleep, and keep warm and dry in public.

More recently, Mayor Wheeler has indicated the potential opportunity to legalize sanctioned camping on publicly-owned land. This would allow more options and flexibility for people who may not be able to qualify for or do not wish to utilize other sheltering programs. Providing additional basic services such as restrooms, dumpsters, and sharps disposal on site would allow people easier, safer access to essentials. Allowing sanctioned camping on city-owned property could also ease the tension between people experiencing houselessness and public officials.

Key Points:

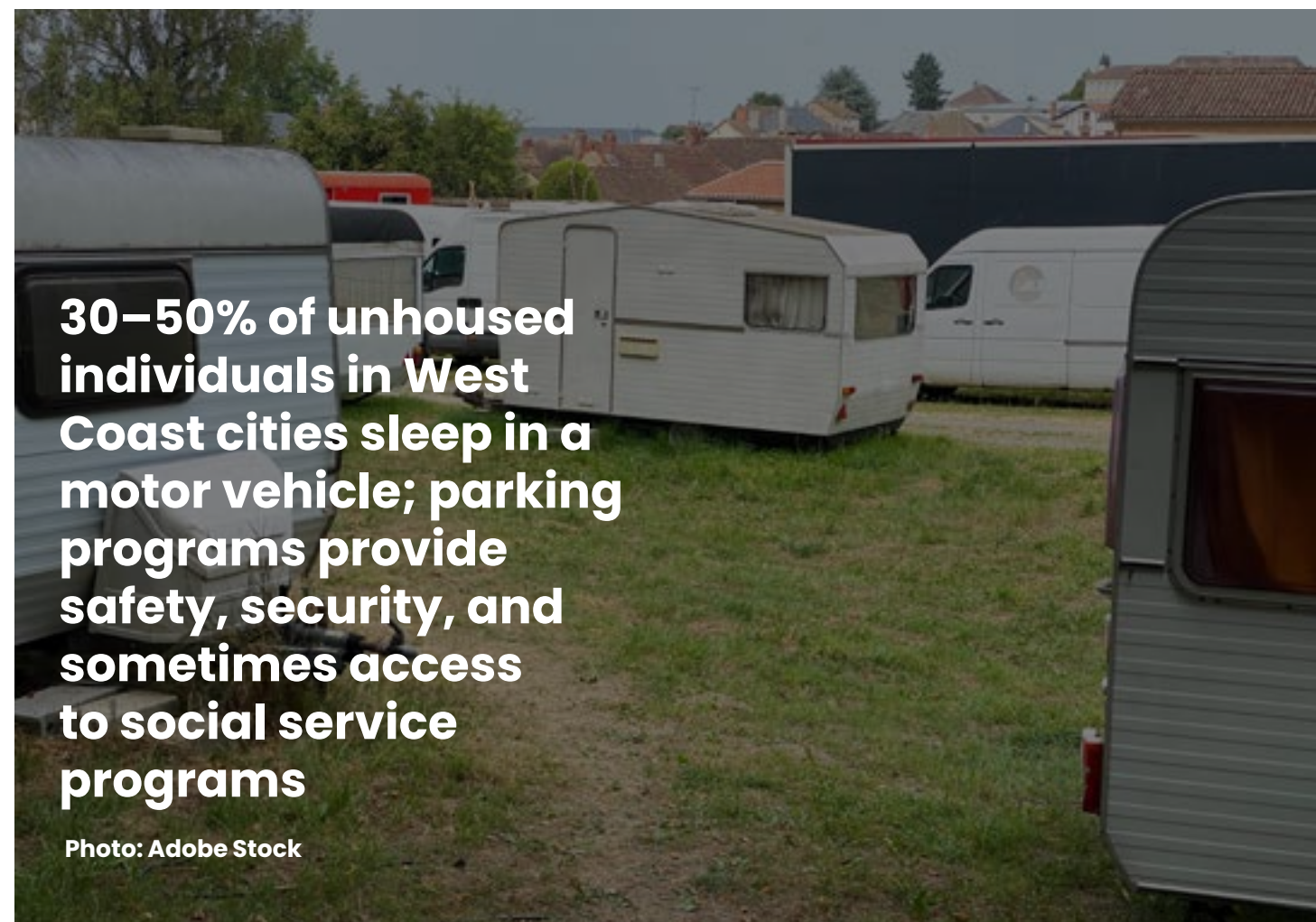
- Motel vouchers should be continued to temporarily shelter people experiencing houselessness.
- Portland's Safe Rest Village Program shows promise in partly alleviating the city's houselessness crisis but more transitional housing units will be needed than what is currently planned.
- Sanctioned camping on city-owned property with basic amenities should be legalized and planned to provide safer alternatives to people living unhoused, and away from the HCN. This could also help compensate for the many limitations associated with motel vouchers and transitional housing programs.



RV/Car Camping

Restrictions and prohibitions on sleeping and loitering in a parked car or recreational vehicle (RV) are a strain on the mental and physical health and safety of people experiencing homelessness. According to the National Law Center on Homelessness and Poverty, 30–50% of unhoused individuals in West Coast cities sleep in a motor vehicle.

Curbside RV camping has been a growing problem for Portland neighbors, who often erroneously perceive them to be drug dens or simply abandoned. The Portland Police Bureau (PPB) has previously towed RVs they deem abandoned through a program called Community Caretaking. The sheer number of vehicles and RVs towed, however, has led to full city impound lots. Between 2017 and 2018, PBOT estimated it would spend \$1.3 to \$1.8 million on its RV towing program. For perspective, the proposed Expo Center shelter site fell through because preparing the site would have cost \$1.5 million. Based on City Council funding approval, each Portland SRV is expected to cost \$2.66 million to set up and manage.



30–50% of unhoused individuals in West Coast cities sleep in a motor vehicle; parking programs provide safety, security, and sometimes access to social service programs

Photo: Adobe Stock

To prevent houseless individuals from losing their last remaining shelter due to opposed neighbors and criminalization of long-term parking, some communities have developed safe parking programs. These parking programs provide safety and security and may also provide access to social service programs. The most comprehensive review on safe parking programs is the Smart Practices for Safe Parking report developed by Master of Public Administration students at the University of Southern California. The report breaks down types of parking programs into three main models: the Umbrella Model, the Independent Model, and Composite Model.

In the Umbrella Model, individuals first contact the parent organization, are screened, and then assigned to the lot that best fits their needs. Portland's first proposed RV SRV site on PBOT property at 9827 NE Sunderland Ave appears to fit in this category. The Independent Model is composed of nonprofits and religious organizations looking to provide the safety, security, and comfort of a whole night's sleep, food, and hygiene services. Depending on the operator, this model has the fewest restrictions during the intake process. The Composite Model is a hybrid of the Umbrella and Independent models as it provides basic services for camping without intensive intake but offers a central hub for social service organizations and services such as showers, cooking facilities, and social areas. The Composite Model highlights the necessity for the proper order of services—providing access to shelter and basic needs before focusing on employment and/or additional social services. The local applicable example highlighted in the report is St. Vincent de Paul's Safe Parking Program in Eugene, OR.

Key Points:

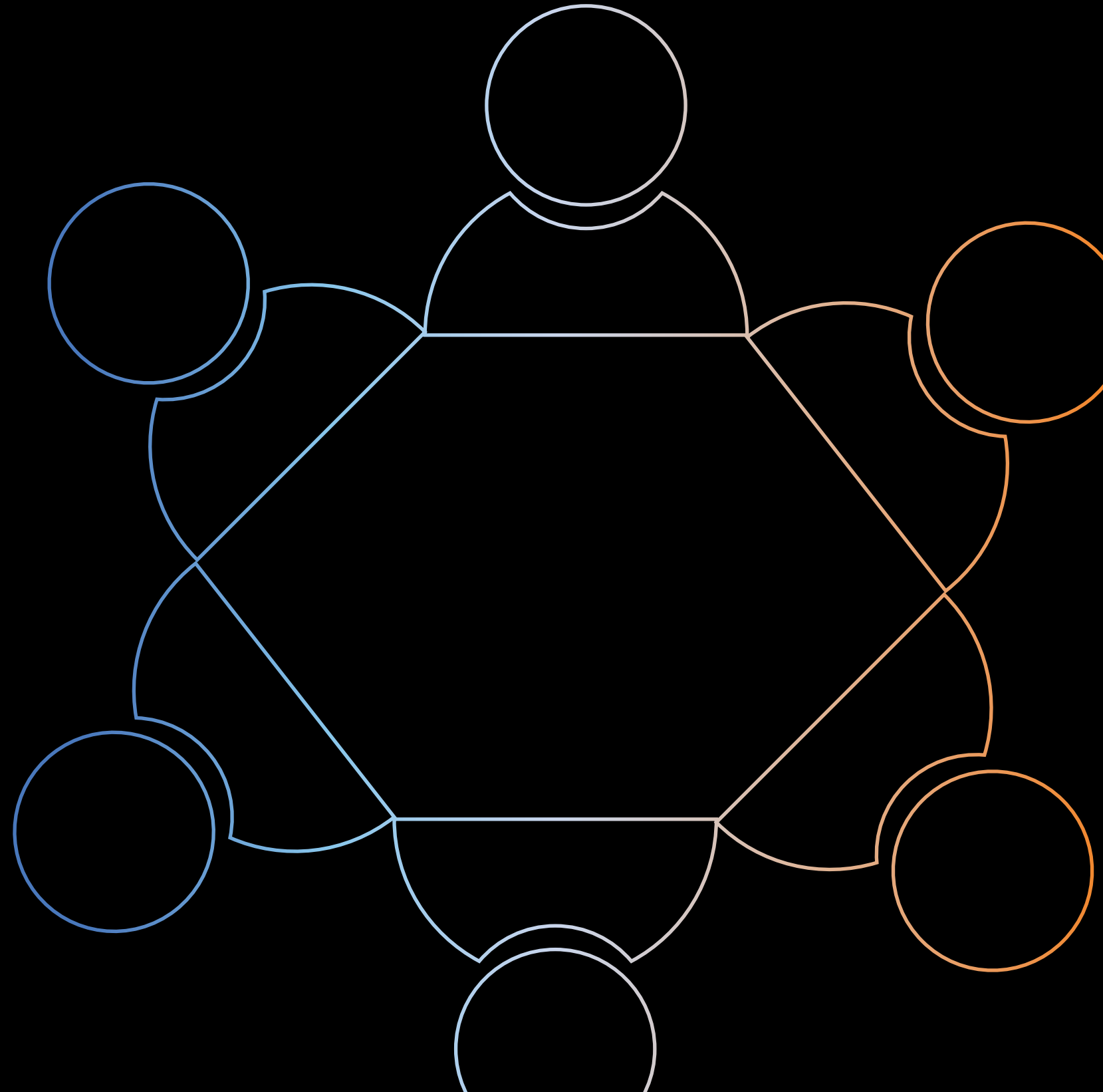
- Cars/RVs provide a higher level of safety and security than tent camping.
- Providing places for cars/RVs would likely minimize the number of vehicles the City of Portland would have to tow and impound reducing City expenditures.
- For Safe Parking Programs, the composite model holds the greatest promise in both meeting immediate needs while providing unhoused people the services they need.
- The success of rehousing through safe parking models depends on accessibility to social services support.





Street Perspective

PUBLIC ENGAGEMENT



Process

Public engagement consisted primarily of four sequenced efforts:



1. **Partner interviews with organizations that directly engage with people experiencing houselessness.**
2. **First-person interviews with people experiencing houselessness.**
3. **Analysis of interviews and development of takeaways used to inform recommendations.**
4. **Ground truthing—sharing preliminary recommendations with service providers and requesting feedback.**

Street Perspective interviewed six organizations that provide services to houseless communities. Interviewees were asked about travel behavior of people experiencing houselessness, perceptions of traffic safety, and potential interventions by PBOT and the City at large. The interviews occurred on Zoom starting in late March and continuing through April. Organizations received preliminary recommendations in mid-May and their feedback was used to make refinements.

Service providers facilitated connections with people experiencing houselessness and 12 people agreed to be interviewed. Interviewees were asked about perceptions of safety, impacts of sweeping, and desired interventions. Each person was compensated with a gift card for their time and expertise. Interviews were conducted on April 27, 2022 in Old Town. Aggregated/anonymized summaries of partner and first-person interviews can be found in Appendix D.

Partner interviews:

- Sister of the Road
- Ground Score
- Hygiene4All
- Rahab's Sisters
- Cultivate Initiatives
- Street Trust

What We Learned

Partner Interviews

In interviews, service providers repeatedly criticized the City's practice of clearing areas where people are camping—commonly referred to as "sweeping"—for its multiple harmful and counterproductive effects. Sweeping results in the loss of people's personal belongings, including medication and IDs; destroys communities; increases desperation and interpersonal violence; inflicts unnecessary stress and trauma; contributes to deteriorating mental health; disconnects people from social services and support networks; and is a form of regular and cyclical displacement.

Beyond sweeping, service providers pointed to other sources of regular harassment directed at people experiencing houselessness: police, private security, and housed residents. Citizen vigilantism (i.e., harassment) is openly encouraged on neighborhood social networks such as Next Door. Some service providers reported being harassed by housed residents themselves while helping local unhoused communities, prompting them to remove decals and identifying marks from their service vehicles.

Together, harassment and sweeping are major reasons why many people experiencing houselessness are locating in dangerous areas near high-speed roadways—they have been left with nowhere else to go. There is a lack of data and accountability for all forms of harassment perpetrated against people experiencing houselessness.

Unhoused individuals will also travel long distances to access necessities and having access to those needs nearby would reduce their exposure to traffic. These essentials include: restrooms (especially), showers/hygiene facilities, garbage disposal, electric power/charging, food/groceries, community and socialization, connections to housing and services, medical care/first-aid. People also travel at night for any number of reasons including but not limited to weather, to avoid or escape harassment, mental illness, or intoxication.

The COVID-19 pandemic was also, at least indirectly, cited as a cause of people experiencing houselessness being killed while walking/rolling. Houselessness has grown significantly during the pandemic and there are more unhoused people on the streets

“Sweeping results in the loss of people's personal belongings, including medication and IDs; destroys communities; increases desperation and interpersonal violence; inflicts unnecessary stress and trauma; contributes to deteriorating mental health; disconnects people from social services and support networks; and is a form of regular and cyclical displacement.”

regularly exposed to traffic; the increase in people without housing has been more enduring than the reduction in automobile use. The sheer scale of the problem also contributes to a feeling of hopelessness among some people experiencing homelessness and service providers alike.

Service providers also noted a growing hostility from people driving towards unhoused pedestrians and shared the perception that people experiencing homelessness are targeted with traffic violence. Simplistic media coverage that reinforces negative stereotypes about people experiencing homelessness and U.S. car culture were cited as potential contributing factors.

The interviews also highlighted the multiple structural inequities people experiencing homelessness face:

- There is a stark double standard in how the City uses public street space to accommodate business activity adjacent to traffic while at the same time sweeping unhoused people living in proximity to traffic.
- People experiencing homelessness have less access to medical treatment and may not seek treatment for minor injuries, which can become much worse if left untreated.
- Homelessness is intersectional—queer, femme, BIPOC, and older people experiencing homelessness face additional barriers and discrimination due to their identity.

- Homelessness is effectively criminalized with camping bans and inadequate public facilities (like restrooms); unhoused people are disproportionately policed.
- Unreliable access to digital services can make accessing services, housing, and employment much more difficult.

Many of the organizations interviewed are already providing direct services to people experiencing homelessness that seek to address some of those inequities. PBOT could better support and engage with these organizations and their work.

Takeaways

- Harassment from police, private security, housed residents, and the City pushes people to camp in less accessible but more dangerous locations.
- In particular, the City's practice of clearing areas where people are camping—or "sweeping"—triggers a cascade of negative effects and has left people experiencing homelessness with few relatively safe locations in which to shelter.
- People will travel long distances just to access necessities and would benefit from having more proximate access to reduce exposure to traffic.
- Drivers appear to be growing more hostile toward unhoused pedestrians; there is a shared perception that people experiencing homelessness are targeted with traffic violence.
- The COVID-19 pandemic has made homelessness a bigger problem and (at least indirectly) has contributed to more people experiencing homelessness being killed while walking/rolling.
- Building partnerships and trust with service providers and homeless communities will lead to better outcomes.
- Homeless *encampments* are better understood as homeless *communities* and should be treated as such.
- People experiencing homelessness face multiple structural inequities.

First-Person Interviews

First-person interviews were conducted with 12 houseless individuals. There is no "typical" person experiencing houselessness. The interviewees ranged from 28–66 years old, had spent between 2 and 36 years unsheltered—sometimes on and off—and were primarily white (75%). Three-quarters were men and one-quarter were women; two were mothers. One interviewee used a wheelchair and two used walkers. A third of interviewees were employed and two received Social Security. About half of those interviewed resided in tents; others individuals used an RV, shelters, extended family, or were transient and slept in a different place every night.

With one exception, every person experiencing houselessness interviewed said they or someone they knew had experienced a crash or close call with a vehicle. Interviewees reported between 1 and 15 crashes or close calls. Multiple people recounted personal experiences being hit or nearly hit while walking or rolling, riding a bike, traversing a parking structure exit, or sleeping in their tent.

The interviewees either camped or had camped in locations all over the city. Some would travel long distances to reach services and employment, confirming what service providers had said. Walking was the most common form of transportation, followed by transit. Better access to transit, services, and necessities—including bringing services to where people are sheltering—were frequently noted.

12
Interviewees

28–66
Age Range

2–36
Years
Unsheltered

75%
White

75% | **25%**
Men | **Women**

2
Mothers

Just because we fell on some bad luck... that doesn't make us any less human.

How long am I supposed to wait [to cross the street]?

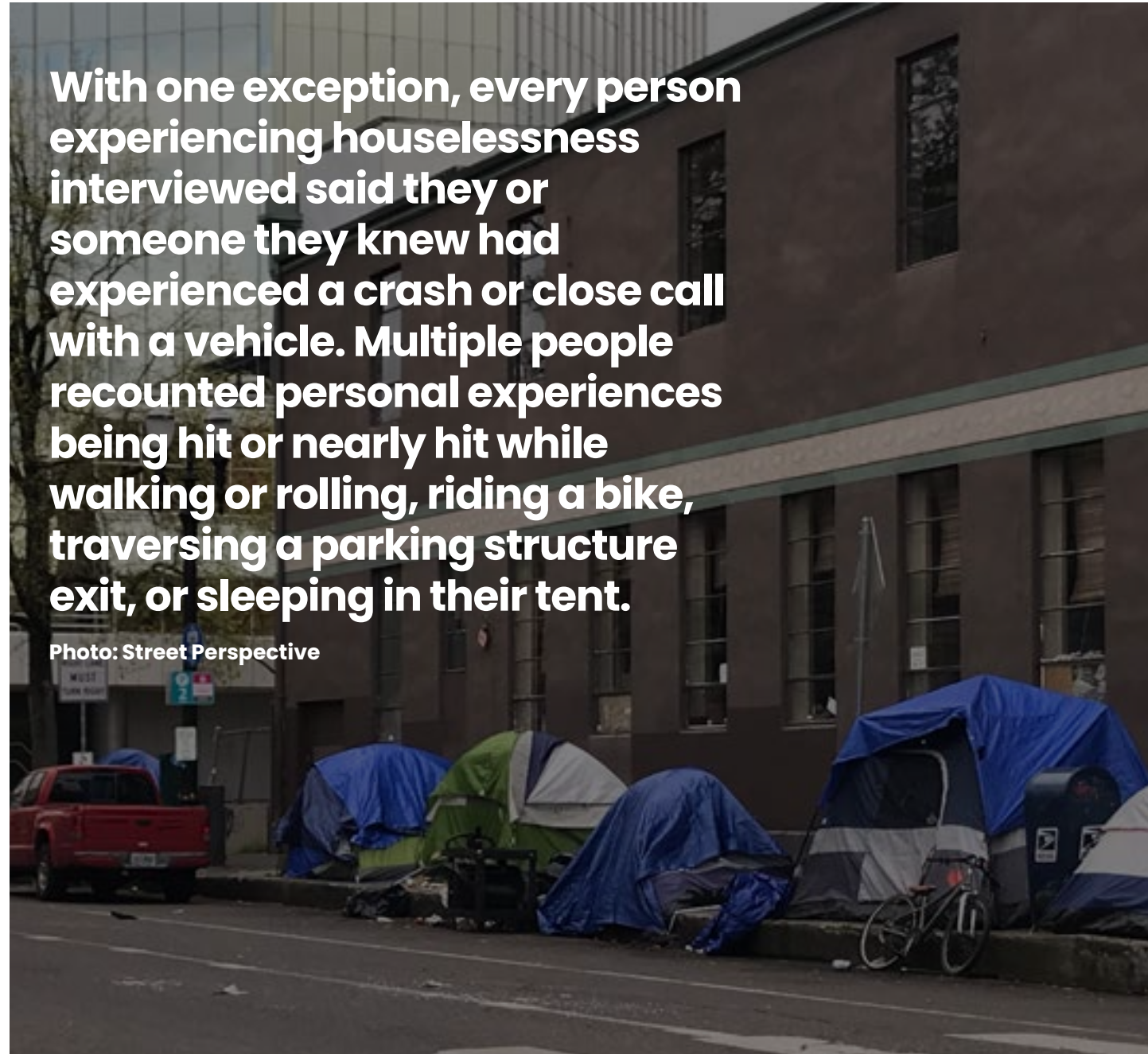
[Because of sweeping,] I've been displaced and displaced and displaced.

I don't want to be a criminal for taking the bus somewhere.

The people interviewed were split on their perceived risk from traffic, with half saying it was a constant but low concern and half saying it was a major concern. While some felt most at risk at night due to decreased visibility, others felt most at risk during rush hour due to higher traffic volumes. People generally thought traffic had become more dangerous during the pandemic, with about half of interviewees noting faster, more aggressive, and less attentive driving. Other threats—such as drug use, rape, gun violence, and harassment—were cited as more pressing issues by some.

With one exception, every person experiencing houselessness interviewed said they or someone they knew had experienced a crash or close call with a vehicle. Multiple people recounted personal experiences being hit or nearly hit while walking or rolling, riding a bike, traversing a parking structure exit, or sleeping in their tent.

Photo: Street Perspective



Sweeping was similarly—and more viscerally—described as jeopardizing any and all efforts people have made to get into housing or otherwise off the streets. Multiple people interviewed reported missing work, losing jobs, and risking job loss because of sweeps. The loss of personal items including IDs, shelter, clothing, money, and other belongings was a constant and real fear for people experiencing houselessness, even among the few people who hadn't been swept. Most people reported being swept between 2 and 23 times.

Structural inequalities also came up, with some people's identities making them more vulnerable. Single women reported additional concerns about personal safety and the threat of interpersonal violence, particularly in Old Town. Elderly people expressed a lack of knowledge about systems, services, and how to get help; some felt particularly targeted because of their age. Interviewees generally felt targeted by police, private security, and housed residents because of their housing status.

Takeaways

- There is no "typical" person experiencing houselessness.
- Some people would travel long distances to reach services and employment; walking was the most common form of transportation, followed by transit.
- The practice of sweeping is a constant threat and can jeopardize any and all efforts people have made to get into housing or otherwise off the streets, including job loss.
- Most people felt targeted by police, private security, and housed residents because of their housing status. Some people's identities made them especially vulnerable to discrimination and harassment.
- There was a perception that traffic had become more dangerous during the pandemic, with about half of interviewees noting faster, more aggressive, and less attentive driving.
- Nearly every person interviewed said they or someone they knew had experienced a crash or close call with a vehicle.

Collective Feedback

Collectively, service providers and people experiencing houselessness (Top) suggested a number of different interventions that could be used to reduce the risk of traffic related harm to unhoused people:

| | Policies & Programs | Infrastructure | Providing Shelter |
|--|--|--|--|
| People Experiencing Houselessness | <ul style="list-style-type: none"> Stop sweeping. Better access to necessities like showers, places to charge phones. Reflective wearables, but not bright colors that could attract unwanted attention.* More access to transit (especially to tickets) & longer service hours. Delivery of groceries and/or medical supplies. Stricter regulations for driver's licenses & more driver education. Engagement from the City (but not the police) about what people experiencing houselessness need. Better coordination between TriMet, ODOT, and PBOT. Make targeted violence against unhoused people a hate crime. | <ul style="list-style-type: none"> Improve crosswalks with working pedestrian push buttons and repaint faded crosswalks. Install more rectangular rapid-flashing beacons (RRFBs) at crosswalks.* Widen sidewalks. Install warning signs for drivers to "slow down for pedestrians experiencing houselessness" in areas with houseless communities. Install more lighting and better lighting at night.* Add additional pedestrian safety features to parking garages and other parking structures. Improve wayfinding for drivers. Repair roads and potholes. | <ul style="list-style-type: none"> Provide more housing—including transitional housing, single room occupancy units, and rent-to-own options. Provide more places to shelter—including Safe Rest Villages, sanctioned camping areas, reuse of vacant buildings/lots. Allow camping near buildings rather than curbside. |
| Service Providers | <ul style="list-style-type: none"> Stop sweeping. Expand access to porta potties, handwashing, garbage dumpsters, showers, sanitation services, laundry, sewage pumping for RVs, power, Wi-Fi, and other services near where people are sheltering. Provide reflective vests, clothing, and/or bands of reflective tape for tents.* Meet people where they're at to provide services. Increase funding to community-based organizations. Increase the cost of parking and implement congestion pricing to reduce driving. Increase accountability for how the police and private security make contact with unhoused individuals. | <ul style="list-style-type: none"> Improve street lighting, especially at crosswalks and intersections.* Install more pedestrian safety islands.* Daylight intersections—remove visual barriers, especially parking.* Use temporary cement barriers or buffers to protect houseless communities, but with the community's consent. Provide safety cones to mark the perimeter of houseless communities. Remove boulders and other hostile infrastructure installed to displace people experiencing houselessness. Close the High Crash Network to vehicle traffic. Reduce speed limits on the High Crash Network to 20 mph.* Time traffic lights for 20 mph or the legal limit ("green wave").* Install speed cameras & apply equitable, income-based penalties (day fines). | <ul style="list-style-type: none"> Build tiny homes. Convert existing vacants structures into housing. Provide safe/sanctioned campsites. Provide safe/sanctioned parking sites. Seize the golf courses and repurpose them for sanctioned camping; repurpose parts of city parks for camping. |

*Research corroborates the safety benefits of this intervention



Street Perspective

TOOLKIT FOR RECOMMENDATIONS



Recommendations

The recommendations toolkit is a combination of promising practices research and community engagement. While this project was specifically meant for PBOT as steps they could take to improve traffic safety for houseless communities both in the near-term and in the future, the issue is far-reaching, and needs citywide and even statewide action to create lasting effects. The toolkit is organized into five broad categories:



Each recommendation is only briefly introduced and summarized, and meant to provide a catalyst for further exploration and implementation. While many of the recommendations are likely familiar to PBOT or may be beyond PBOT's scope or agency, they are important steps to reducing traffic-related harm to people experiencing houselessness.

Recommendation Name

Details

Type
Lead
Time Frame

A1. Ban/stop sweeping

The City of Portland should decriminalize camping and end the practice of sweeping.

- The forcible displacement of houseless people—commonly referred to as "sweeping"—leads to destruction of communities and support networks, interpersonal violence and distrust, loss of personal items including important documents/IDs and medications, stress and trauma, deteriorating mental health, and cyclical displacement.
- Based on first-person interviews, the practice of sweeping is directly tied to people experiencing houselessness camping along dangerous roadways, a problem of the City's own making that this toolkit is now trying to address.
- Continued sweeping will compound the harm the practice causes and direct public resources away from other programs.
- The City of Portland Code 14A.50.020 prohibiting camping should be amended.



City of Portland



A2. PBOT service hubs near houseless communities

PBOT should use land it owns to provide access to services and necessities for people experiencing houselessness.

- Providing more access to necessities for people experiencing houselessness near where they are sheltering can reduce the need to travel and the risk of traffic-related harm.
- Services should include portable restrooms at a bare minimum. Other potential services include garbage disposal, shower & hygiene facilities, laundry/clothing exchange, sharps disposal, charging stations, and Wi-Fi.
- PBOT could fund the placement of facilities through the Homelessness and Urban Camping Impact Reduction Program which already deploys public porta-potties.
- PBOT-owned parcels should be prioritized for hosting services based on proximity to existing houseless communities and the High Crash Network.



PBOT & City of Portland



A3. Sanctioned car camping in SmartPark structures

PBOT should allow overnight RV and car camping in SmartPark structures it manages.

- PBOT owned SmartPark parking structures could be repurposed to provide people sheltering in their vehicle a safe, reliable place to park—at least overnight and potentially longer term.
- The garages are currently open 24 hours, so establishing certain levels for free, overnight car camping or ending paid evening/overnight parking in facilities used for car camping could provide low-barrier places for people to safely car camp.
- Basic services like portable restrooms and garbage disposal should also be provided on-site.



PBOT



Infrastructure









Policy



Program




| Recommendation Name | Details | Type Lead Time Frame |
|--|---|--|
| <p>A4. Reduce towing of RVs</p> | <p>PBOT should review and clarify procedures used in making towing decisions to ensure they do not burden people experiencing houselessness and identify ways to reduce towing expenditures.</p> <ul style="list-style-type: none"> In first-person interviews, the threat of an RV being towed resulted in missed work. PBOT should review its practices to ensure that people experiencing houselessness aren't overly burdened in proving their RV is inhabited resulting in missing or losing work or access to services. Those procedures should be clarified, simplified, and publicized. PBOT's spending on the Towing & Private for-Hire Transportation (PFHT) Program increased by 88% between fiscal year 2018-19 and FY 2020-21. |  PBOT  |
| <p>A5. Sanctuary Streets & neighborhood education</p> | <p>PBOT should allow the repurposing of public right-of-way by organizations or community groups to provide more proximate access to services for people experiencing houselessness.</p> <ul style="list-style-type: none"> Inspired by PBOT's Safe Streets Plan, "Sanctuary Streets" would allow for more equitable use of the public right-of-way. A nonprofit or community group would be permitted to repurpose public space (i.e. the roadway) for an extended period of time to provide basic public services and necessities. Sanctuary Streets would restrict vehicle access on a block or blocks of a street and allow temporary facilities like portable restrooms or showers to be established in the right of way. Sanctuary Streets could offer a wide range of services and scales of use such as repurposing parking spaces for porta-potties, depending on local need and community capacity. PBOT could develop an application akin to the neighborhood street murals program (Street Painting permit) or street seating at restaurants (Healthy Businesses permit) to allow organizations and groups who want such services in their area to apply for them. Potential pilot locations based on observation locations as described further in Section E: Site-Specific Infrastructure Improvements. |  PBOT  |
| <p>A6. Sanctioned camping</p> | <p>The City of Portland should consider the following options for sanctioned camping:</p> <ul style="list-style-type: none"> People experiencing houselessness need more places to stay, and sanctioned camping on public lands could accommodate this need in the near term. Adequate restrooms, garbage disposal, and other necessities should be provided on-site. This could be accomplished in a number of ways, all requiring City action. The camping ban on public lands could be lifted; agencies could be given the express authority to allow camping on their lands; the mayor could issue an emergency declaration sanctioning camping on public lands. |  City of Portland  |

| Recommendation Name | Details | Type Lead Time Frame |
|---------------------|---------|----------------------------|
|---------------------|---------|----------------------------|


B1. Incorporate houselessness into project prioritization

PBOT should incorporate houselessness and past crashes (Conflict Zones) into prioritization of safety projects.

- Traditional metrics used to prioritize pedestrian improvements that focus on demographics of residents intrinsically excludes people experiencing houselessness.
- PBOT should develop metrics that take the locations of houseless communities into account in prioritization of pedestrian projects, especially communities near pedestrian crashes (see Appendix A for methodology).
- This methodology of prioritizing areas where there are campsites near pedestrian crashes can be applied to many existing PBOT processes including the installation of automatic pedestrian signals & leading pedestrian intervals, on-street barriers, curve signs, speed cameras, etc.



PBOT



B2. Expand vision clearance ("daylighting")

PBOT should implement vision clearance at controlled as well as uncontrolled intersections and seek additional funding to continue implementation independent of paving or capital projects.





- Vision clearance, also known as daylighting, is a straightforward improvement that removes visual barriers at intersections and other street crossings to make it easier for all street-users to see other users.
- Oregon State law restricts parking within 20 ft of crosswalks—marked and unmarked, and regardless of intersection type (ORS 811.550-.555)—which is more stringent than PBOT's current regulations. Peer cities such as San Francisco also did not distinguish between controlled and uncontrolled intersections in the application of vision clearance in the Tenderloin.
- PBOT has an existing program that is implementing vision clearance at 350 uncontrolled intersections on the HCN by the end of June 2022.
- PBOT should also apply vision clearance to controlled intersections along the HCN and identify additional funding to continue implementing vision clearance independent of other paving or capital projects.



PBOT



 Short Term
  Medium Term
  Long Term
  Infrastructure
  Policy
  Program

| Recommendation Name | Details | Type Lead Time Frame |
|--|---|---|
| B3. On-street barriers & demarcation | <p>PBOT should place barriers along road segments to provide direct protection to adjacent houseless communities.</p> <ul style="list-style-type: none">Spaced barriers can be added along roadways at blind/tight turns, high crash intersections, and places with high concentrations of people experiencing homelessness.Efforts should be made to notify and obtain consent from the people sheltering at the treatment location—for example, notices could be posted (that are distinct from sweeping notices) informing people of the proposed treatment and providing a number to contact.Barriers should not be used to displace people nor restrict their movement or access to the roadway.Lighter barriers (candlestick delineators, cones) could be used to visibly demarcate their area, while stronger, heavier barriers (concrete barricades, water-filled jersey barriers) would provide physical protection from vehicles.PBOT should identify potential locations through a visual audit of the High Crash Network, identifying areas where people are camped in close proximity to roadways. Sites could also be identified based on reports from other agencies about campsite locations. PBOT can then deploy a team to talk with the houseless communities about potential treatments and seeking consent. |  <p>PBOT</p>  |
| B4. Distribute/install reflective materials | <p>PBOT should implement vision clearance at controlled as well as uncontrolled intersections and seek additional funding to continue implementation independent of paving or capital projects.</p> <ul style="list-style-type: none">a. Apply reflective treatments to curbs:<ul style="list-style-type: none">Reflective paints, reflective pavement markers, or reflective delineators could be applied to curbs or the shoulder of roadways near houseless communities to increase visibility in poorly-lit areas and/or at tight turns.b. Distribute reflective clothing to people experiencing homelessness along roadways:<ul style="list-style-type: none">Reflective vests, sashes, or shoes should be distributed to interested people living unsheltered to increase their visibility at night.Options other than the traditional bright orange safety vest should be offered; some interviewees expressed hesitation about the orange color drawing unwanted attention.Distribution could be accomplished by working with community-based organizations who already visit houseless communities in situ. Service hubs on PBOT land could also be areas where vests are distributed.c. Improve roadway markings on curves/hills near the HCN and highways:<ul style="list-style-type: none">Implement Winding Road signs, Sharped Curve Arrow signs, and/or Pedestrian Warning/Blind Hill signs at the top and bottom of hills and along curving roads on the HCN.Some roads that sharply curve, become windy, or traverse uphill with poor views of pedestrians do not have any of these signs. For example, where S Grover runs under Naito Pkwy, there are a large number of people camping along the roadway.Placement should be prioritized in areas with the highest vehicle speeds and near houseless communities. |  <p>PBOT</p>  |



Short Term



Medium Term



Long Term



Infrastructure



Policy



Program

Recommendation Name

Details

Type
Lead
Time Frame

B5. Pedestrian safety enhancements at structured parking exits

City of Portland and PBOT should deploy a combination of warning systems to PBOT parking structures and develop requirements for future parking structures.

- Numerous people experiencing houselessness mentioned parking structures being a frequent source of close calls and/or crashes.
- Best practices include deploying a combination of warning systems including convex mirrors, pedestrian-oriented electronic "car coming" signage, and audible signals, and installing truncated domes on either side of garage exit lanes. The use of transitional lighting that helps drivers' eyes adjust to bright light outside is also recommended in areas with high levels of pedestrian traffic.
- These systems should be added to existing PBOT garages, incorporated into the city's development code, and encouraged on existing parking structures with rebates or other incentives.



City of Portland

PBOT



B6. Pedestrian improvements around bottle drop locations

PBOT should install additional traffic calming and pedestrian safety features around bottle returns frequented by people experiencing houselessness.

- Bottle return locations should receive additional pedestrian improvements to reduce vehicle speeds on adjacent streets, improve approaches on surrounding streets, and enhance nearby street crossings.
- Based on observations, collecting and returning bottles is a common reason for some people experiencing houselessness to travel. Full service BottleDrops and locations that accept bottle returns should be prioritized for improvements.
- Changes can include walk signals adjustments, new mid-block crossings, new pedestrian safety islands, new signage, new or wider sidewalks, protected bike lanes, installing street trees or planters, speed cameras or speed radar trailers, etc.



PBOT



 Short Term

 Medium Term

 Long Term



Infrastructure









Policy







Program




| Recommendation Name | Details | Type Lead Time Frame |
|--|--|--|
| <p>C1. Expand the use of speed camera</p> | <p>PBOT should accelerate the application of speed cameras in Conflict Zones.</p> <ul style="list-style-type: none"> PBOT should accelerate the adoption and use of fixed-speed cameras, using houselessness to prioritize placement. Speed was a major concern expressed in interviews and even small reductions in vehicle speed can dramatically reduce the chances of a pedestrian being killed in the event of a crash. Speed radar trailers that notify drivers of their speed could be used in the short term. As recently as summer of 2021, PPB's Traffic Division had a single full-time officer. We are not recommending additional officers, but cameras can effectively enforce speed limits without the profiling and implicit bias found with in-person enforcement. | <p>  PBOT  </p> |
| <p>C2. Implement day-fines</p> | <p>The City should advocate for change in state policy to allow the implementation of more equitable fines for speeding violations that are linked to income.</p> <ul style="list-style-type: none"> The use of day-fines for speeding (and potentially other violations) would complement the city's work on pricing options for equitable mobility and incentivize behavioral change in people driving. PBOT should support this policy change being included in the city's annual legislative priorities. Used widely in a number of European countries, day-fines establish a penalty for a fine that is dependent on the driver's income. A base fine is established for each infraction (e.g., 50% of a person's average daily income) and then scaled based on the severity. | <p>  State Legislature  </p> |
| <p>C3. Make houselessness a protected class</p> | <p>Establish "housing status" as a protected class under state law.</p> <ul style="list-style-type: none"> People experiencing houselessness are frequently targeted by police, private security, and housed neighbors and drivers because of their housing status. Legislation in Oregon has previously been proposed that would make housing status a protected class, affording more legal protection from harassment and violence and greater penalties for perpetrators. | <p>  State Legislature  </p> |


 Short Term
  Medium Term
  Long Term
  Infrastructure
  Policy
  Program

| Recommendation Name | Details | Type Lead Time Frame |
|--|--|---|
| <p>D1. PBOT site evaluation of pedestrian crashes</p> | <ul style="list-style-type: none"> ▪ Deploying a PBOT (or multi-agency) team to evaluate the location and crash details would provide more context for engineering and safety improvements and could potentially inform other dashboard metrics (see I-2). ▪ Pedestrians experiencing houselessness are disproportionately affected in crashes, yet the lack of discussion of road/site details and the prevalence of victim blaming and deference to the driver in police reports is concerning. ▪ Portland's Vision Zero Action Plan has a similar recommendation that has yet to be implemented which would disproportionately benefit people experiencing houselessness: "Deploy a multi-agency fatal rapid response team to fatal crash locations to evaluate the site for safety enhancements." |  PBOT & City of Portland  |
| <p>D2. Service provider advisory board</p> | <p>PBOT should establish an advisory board composed of houseless service providers for ongoing engagement.</p> <ul style="list-style-type: none"> ▪ Partner interviews revealed a lack of connections between city agencies and many organizations with direct knowledge about issues facing houseless communities; input "from service providers" is largely limited to congregate shelter operators. ▪ Any service provider should be able to appoint their own liaisons; smaller, hands-on organizations should be sought out and invited to appoint a liaison. ▪ This advisory board could inform the implementation of various recommendations in this toolkit and provide feedback on ongoing and emergent issues. ▪ Organizations should be compensated for their time and expertise for anything beyond advising. |  PBOT  |


 Short Term

 Medium Term

 Long Term

 Infrastructure

 Policy

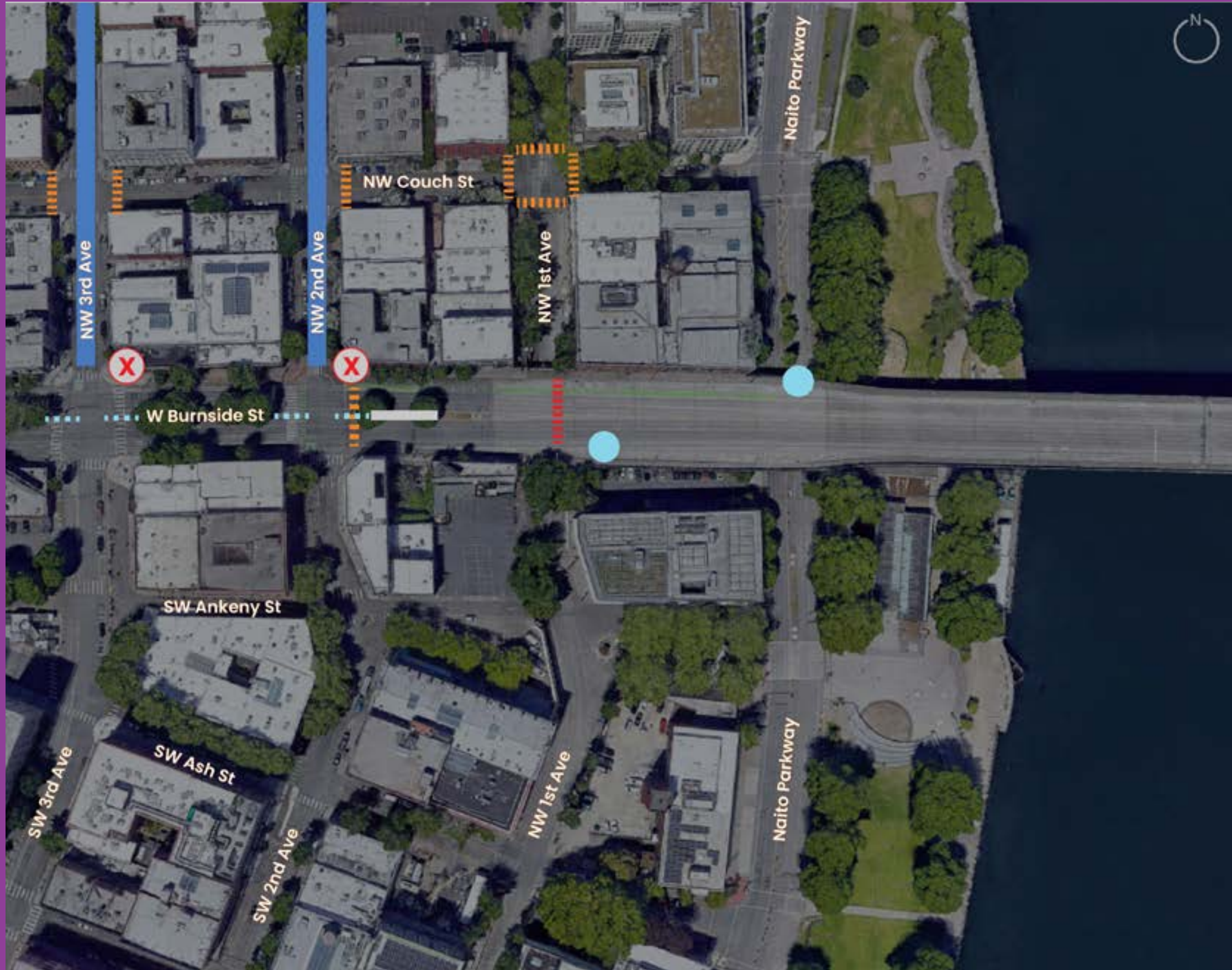
 Program





Burnside & NW 2nd Ave

E. Site-Specific Infrastructure Improvements



1 W BURNSIDE ST & NW 2ND AVE

Safety Interventions for Houseless Pedestrians Recommendations

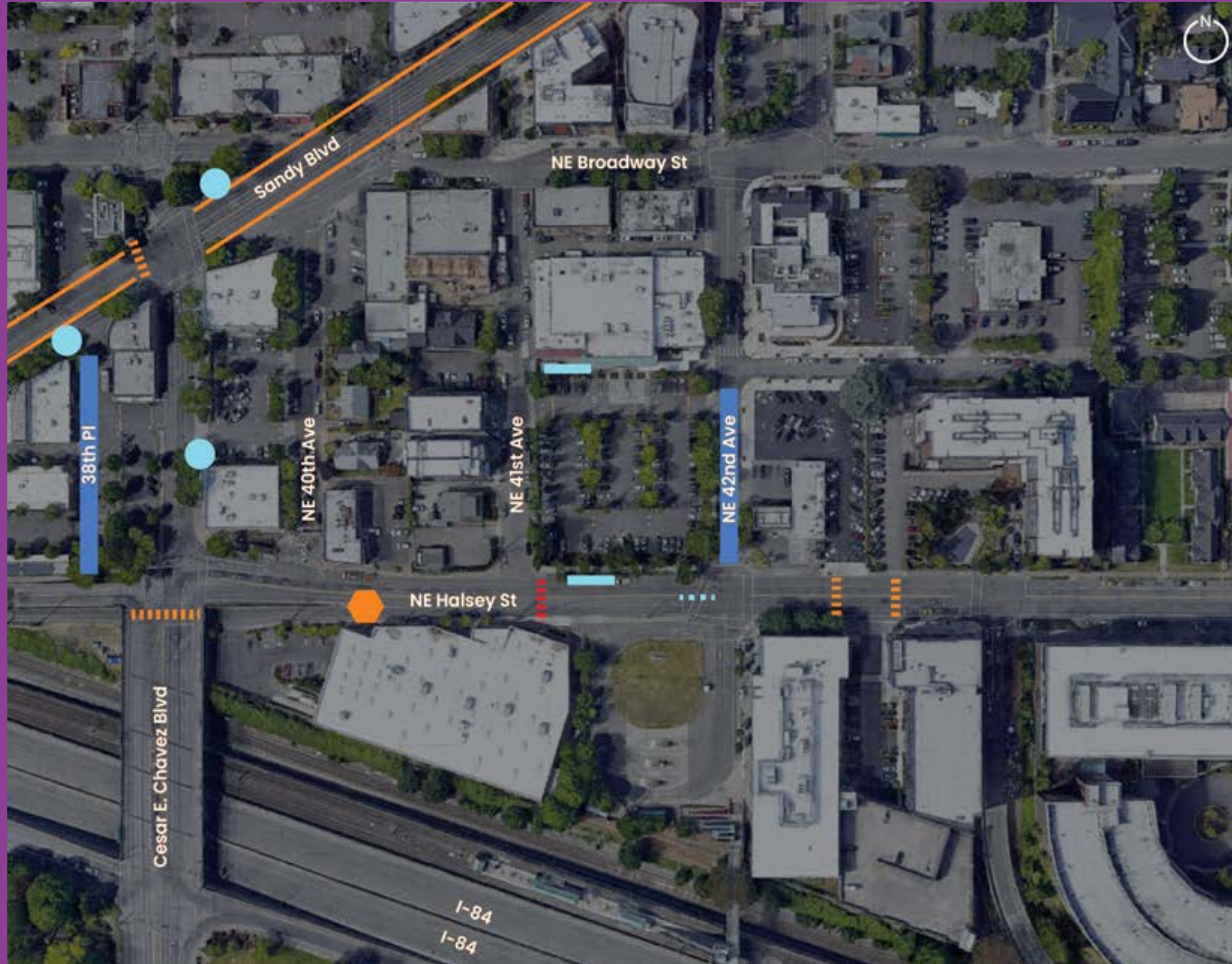
-  Sanctuary Street options
-  Crosswalks
-  Crosswalk with flashing beacon
-  Speed detection / Camera
-  Harden centerline
-  Right turn banned
-  Median





NE Sandy Blvd, NE Halsey St, & NE César E. Chávez Blvd

E. Site-Specific Infrastructure Improvements



2 NE SANDY BLVD, NE HALSEY ST & NE CÉSAR E. CHÁVEZ BLVD

Safety Interventions for Houseless Pedestrians Recommendations

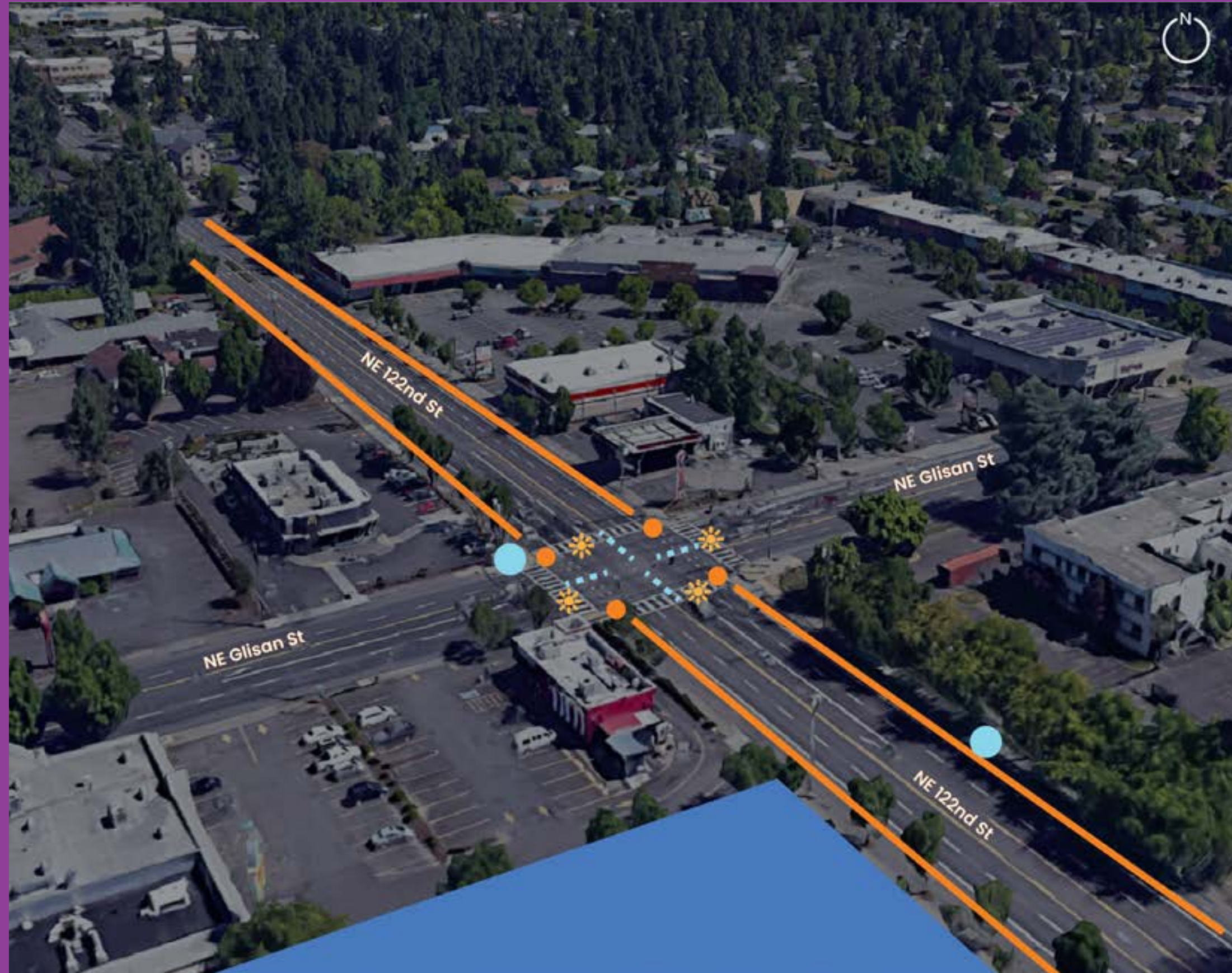
-  Sanctuary Street options
-  Crosswalks
-  Crosswalk with flashing beacon
-  Speed detection / Camera
-  Harden centerline
-  Eliminate on-street parking
-  Crosswalk ahead sign
-  Protected bike lanes (traffic calming)





NE Glisan St & NE 122nd Ave

E. Site-Specific Infrastructure Improvements



3 NE GLISAN ST & NE 122ND AVE

Safety Interventions for Houseless Pedestrians Recommendations

-  Sanctuary Street for oversized parking lot
-  Speed detection / camera
-  Harden centerline
-  Protected bike lanes (traffic calming)
-  Reduce ped-waiting times
-  Additional lighting / Crosswalk illuminators



Conclusion

The City of Portland and PBOT have made great strides in implementing its Vision Zero Action Plan, despite major setbacks due to the COVID-19 pandemic. Still, the goal of eliminating traffic deaths and serious injuries remains, especially among people experiencing homelessness. PBOT needs new strategies and creative solutions to create a more equitable transportation system which prioritizes disproportionately impacted communities. People experiencing homelessness are by and large pedestrians, first and foremost, and most at risk of traffic-related harm. For the thousands of Portlanders living unhoused, the streets are their homes, and traversing them by foot amidst traffic is their only means of accessing their daily needs for survival. Reducing the constant threat of traffic violence among this expansive and diverse community should be prioritized immediately.

This report examined a multitude of data to produce a toolkit of recommendations—all through the perspective of addressing the safety needs of people experiencing homelessness. The complex problem of homelessness and the worsening trend of traffic-related harm toward people experiencing homelessness are deeply intertwined with a multitude of other complicated issues. The scope and limitations of this toolkit are both far-reaching in some regards and sharply focused in others.

As individuals experiencing homelessness themselves are incredibly diverse, so too are their needs and vulnerabilities. The vast majority of unhoused people suffer debilitating physical limitations and struggle with mental illness, among many other challenges beyond PBOT's direct influence. Regardless, these communities share Portland's streets, and any interventions aimed at improving safety for people experiencing homelessness will no doubt improve safety for all Portlanders. The methodology of prioritizing locations for improvements discussed in this report could aid PBOT in fast-tracking projects to improve the safety of unhoused communities now. Whether through near-term infrastructure improvements or long-term programming initiatives, this toolkit of community-informed recommendations should aid PBOT to achieve its Vision Zero goal of saving lives through safe streets.

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A

Street Perspective

APPENDICES

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| Appendix A – Existing Conditions | 1 |
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| Appendix C – Promising Practices | 26 |
| Appendix D – Engagement | 40 |

Appendix A – Existing Conditions

Demographics

| Race/Ethnicity | |
|--|-------|
| People of Color | 38.1% |
| Non-Hispanic White | 58.4% |
| Race unknown | 3.5% |
| Total | 100% |
| <i>Source: 2019 Point-In-Time Count of Homelessness in Portland/Gresham/Multnomah County, Oregon</i> | |

| Race/Ethnicity Alone or in Combination | |
|--|-------|
| White | 69.7% |
| Black/African American | 16.1% |
| American Indian/Alaska Native | 11.6% |
| Hispanic/Latino | 9.3% |
| Native Hawaiian/Pacific Islander | 3.0% |
| Asian | 2.1% |
| Not listed | 1.2% |
| <i>Source: 2019 Point-In-Time Count of Homelessness in Portland/Gresham/Multnomah County, Oregon</i> | |

| % of Houseless People with Disabling Conditions | |
|--|-------|
| 1 or more disabilities | 71.9% |
| No disabilities | 28.1% |
| 1 disability | 26.4% |
| 2 disabilities | 17.7% |
| 3 disabilities | 9.1% |
| More than 3 disabilities | 18.6% |
| <i>Source: 2019 Point-In-Time Count of Homelessness in Portland/Gresham/Multnomah County, Oregon</i> | |

| % of Houseless People and Disabling Conditions by Type | |
|--|-------|
| Mental illness | 38.5% |
| Substance abuse (alcohol and/or drug) | 37.2% |
| Physical disability | 26.6% |
| Chronic health condition | 25.0% |
| Both mental illness and substance abuse | 21.7% |
| Post-traumatic stress | 19.6% |
| Mental illness, substance abuse, and either a physical disability or a chronic health condition | 12.0% |
| <i>Source: 2019 Point-In-Time Count of Homelessness in Portland/Gresham/Multnomah County, Oregon</i> | |

| Sex and Mean Age of Reported “Domicile Unknown” Deaths | | |
|---|------|--------------|
| Male | 79% | 46 years old |
| Female | 21% | 43 years old |
| Total | 100% | |
| <i>Source: “Domicile Unknown” Demographics of Homeless Medical Examiner Cases, Multnomah County, 2020</i> | | |

| Race/ethnicity of Reported “Domicile Unknown” Deaths | |
|---|------|
| White | 75% |
| Black or African American | 11% |
| Hispanic or Latino | 6% |
| American Indian/Alaska Native | 4% |
| Other or unknown | 4% |
| Total | 100% |
| <i>Source: “Domicile Unknown” Demographics of Homeless Medical Examiner Cases, Multnomah County, 2020</i> | |

Crash Analysis Data Output

Figure 1. High Crash Corridor and Number of Reported Campsites within 250 feet

| Corridor Name | Corridor Description | Sites |
|----------------------------|---|-------|
| NE Halsey St | NE Halsey St: NE Sandy Blvd to NE 162nd Ave | 23 |
| SE Hawthorne Blvd | SE Hawthorne Blvd: SE Water Ave to SE 50th Ave | 12 |
| NE/SE 122nd Ave | NE/SE 122nd Ave: NE Marine Dr to SE Flavel St | 12 |
| NE/SE 82nd Ave | NE/SE 82nd Ave: NE Airport Way to City Boundary (South) | 7 |
| SW Barbur Blvd | Barbur Blvd: City Boundary (West) to SW Sheridan St | 7 |
| SW Beaverton-Hillsdale Hwy | Beaverton-Hillsdale Hwy: SW 65th Ave to SW Capitol Hwy | 2 |
| E/W Burnside St | W/E Burnside St: City Boundary (West) to SE Gilham Ave | 24 |
| SE Foster Rd | SE Foster Rd: SE Powell Blvd to City Boundary (East) | 4 |
| NE Marine Dr | N/NE Marine Dr: N Lombard St to City Boundary (East) | 10 |
| NE/SE Sandy Blvd | Sandy Blvd: SE 7th Ave to NE Killingsworth St | 31 |
| SE Division St | SE Division St: SE 12th Ave to City Boundary (East) | 13 |
| SE Powell Blvd | SE Powell Blvd: SE McLoughlin Blvd-Powell Blvd Ramp (Ross Island Brg) to City Boundary (East) | 62 |
| SE Holgate Blvd | SE Holgate Blvd: SE McLoughlin Blvd to SE 136th Ave | 2 |
| NE MLK Jr Blvd | NE Martin Luther King Jr Blvd: E Burnside to N/NE Gertz Rd | 2 |
| NE Glisan St | NE Glisan St: NE Sandy Blvd to City Boundary (East) | 7 |
| SE Stark St | SE Stark St: SE Water Ave to SE 152nd Ave | 6 |
| N/NE Lombard St | N/NE Lombard St/NE Portland Hwy: NE Marine Dr to NE Killingsworth St | 16 |
| SW/N/NE Broadway | SW/N/NE Broadway: SW 4th Ave to NE 57th Ave | 7 |
| NE Columbia Blvd | NE Columbia Blvd: NE Burgard Rd to NE Killingsworth St | 7 |
| N/NE Fremont St | N/NE Fremont St: N Missouri Ave to NE 141st Ave | 7 |
| N Interstate Ave | N Interstate Blvd: NE Oregon St to N Argyle St | 4 |
| N/NE Killingsworth St | N/NE Killingsworth St: N Willamette Blvd to NE Sandy Blvd | 6 |
| SW Capitol Hwy | SW Capitol Hwy: SW 60th Ave to SW Barbur Blvd | 2 |
| SE 7th Ave | SE 7th Ave: SE Division St to E Burnside St | 3 |
| SW Terwilliger Blvd | SW Terwilliger Blvd: SW Sheridan St to SW Boones Ferry Rd | 2 |
| SE Cesar E Chavez Blvd | SE Cesar E Chavez Blvd: NE Broadway to SE Steele St | 28 |
| SW 4th Ave | SW 4th Ave: W Burnside St to SW Sheridan St | 3 |
| NE 102nd Ave | NE 102nd Ave: NE Sandy Blvd to E Burnside St | 4 |
| SE 92nd Ave | SE 92nd Ave: City Boundary (South) to E Burnside St | 4 |
| NE Airport Way | NE Airport Way: NE 82nd Way to City Boundary (East) | 0 |

Basic Needs Analysis

Next to housing, safety and hygiene were the most strongly advocated needs the unhoused community and service providers emphasized. Finding a safe and welcoming environment to meet their needs is challenging for the unhoused community. In addition, the journey to and from their camps is just as perilous.

The purpose of the Basic Needs Analysis is to provide a spatial analysis of the location of grocery stores, public restrooms, and public transportation in relation to campsites and the HCN. The analysis can provide insight into the proximity and frequency of pedestrian crashes near these specific areas. It could also shed light on how the safety of unhoused pedestrians is affected when navigating Portland streets to meet their basic needs.

Each map illustrated in the Basic Needs Analysis (Figures 1-11) follows a similar methodology, utilizing grocery stores, public transit, and public restrooms as the independent variables. By narrowing down pedestrian crashes that are within 250ft of the HCN, we were able to identify neighboring transit stops, grocery stores, and public restrooms. In correspondence to the transit stops, grocery stores, and public restrooms, campsite data from Feb 2022 is used as another indicator to map the proximity of pedestrian crashes. Figures 1-6 identify pedestrian crashes over ten years and Feb 2022 campsites of the unhoused that are within 250 ft of the HCN and within 250ft of transit stops (i.e., bus, MAX, and street cars).

Many pedestrian crashes were frequently near the HCN and transit stops, specifically bus lines. Several campsites were within a 200–500 ft radius of a pedestrian crash and the HCN.

Figures 7–11 illustrate the same methodology used to analyze Figures 1–6, yet focus on grocery stores and public restrooms. There were no areas in particular that depicted both high instances of pedestrian crashes and a basic need within proximity. There wasn't one specific location that depicted an intersection of a high volume of pedestrian crashes and basic needs within the HCN. It is worth noting that there were still pedestrian crashes within the HCN, campsites, and basic needs.

Figure 1. W Burnside St and NW 1st Ave, NW 2nd Ave, and NW 3rd Ave



Figure 2. Ross Island Bridge and SW Naito Pkwy

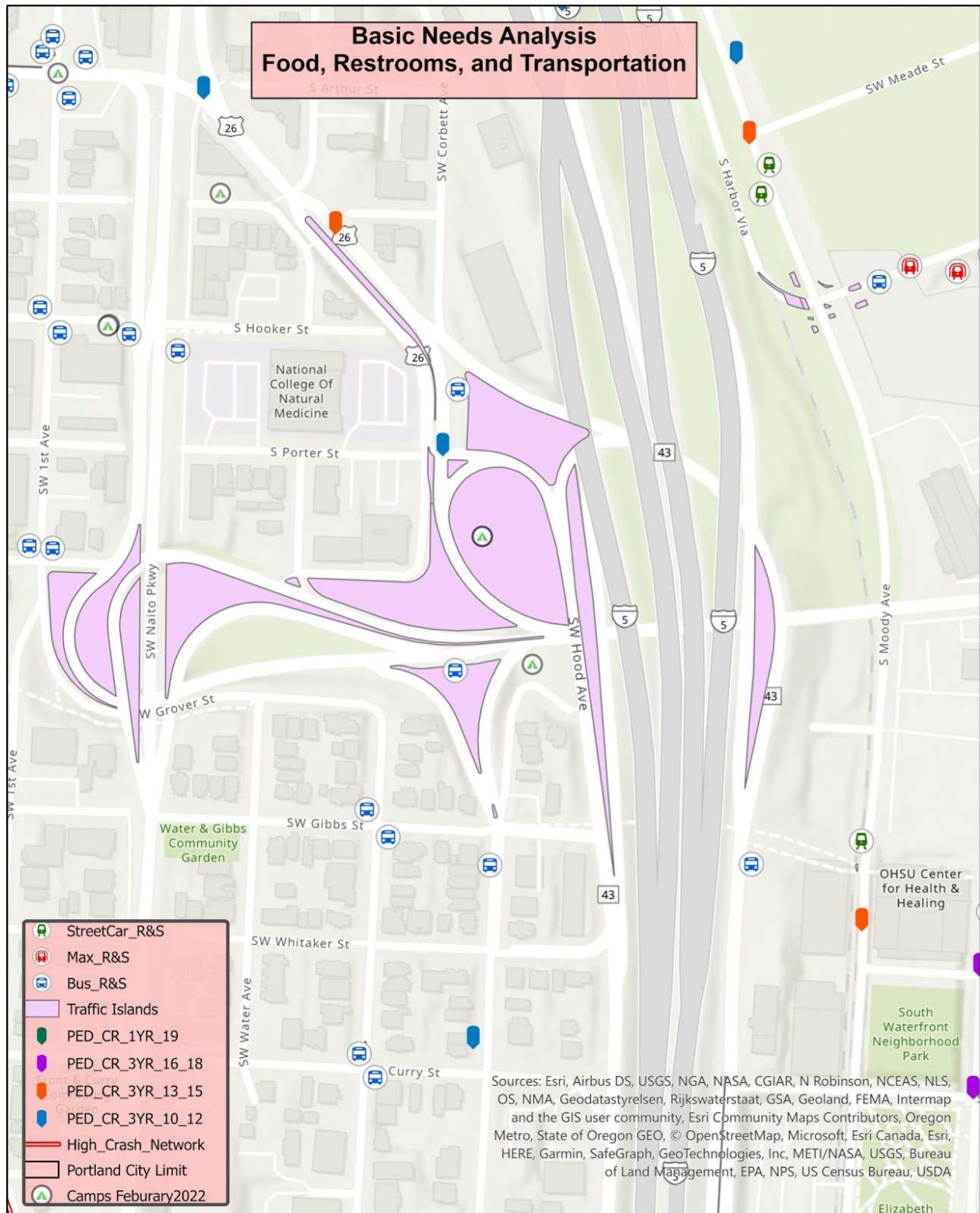


Figure 3. N/NE Broadway and N Vancouver Ave

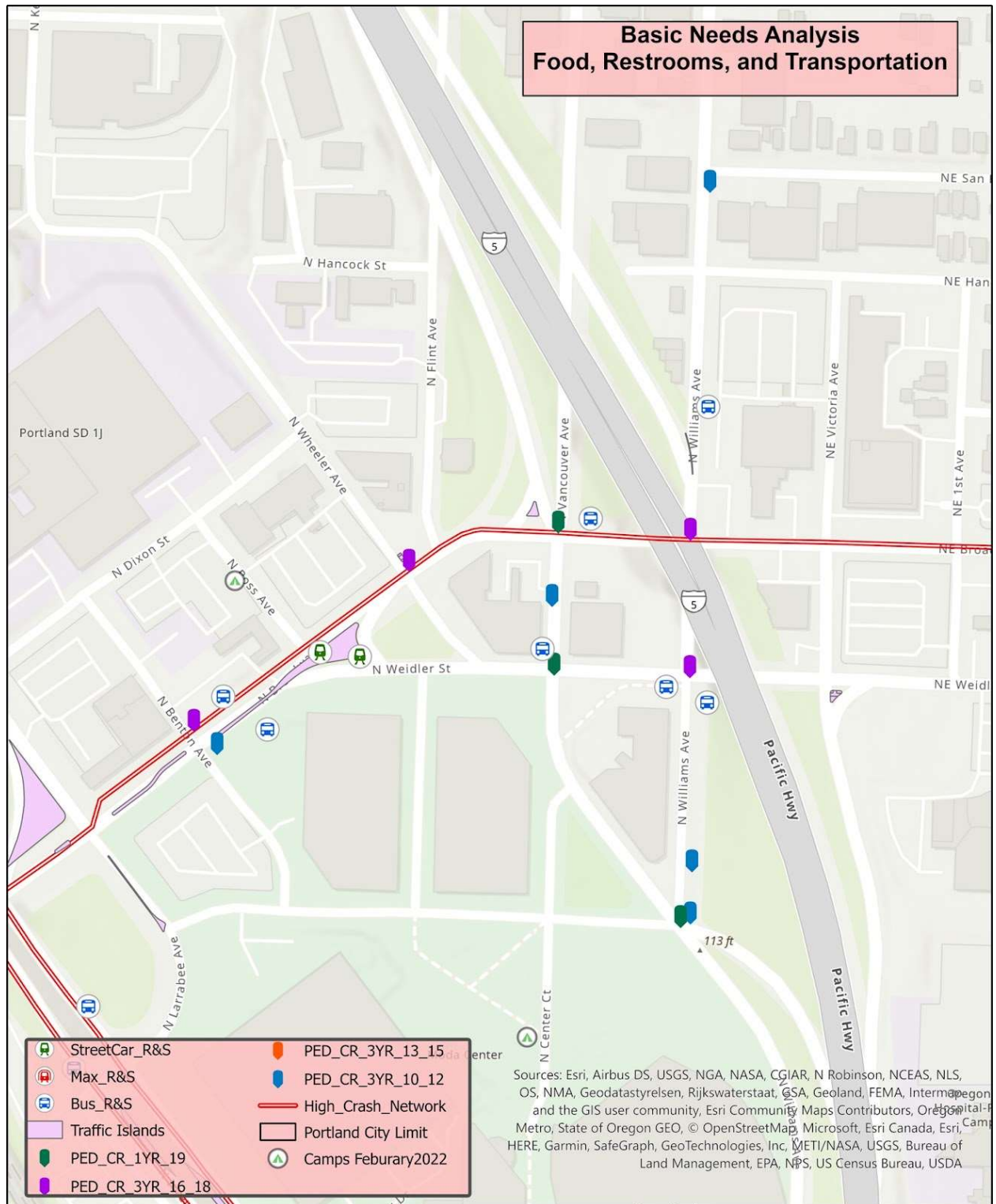


Figure 4. SE Division St and SE 92nd Ave

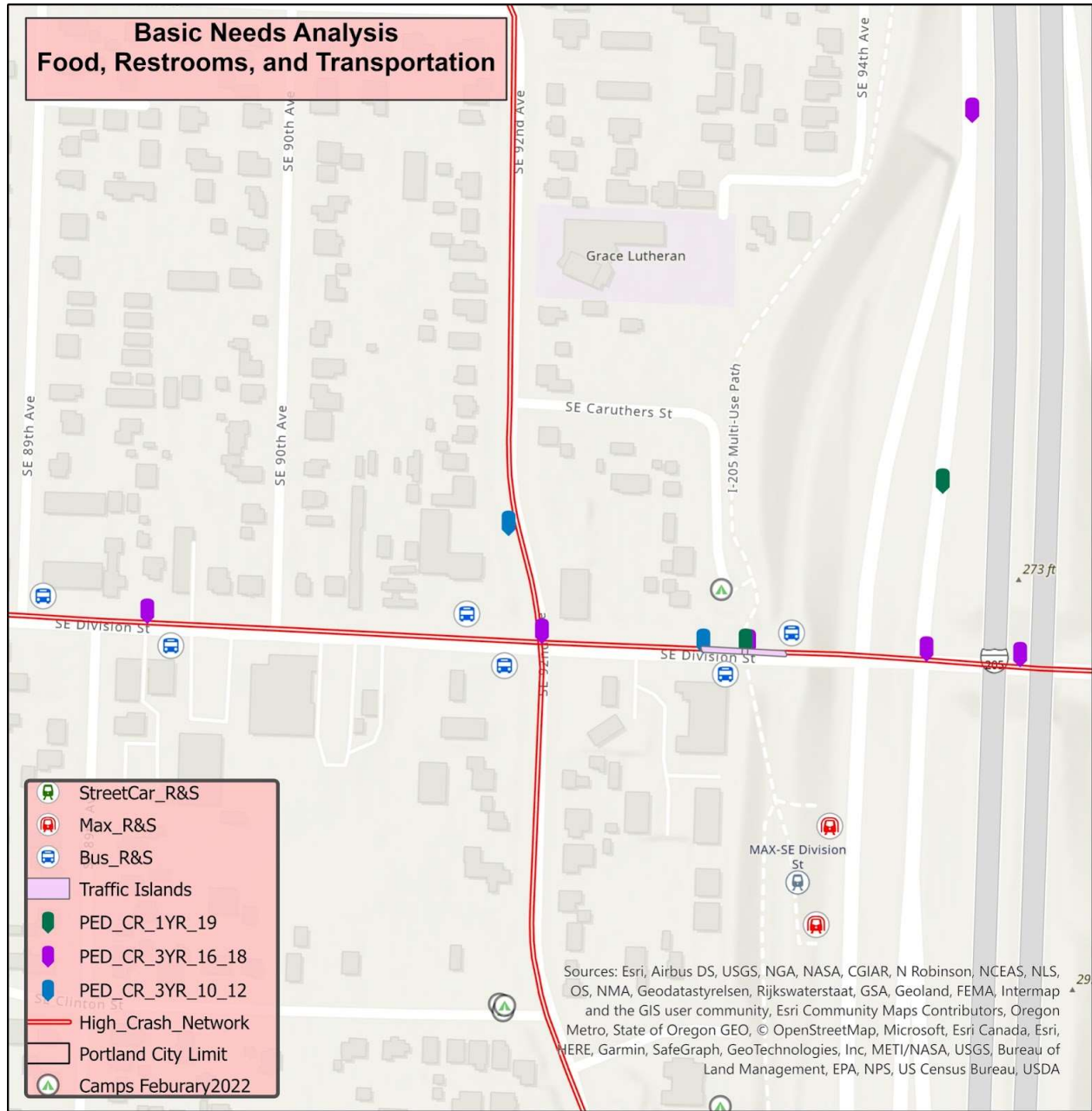


Figure 5. N Broadway between N Interstate Ave and N Larrabee Ave



Figure 6. NE Broadway, NE Cesar E. Chavez Blvd, and Sandy Blvd

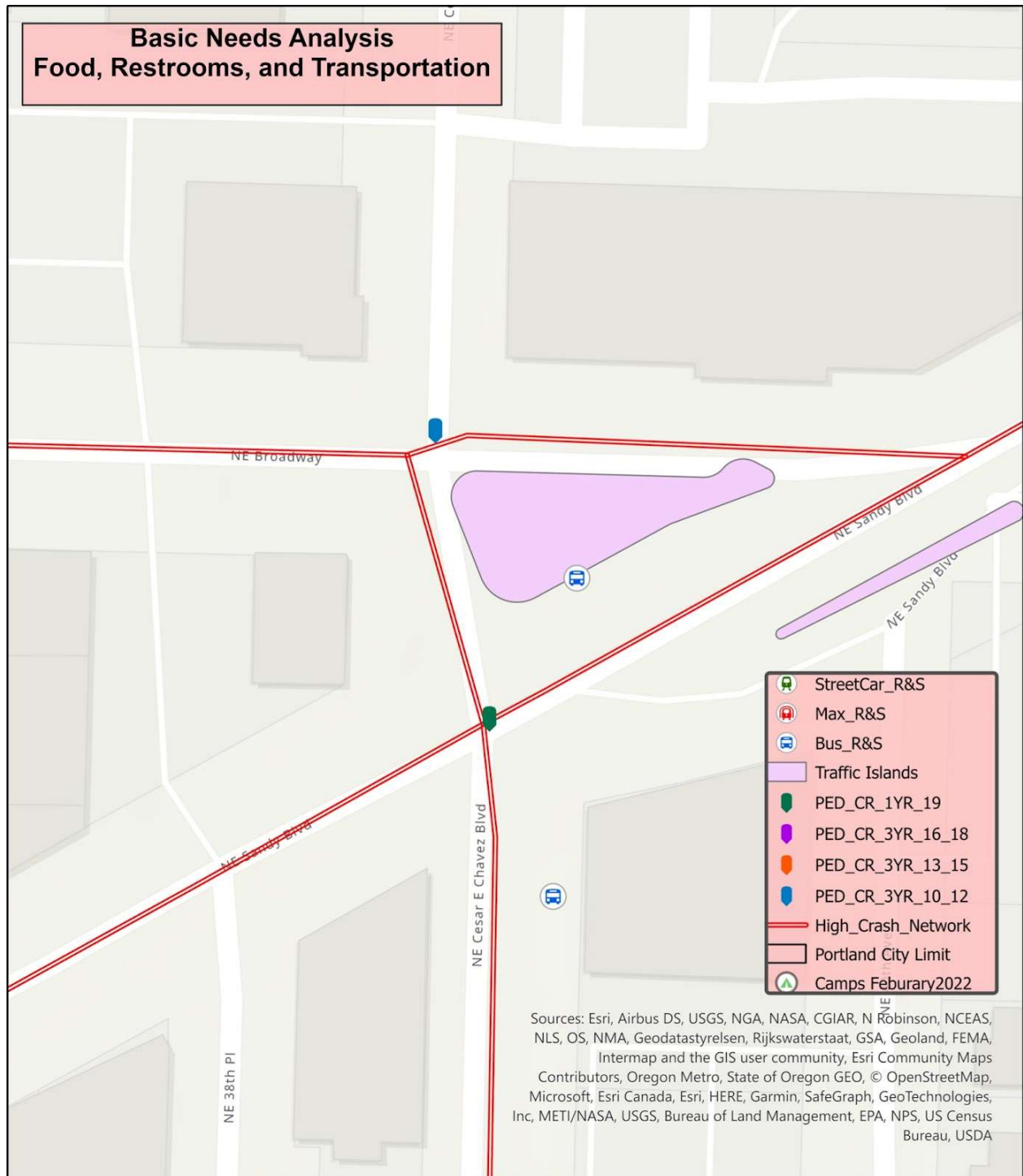


Figure 7. Intersection of pedestrian crashes 250ft of grocery stores

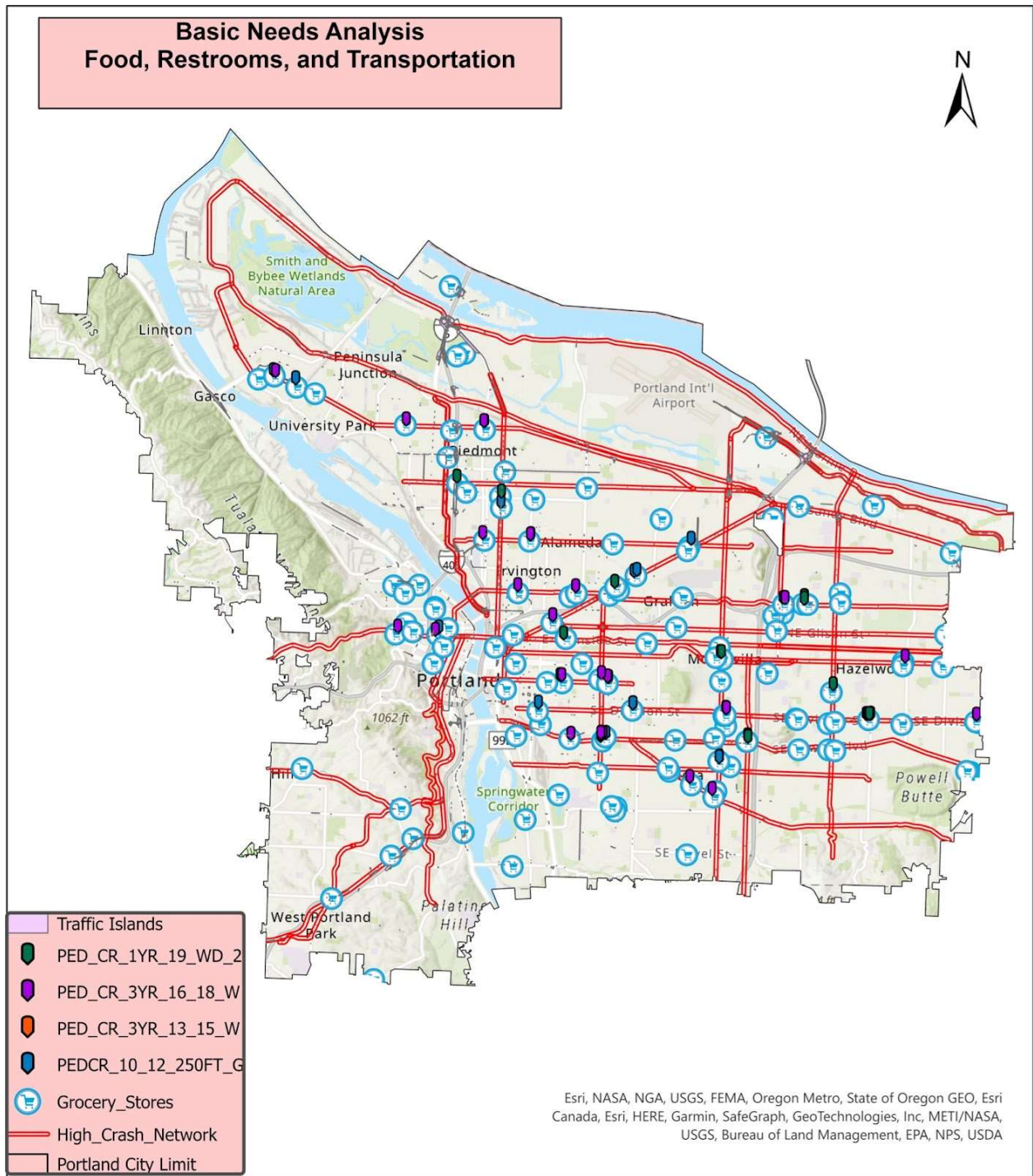


Figure 8. Pedestrian crashes, grocery stores, and campsites 250ft of HCN

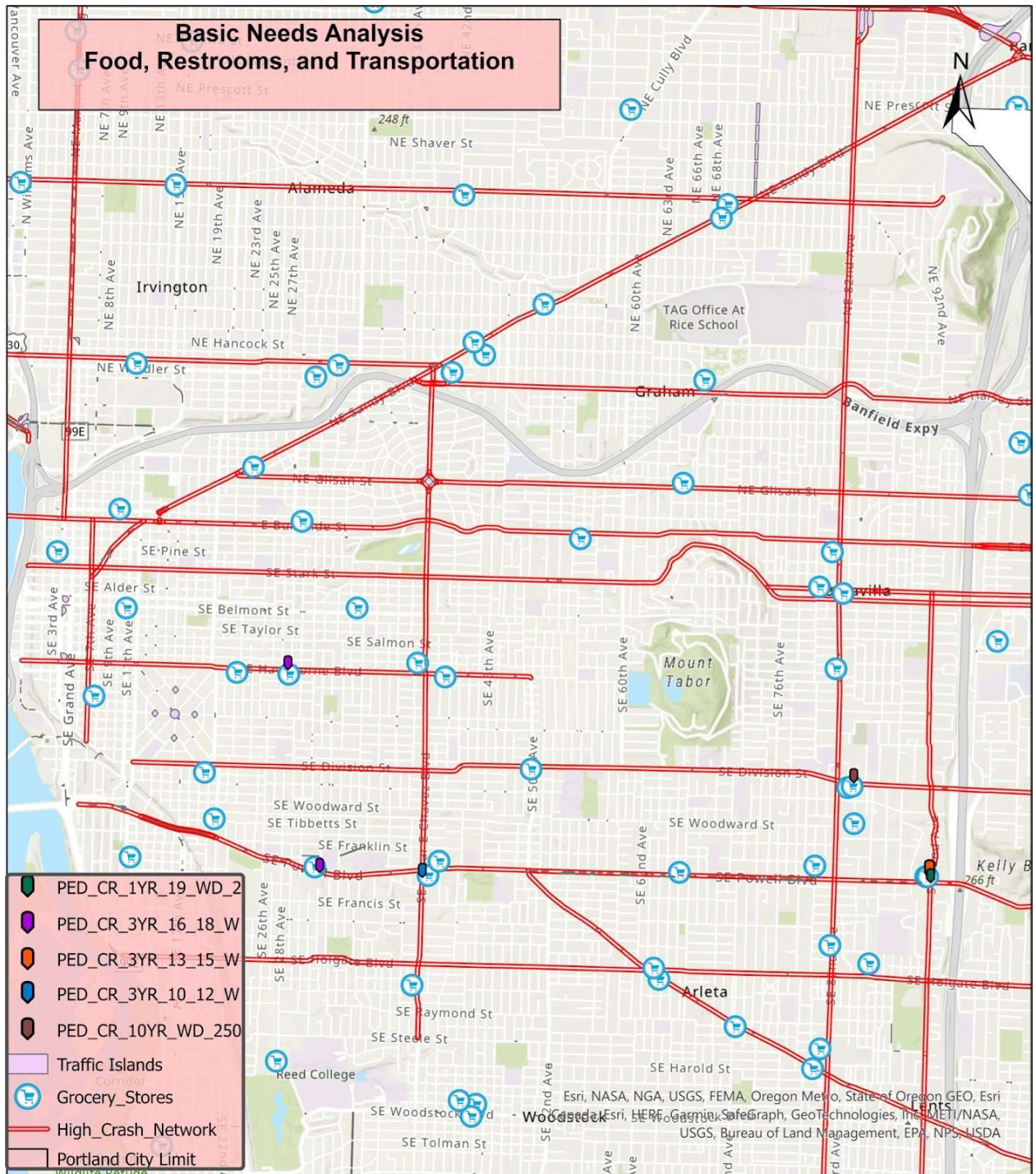


Figure 9. Intersection of pedestrian crashes and public restrooms

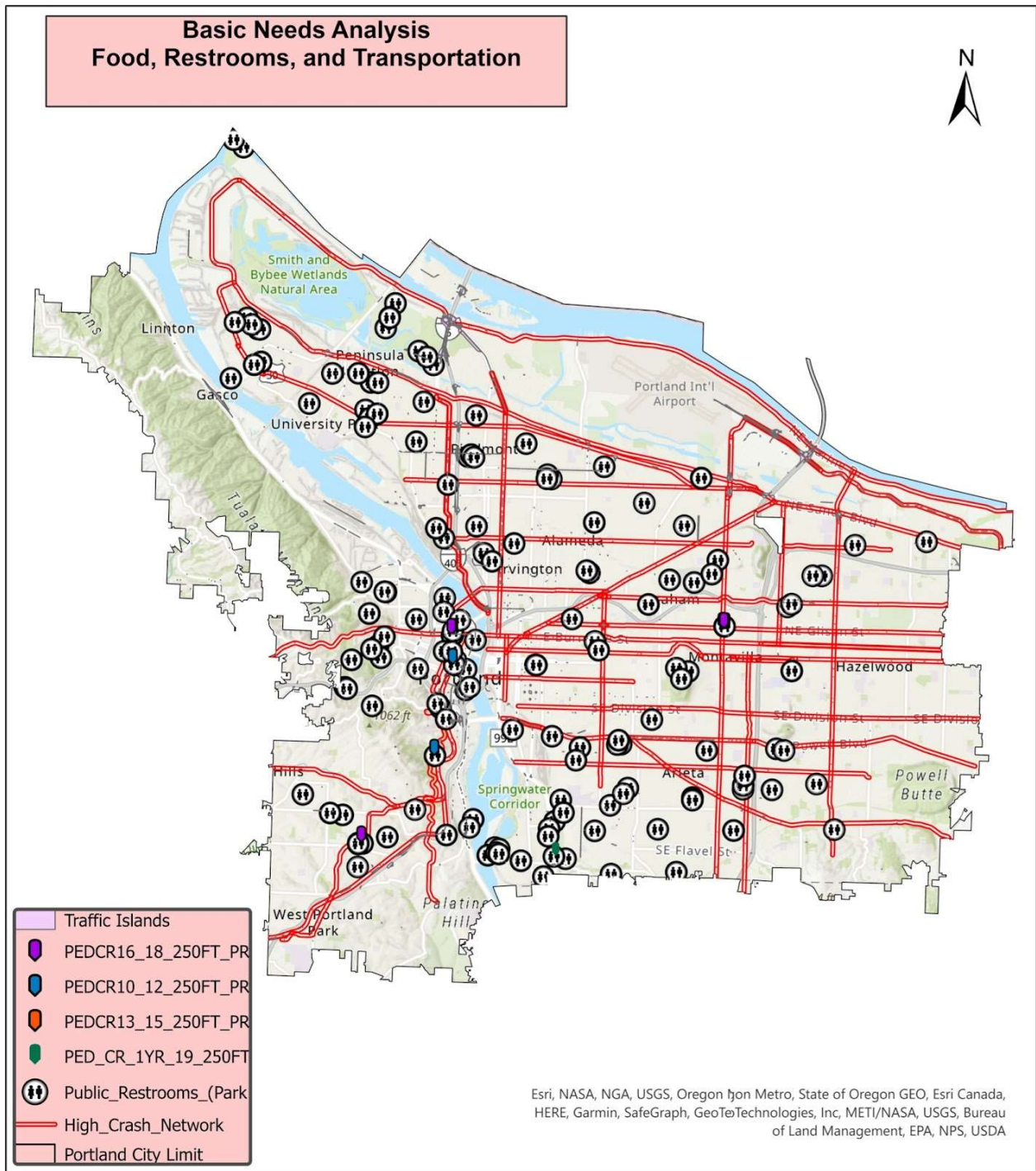


Figure 10. Intersection of pedestrian crashes and public restrooms near HCN

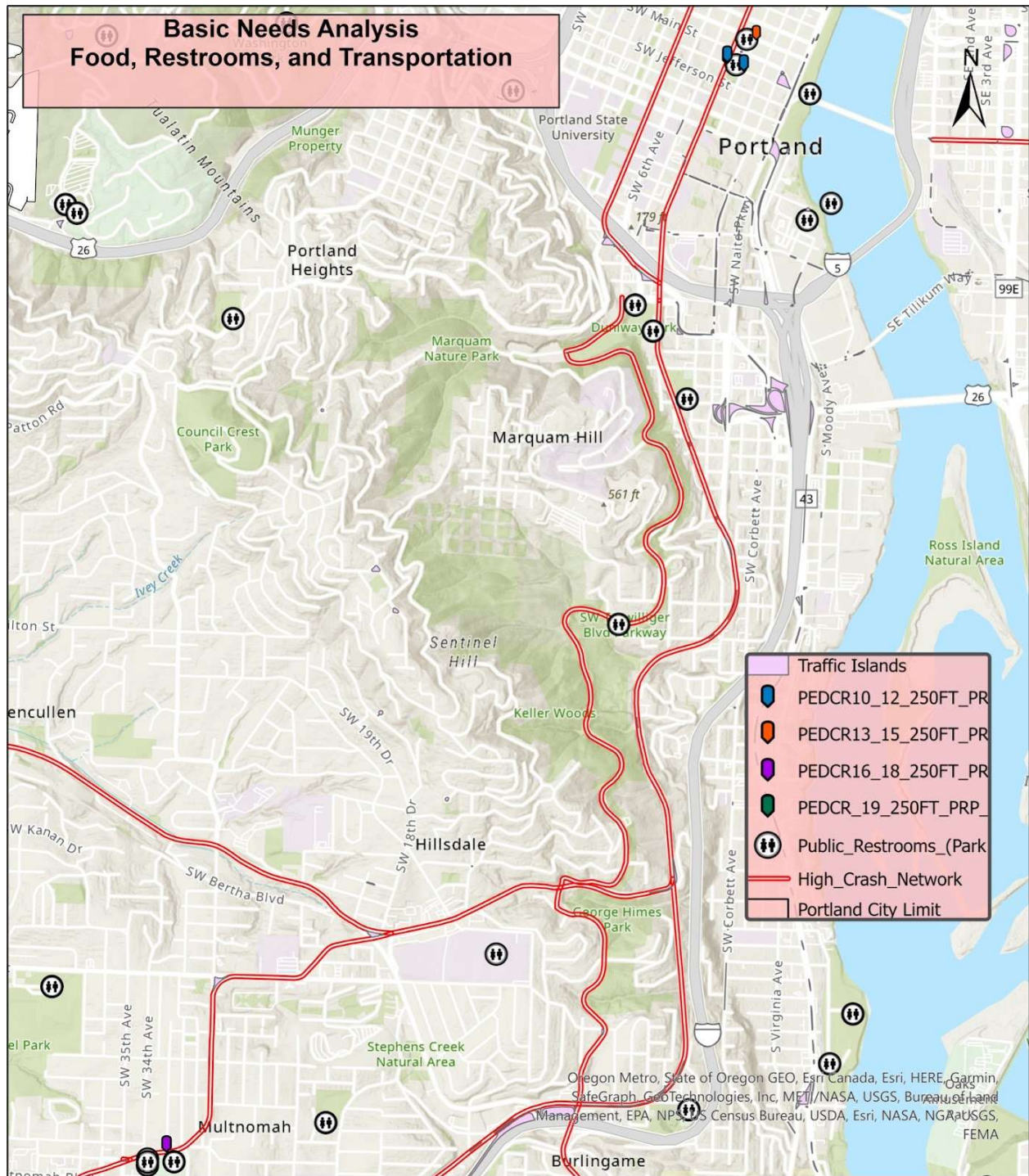
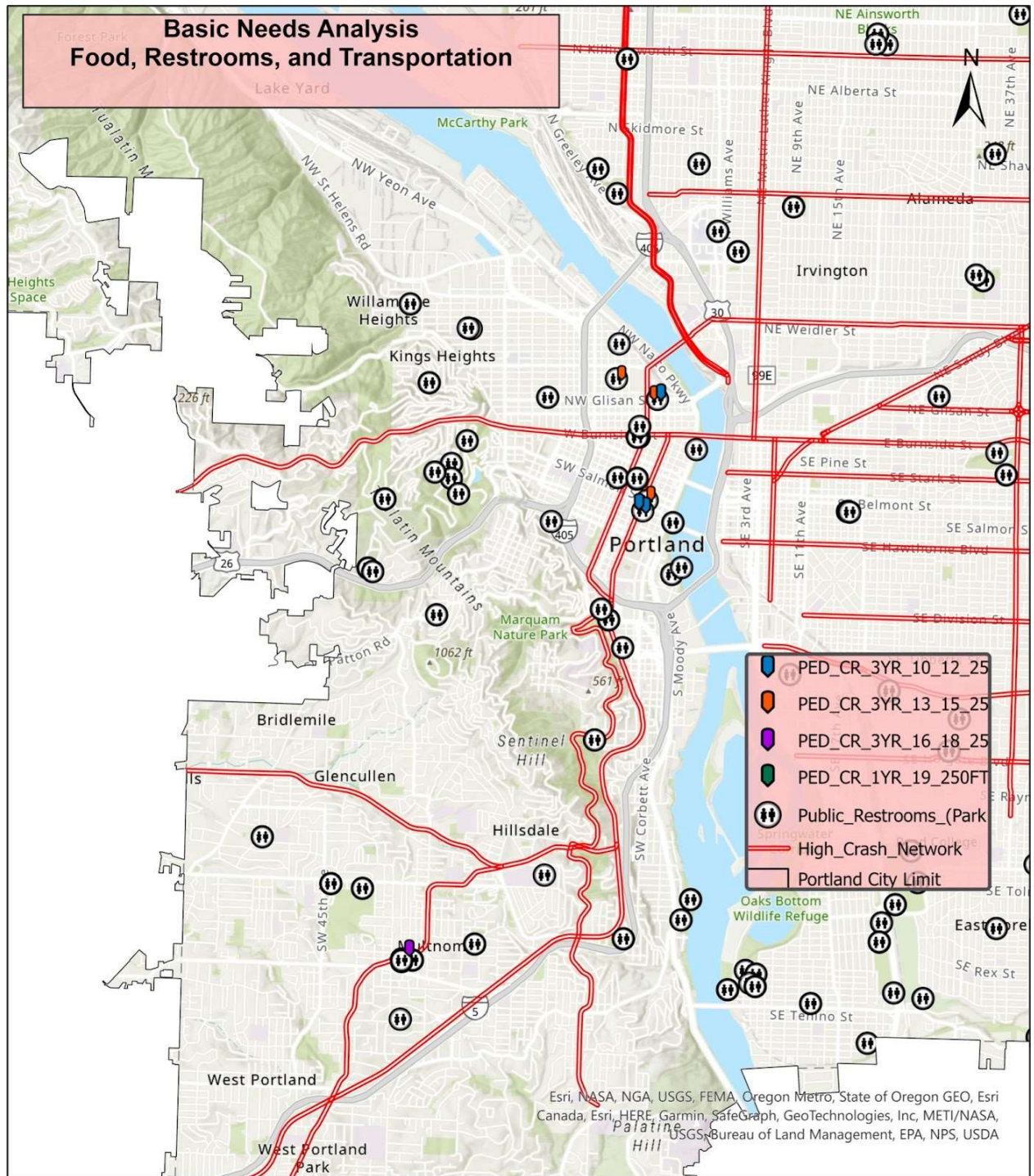


Figure 11. Public restrooms near HCN



Analyses Methodology Notes, Citation & Documentation

The City of Portland’s Homelessness and Urban Camping Impact Reduction Program suggests filing a new report of the same campsite once per week. This results in the annual data having many of the same reports; for this reason, the existing conditions analysis uses a weekly report. The reports of campsites are anonymous, introducing bias due to people’s views, feelings, and actions not accounted for by the analysis. Also, people unfamiliar with using the campsite reporting tool may incorrectly report a campsite. Street Perspective chose to use this data despite its limitations because it was the best source available for analysis within the team’s project timeline. Recreating the data was not feasible. To get an accurate approximation of where reported campsites are currently located with few duplicates, Street Perspective manually copied, pasted, and transposed the third week of February 2022 data, from the One Point of Contact Campsite Reporting System’s ArcGIS Online data repository.

The third week of February 2022 was the latest available data when the team began its data collection. Newer data is available but with no clear indication of new and old campsites, so the team did not update the campsite data. In relation to this and the basic needs data, the team focused on pedestrian crashes only from 2019 because they were the most relevant. Although keeping crashes before 2019 would have provided more data, it would have introduced more unknown variables.

In summer 2021, five sites on PBOT lands were proposed for SRVs. These sites are on Loring/Albina, NE Everett St east of NE 2nd Ave, NW Front Ave, NE Jonesmore St/NE 82nd Ave, and adjacent to Right 2 Dream Too. It is uncertain whether these previously proposed SRVs are still on land claimed by PBOT. The data on City-owned parcels is from winter 2019; data on previously proposed SRVs on PBOT land is from summer 2021; and data on PBOT-owned parcels is from spring 2022.

The PBOT lands spatial analysis joined land use and zoning descriptions from City lands. There were five unidentifiable sites that were excluded because they were garage parking structures and not suitable for tent camping, but perhaps more suitable for car or RV camping. There are three sites near NE 122nd Ave and NE Airport Way that may have potential as shelter space. They have a total square footage of 123,268 sq. ft, and are connected by bus, though they are far from central city services. Unlike the Sunderland parcels discussed previously in the existing conditions analysis, these sites near the airport are much closer to the HCN, which could be a considerable traffic risk for people experiencing homelessness if they were to live at a SRV here.

Using the link in the footnotes, filter “Locations.” In the “Edit” tab of the “Filter: Campsite_Reporting - Locations” window, select “Display features in the layer that match all of the following expressions,” such that “DATE_CREATED” is after “2/13/2022” → select “Add another expression” → “DATE_CREATED” is before “2/20/2022.” Select “APPLY FILTER,” and notice the attribute table has 1,031 features, nine less than the number of features in the whole dataset and six less than the number of features in Portland. There must have been additional data cleaning by program managers while Street Perspective had been using the third week of February 2022 dataset that was collected in real time.¹

¹ https://www.arcgis.com/home/webmap/viewer.html?url=https%3A%2F%2Fwww.portlandmaps.com%2Farcgis%2Frest%2Fservices%2FPublic%2FCampsite_Reporting%2FMapServer&source=sd

Public Lands Site Selection SQL Query: "PRPCD_DESC" = 'GARAGE PARKING STRUCTURE' OR "PRPCD_DESC" = 'PARK' OR "PRPCD_DESC" = 'IMPROVED LAND AS VACANT' OR "PRPCD_DESC" = 'MISC RECREATION' OR "PRPCD_DESC" = 'VACANT LAND'

PBOT Lands Site Selection SQL Query: "PRPCD_DESC" = 'PARKING LOTS' OR "PRPCD_DESC" = 'IMPROVED LAND AS VACANT' OR "PRPCD_DESC" = 'VACANT LAND'

1. Portland's High Crash Network²
2. Campsite Reporting data³ One Point of Contact Campsite Reporting System⁴
3. The pedestrian crash data was filtered and exported to Street Perspective by PBOT's Technology Services Division.
4. Publicly owned parcels⁵
5. City limits filtered only to include Portland's⁶
6. Grocery Stores—filtered within Portland city limits⁷
7. Public Restroom (Park)—filtered within Portland city limits⁸
8. Traffic Islands and Circles⁹
9. TriMet stops and Routes—filtered within the city limits of Portland, then disaggregated by Bus, MAX and Streetcar¹⁰

² <https://gis-pdx.opendata.arcgis.com/datasets/high-crash-network/explore>

³ https://www.arcgis.com/home/webmap/viewer.html?url=https%3A%2F%2Fwww.portlandmaps.com%2Farcgis%2Frest%2Fservices%2Fpublic%2FCampsite_Reporting%2FMapServer&source=sd

⁴ <https://www.portland.gov/homelessnessimpactreduction/campsite-assessment>

⁵ <https://gis-pdx.opendata.arcgis.com/datasets/publicly-owned-parcels/explore?filters=eyJQdWJsaWNft3duZXIiOiQ2I0eSBvZiBQb3J0bGFuZCIsIIN0YXRlIG9mIE9yZWdvbiIsIk1ldHJvIl0sIINJVEVDSVRZljpblIBPUIRMOU5EliwiOUREUkVTUyJdfO%3D%3D&location=45.332850%2C-122.568550%2C9.65>

⁶ <https://spatialdata.oregonexplorer.info/geoportal/details?id=9be7896b3f7e4799a41512c61f54da46>

⁷ <https://gis-pdx.opendata.arcgis.com/datasets/grocery-stores/explore?location=45.512950%2C-122.619650%2C12.37>

⁸ <https://www.portlandmaps.com/metadata/index.cfm?&action=DisplayLayer&LayerID=60891>

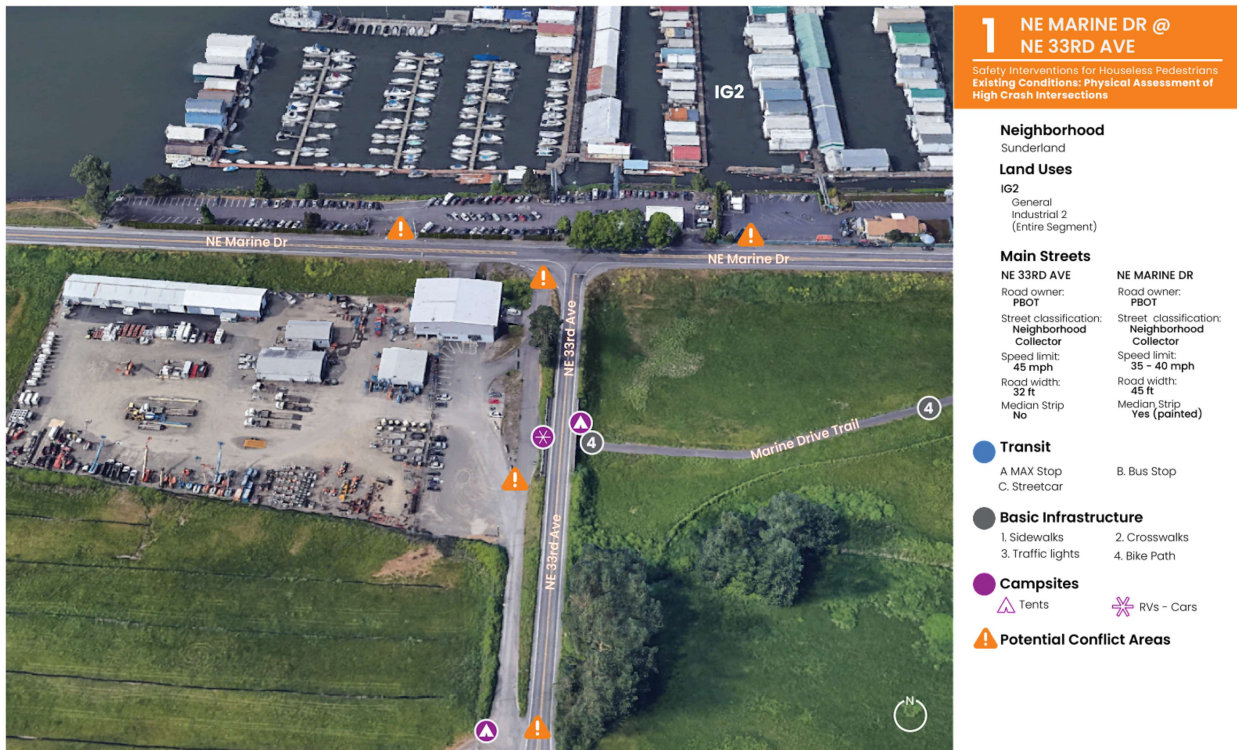
⁹ <https://gis-pdx.opendata.arcgis.com/datasets/traffic-islands-and-circles/explore?location=45.538550%2C-122.632650%2C12.34>

¹⁰ https://developer.trimet.org/gis/meta_tm_route_stops.shtml

Appendix B – Site Analysis

Street Perspective conducted site analyses at multiple locations beyond the three included in the plan. These locations were determined as a result of conflict zone density, locations that the Street Perspective had previously studied, and/or PBOT Vision Zero site study recommendations.

NE Marine Dr @ NE 33rd Ave



Time: March 13 around 8:30 pm; March 20 in the afternoon.

Key Takeaways:

- Limited bike/ped “basic infrastructure” beyond Marine Drive Trail. Lack of crosswalks along NE 33rd Ave and vehicles including semi-trucks going above the speed limit present potential conflicts for pedestrians.
- Fewer campsites and RVs than what is shown on street view in previous months leading to the assumption that the location was recently swept.
- Speed limit not posted frequently enough as defined in Portland’s TDM (<.5). Heading north from NE 33rd and NE Sunderland Ave to NE 33rd and NE Marine Dr there is approximately 4,100 feet between signs. This is the northbound path of travel where the July 5, 2021, Monday 1:32 AM pedestrian fatality occurred at 9900 Block of NE 33rd Dr/NE Sunderland Dr.

N Lombard St @ Interstate Ave



Time: March 22, 2:00 pm. Weather was sunny and warm.

Summary:

Intersection is located in North Portland, in the limits of the Arbor Lodge and Kenton, mostly residential neighborhoods. Land uses adjacent to the intersection are Residential Multi-Dwelling and Commercial Mixed Use. Specific commercial uses include: two gas stations—one in the NE corner and the other one at the SW corner, both with convenience stores; a strip plaza with a Fred Meyer store in the SE corner; and the NW corner is a vacant lot. At this intersection both N Lombard St and Interstate Ave are district collector streets, with speed limits between 30 and 35 mph. The intersection is a transport node that connects multiple transportation modes: the MAX Yellow Line, 4 and 15 bus routes, and a BIKETOWN station on the SE corner.

In terms of infrastructure, the area is well served with sidewalks, crosswalks, traffic lights, and bike paths. Other elements include signage, street lighting, planters, and compliance with some ADA requirements,¹¹ such as concrete surfaces and detectable warnings. The closest campsite is about 600 feet east of the intersection, in the open space enclosed by the exit ramp from N Lombard St to I-5 South. Data analysis of pedestrian crashes within the 250 feet of the High Crash Network reveals that there have been campsites in this area over the last 10 years, as well as a correlation between campsites and pedestrian crashes in this intersection.

¹¹ https://nacto.org/docs/usdg/accessible_sidewalks_and_street_crossings_boodlal.pdf

There are two potential conflict areas in this intersection: entrance/exit to the gas station at the NE corner and entrance/exit to the gas station at the SW corner. The first gas station has access from both N Lombard and Interstate Ave. There is no confined area—the sidewalk on both streets functions as pedestrian and vehicular traffic areas. This could be risky for cyclists and pedestrians crossing from the northern MAX stop to the eastern sidewalk along Interstate Ave. The second gas station has a similar situation—risky for cyclists and pedestrians crossing from the southern MAX stop to the western sidewalk along Interstate Ave.

Key takeaways:

- Transit accessibility, access to stores, and access to restrooms at either the Fred Meyer or the gas stations make this area convenient for people experiencing houselessness. They can meet their basic needs within walking distance.
- Some land uses, such as gas stations, could prompt the risk of injuries for pedestrians, especially in areas with heavy pedestrian activity.

N Broadway @ N Larrabee Ave / N Vancouver Ave



Time: March 15. Weather was cloudy and a bit rainy.

Summary:

Intersection located in Northeast Portland, within the limits of the Elliot and Lloyd District neighborhoods. Land uses are predominantly a mix of industrial, institutional, and commercial. Specific uses include: recreational facilities (Veterans Memorial Coliseum) and parking lots; storage facilities;

motel/lodging; open spaces; and industrial manufacturing facilities. In this area, N Broadway functions as a major arterial that intersects with the following minor arterial streets: N Larrabee Ave, N Weidler St, N Flint Ave, and N Vancouver Ave. Speed limit at this section of Broadway is 30 mph, while the average for minor arterial streets is 25 mph. Transit services include: (1) Streetcar Line A goes along Broadway and diverts at NE Weidler. There is a stop at the intersection of Broadway and N Ross. (2) Route 17 bus stations, one of them located next to the Rodeway Inn motel, and Routes 35 and 85 bus stops at N Interstate and N Larrabee. (3) The MAX Yellow Line crosses Broadway below the bridge. The closest MAX is about a quarter mile to the SE of N Broadway.

There are sidewalks, crosswalks, bike paths, and traffic lights on Broadway between Larrabee and Vancouver. However, the exit curve from Larrabee to the Broadway Bridge lacks sidewalks and crosswalks. The crosswalk on the north side of Broadway, between Vancouver and Williams, is deficient in terms of width. There is no crosswalk at the north end of the intersection of Broadway and Williams. Most of the campsites in the area are on the open spaces along N Larrabee Ave. Other campsites are on the open spaces towards the river, below the Broadway Bridge, and others are located on the median strips of I-5, right below Flint Ave.

Several potential conflict areas were identified: (1) East edge of the Broadway Bridge (where N Broadway begins). Pedestrians walking from west to east on the south pedestrian/bike lane of the bridge can see that there is a stairway towards an open space located between N Larrabee Ave and Interstate Ave. People camping in this particular open space could be at risk if they try to cross Broadway from the stairway to the north pedestrian/bike lane of the bridge. (2) Exit curve from N Larrabee Ave to the Broadway Bridge. There is no crosswalk nor traffic lights at this intersection, which could be a risk for pedestrians camping on the open spaces along N Larrabee. (3) Exit curve from Interstate to N Larrabee. There are no traffic lights at the end of the curve. A driver above speed limit could severely injure pedestrians who happen to be crossing the east sidewalk on Larrabee. (4) N Broadway and Vancouver. While there are sidewalks, crosswalks, and traffic lights the intersection could be somewhat risky for some pedestrians. There is a median and a traffic island dividing Vancouver and the exit ramp from I-5 to Broadway and Weidler St where some people experiencing houselessness ask drivers for assistance. The pedestrian island and the median are quite small, putting pedestrians experiencing houselessness at some level of risk, especially with impaired drivers. (5) N Broadway and N Williams Ave.

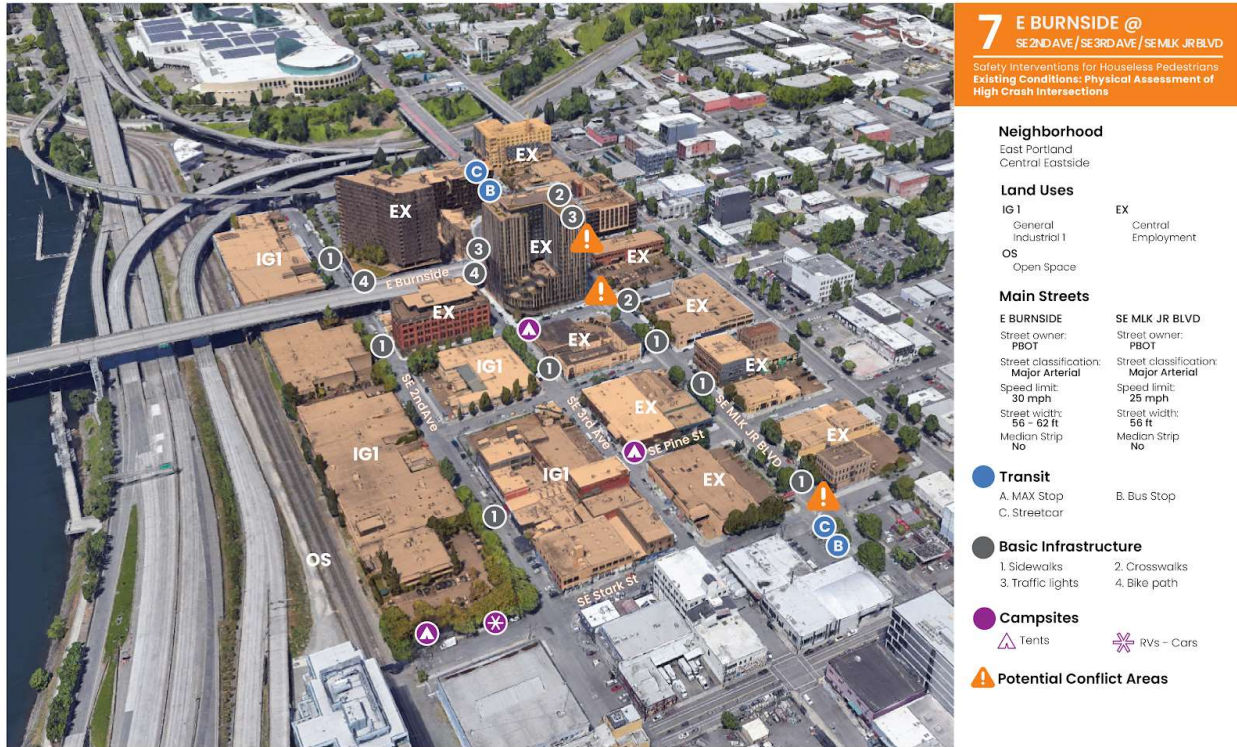
The north sidewalk of N Broadway between N Vancouver Ave and N Williams Ave is a section of the street that goes above I-5. The sidewalk in this section is deficient in terms of width, and there is no crosswalk on N Williams Ave. Few people walk on this sidewalk, but probably most of the users are people experiencing houselessness. Right across this sidewalk, on the NE corner of N Broadway and N Williams Ave, there is a gas station with a convenience store. It is possible that houseless pedestrians use this gas station to meet personal needs, especially during the night. The lack of basic infrastructure in this intersection puts pedestrians, particularly houseless pedestrians, at risk.

Key takeaways:

- The existence of open spaces close to transit facilities make this area convenient for people experiencing houselessness.

- Houseless pedestrians use medians and pedestrian islands to ask drivers for assistance. Some of these have adequate design for people using wheelchairs or with some physical disabilities, but others are quite deficient.

SE 2nd Ave/ SE 3rd Ave @ E Burnside St



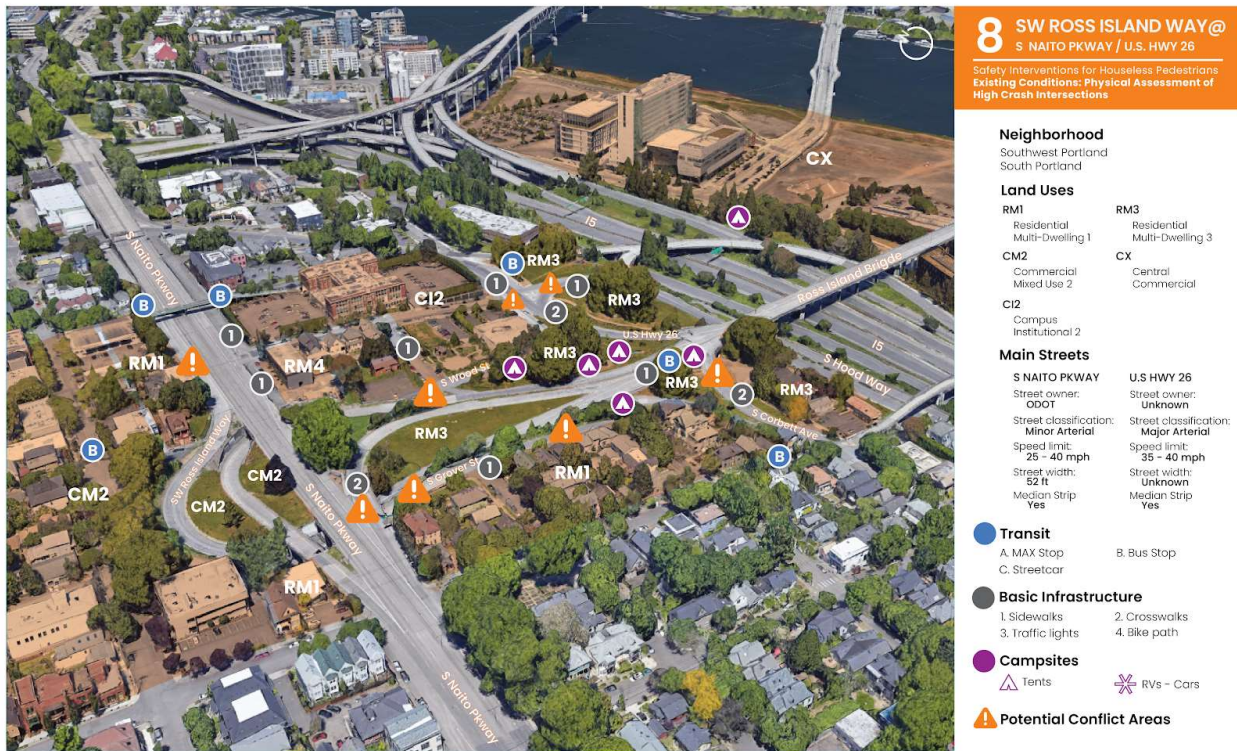
Summary:

Predominant uses include: light industrial—small breweries, distilleries, food manufacturing; ambulance services; offices; a couple multi dwelling, mixed-use new developments; and skate park under the bridge. Streets include: SE 2nd Ave and SE 3rd Ave are mostly used for freight movement. Infrastructure elements that stood out was that not all the streets have sidewalks, especially in the blocks with more industrial uses. Campsites are scattered across SE 2nd Ave and SE 3rd Ave, between E Burnside St and SE Stark St. However, there is a large campsite on Stark and 2nd. Conflicting areas include: (1) the intersection at Martin Luther King Jr. Blvd and E Burnside St is unsafe because the Streetcar, bus routes, and a bike path converge there, making it confusing and risky for pedestrians. (2) Freight movement during the night might be risky for pedestrians.

Key Takeaways:

- Light industrial areas with food manufacturing uses might be convenient for people experiencing houselessness because they can have access to food and also they do not have to deal with neighborhood associations who want to kick them out of the area.
- It is relatively easy to cross the Burnside Bridge to Downtown, where houseless pedestrians can access services.

S Naito Pkwy @ Ross Island Bridge



Time: March 25 around noon. Weather was clear and nice.

Summary:

Intersection is located in the South Portland neighborhood, in the Southwest Portland area. Main land uses are residential, institutional, and commercial. Specific uses include: educational facilities (National University of Natural Medicine); medical facilities; single-family homes; and offices. According to the Portland Zoning map, median strips are allowed, such as commercial mixed-use and residential multi-dwelling. This intersection connects S Naito Pkwy with the Ross Island Bridge, and the Ross Island Bridge with US Hwy 26. Speed limits on exit ramps are between 25 and 35 mph, while speed limits on the roads are 40 mph. Transit service includes bus routes 19, 43, and 66. Except for those with bus stops, median strips lack sidewalks. Existing crosswalks are deficient.

There are two underpasses that connect the east and west sides of S Naito Pkwy. There are two campsites in the area. The first is located on the median strip between Ross Island Way and S Wood St. The second is located at the intersection of Ross Island Way, S Groover St, and S Corbett Ave. There are a couple potential conflict areas in this intersection. (1) S Naito Pkwy and the exit ramp to Ross Island Bridge: there is a crosswalk at the beginning of the curve to exit S Naito Pkwy. This crosswalk leads to the stairways and underpasses. There is a deficient pedestrian island dividing S Naito Pkwy and the exit ramp, including inadequate width, lighting, and barriers to protect pedestrians from drivers. (2) Exit ramp from Ross Island Bridge to US Hwy 26 and S Corbett Ave: there is a pedestrian path under Ross Island Way that connects S Kelly St with S Corbett Ave. The path goes through the area enclosed by the exit

ramp, so pedestrians who want to reach S Corbett Ave must use the crosswalk, which is located in the middle of the exit ramp curve. The crosswalk is there, but drivers are going fast.

Key Takeaways:

- The area is difficult to navigate by foot due to the lack of sidewalks, crosswalks, traffic lights, and traffic signage. Existing infrastructure is in poor condition probably due to lack of upkeep.
- Some of the conflicting areas are a result of not addressing challenging topographic conditions.

SE 92nd Ave @ SE Division St



Time: March 30 around 8:00 pm. Weather was clear.

Summary:

Commercial-Mixed Use 2 at SE 92nd Ave and SE Division St and open space adjacent to the Max tracks and I-205. The speed limit for SE Division St and SE 92nd Ave is 30 mph. Between RM2 and the bicycle path there is a desired path that extends parallel to the bicycle path. I did not go back there, because I was concerned for my safety but I'm sure there are camps back there.

Key Takeaways:

- Location has numerous campsites and RVs.
- TriMet is completing work on their frequent bus services which has improved bicycle and pedestrian infrastructure along SE Division.
- Gas stations in this area increase risk of pedestrian crashes due to the number of driveways.

- Some of the RVs have been parked in the same spot for months based on street view
- SE Division St has crosswalks, but SE 92nd Ave lacks marked crossings south of SE Division indicating unbalanced safety enhancements.

NE Sandy Blvd @ NE 122nd Ave



Time: March 12 around 8:00 pm. Weather was a light drizzle.

Summary:

My first site visit was October 2021 for a separate project. Since then, there are more campsites on the median strips and open spaces between NE 121st Pl and NE 122nd Ave. This intersection is adjacent to a former K-Mart superstore with a large empty parking lot. The K-Mart closed around 2018 according to Google Street View. The speed limit on NE Sandy Blvd is 35 mph. NE 121st Pl is 25 mph. NE 122nd Ave is 30 mph. NE 122nd Ave and NE 121st Pl are City of Portland streets. NE Sandy Blvd is an ODOT street. Based on Portland's 2019 traffic counts, 121st Pl, a neighborhood Greenway, is only 62 above the Average Daily Traffic maximum to be considered a 20 mph zone (requires 2,000 ADT or less). But since it is a school zone, speeds should be restricted to 20 mph.

Key Takeaways:

- The major danger is crossing NE 122nd Ave and crossing from one median strip to another.
- Camping has increased since October 2021.
- Speed limit too high on 121st Pl, can have school speed limit signs of 20 MPH around Parkrose Middle School as defined in Portland's TDM.
- Large vacant parking lot.

Appendix C – Promising Practices

What Other Cities Have Done

Last year, Lane County, the City of Eugene,¹² and their partners began using the Homeless By-Name List (HBNL), which tracks people who are unhoused and are receiving services from local agencies. This information is compiled and reported monthly. This system aids community leaders to visualize and determine the who, what, where, when, why and how individuals are experiencing homelessness by collecting numbers based on how many people access human services each month. This approach was implemented in Bakersfield/Kern County¹³ in California, which helped to significantly reduce the number of people experiencing houselessness in the area. The HBNL helps local government and service providers (1) demonstrate the scope of homelessness in Lane County; (2) clarify how people move in and out of the homeless services system on an ongoing basis; (3) provide accurate information to inform goals to reduce homelessness; and (4) provide accurate information to demonstrate the county’s progress in making homelessness rare, brief, and nonrecurring

The Action Plan to Address Homelessness¹⁴ in Vancouver, British Columbia, provides twelve coordinated actions and associated metrics or targets for moving forward to prevent homelessness, to serve people who are currently homeless, and to create pathways out of homelessness. Relevant actions include: (1) launch an online portal and access points to report on availability of shelters and transitional housing; and (2) develop a provincial strategy on access, assessment approach, and data standardization. Also in Canada, a cash transfer program helps people out of homelessness.¹⁵

A 2021 study¹⁶ investigates how access to smartphone technology facilitates self-management, including the attainment of social needs within the context of homelessness. Participants revealed not only how the context of homelessness constrained their ability to engage in activities necessary to self-manage health and meet social needs but also how consistent and predictable access to the tools available through a smartphone changed their behaviors and outlook. Having a smartphone with a plan for unlimited text, calling, data, and transportation allowed participants to navigate homelessness and facilitated self-management. People experiencing homelessness used the tools on a smartphone to make decisions, take action, solve problems, and use the resources—skills necessary for fulfilling tasks required for effective self-management. Further, consistent access to smartphone technology and transportation empowered participants to meet the requirements for the attainment of social needs.

¹² “The Homeless By-Name List - Eugene, Oregon.” www.eugene-or.gov. Lane County Oregon, City of Eugene. Accessed June 8, 2022. <https://www.eugene-or.gov/DocumentCenter/View/55791/Homelessness-By-Name-List-FAQ>.

¹³ “Bakersfield, Kern County, CA.” Community Solutions, November 12, 2021. <https://community.solutions/communities/bakersfield-kern-county-ca/>.

¹⁴ “Addressing Homelessness in Metro Vancouver.” Metro Vancouver Regional District, February 24, 2017.

<http://www.metrovancouver.org/services/regional-planning/homelessness/homelessness-taskforce/plan/Documents/HomelessnessStrategy2017.pdf>.

¹⁵ “New Leaf Project.” Foundations for Social Change. University of British Columbia. Accessed June 7, 2022. <https://forsocialchange.org/new-leaf-project-overview>.

¹⁶ Thurman, Whitney, Monika Semwal, Leticia R Moczygemba, and Mark Hilbelink. “Smartphone Technology to Empower People Experiencing Homelessness: Secondary Analysis.” *Journal of Medical Internet Research* 23, no. 9 (2021). <https://doi.org/10.2196/27787>.

A 2010 study describes the results of a preliminary survey, observations and informal conversations with unhoused riders on the bus over three nights in one county in the United States. Almost two-thirds of those surveyed said that the bus was their only or one of their usual sources of shelter. More than half rode the bus for shelter throughout the entire year. Thirty-two of the 35 men surveyed said that they rode the bus to sleep or because they did not have a permanent home. Over half of the women surveyed said that they rode the bus overnight for safety, while only a quarter of the men surveyed said that they rode the bus for that reason. Those of African American descent may experience that race limits their ability to access and receive services, and instead opt to rely on the bus system for shelter. The bus also provides a form of freedom that shelters do not. While most riders did not disembark the bus before the end of the line, theoretically they could at any time. This is different from most shelters that require checking in by a certain time and an inability to leave until the shelter opens its doors early the next morning. At the same time that the bus allows for a measure of freedom, it also provides a feeling of safety.¹⁷

The enforcement of overnight parking restrictions and prohibitions on sleeping or loitering in vehicles can cause further economic and social struggle. Increasing numbers of communities have turned towards criminalizing overnight parking to solve this issue. Residents may no longer see RVs and vehicles used as shelters on the street, but individuals may lose access to their only remaining shelter.¹⁸

Nearly three dozen communities struggling to assist their unsheltered and sheltered homeless populations have developed safe parking programs. These programs offer secure places for people sheltering in vehicles to park and sleep in vehicles overnight while using a range of social services to facilitate rapid and permanent rehousing. One of the most well-known programs is Santa Barbara New Beginnings Counseling Center (SBNBCC), created in 2004. SBNBCC has been a reference for many other programs.¹⁹

By maintaining access to minimal shelter, individuals sheltering in their vehicles may maintain work and community ties not afforded to individuals living on the street. Safe parking lots provide a space and basic hygiene amenities for vehicular residents to park overnight without the risk of a citation. Programs are run by nonprofit organizations, faith-based organizations, cities, and counties and are found primarily on the West Coast. Safe parking programs seek to address basic needs by providing designated and secure parking lots and spaces and connecting participants to social services. Safe parking lots allow parkers a whole night's sleep and a sense of stability to engage in their next goal.²⁰

Housing instability can lead to individuals relying on their vehicles for shelter. In communities where living in vehicles is criminalized, a temporary episode of housing instability can lead to the loss of a vehicle, livelihood, and ability to regain stability.

¹⁷ NICHOLS, LAURA, and FERNANDO CÁZARES. "Homelessness and the Mobile Shelter System: Public Transportation as Shelter." *Journal of Social Policy* 40, no. 2 (2010): 333–50. <https://doi.org/10.1017/s0047279410000644>.

¹⁸ McElwain, Lindsay, Daniel Schiele, and Laila Waheed. "Smart Practices for Safe Parking: A Nationwide Review of Safe Parking Programs for People Sheltering in Vehicles." University of California Sol Price School of Public Policy, April 2021. <https://priceschool.usc.edu/wp-content/uploads/2021/06/Smart-Practices-for-Safe-Parking-USC-2021.pdf>. 1–4.

¹⁹ *Ibid.* 5–23.

²⁰ *Ibid.* 3–4.

Umbrella Organization Model: Umbrella model programs differ from the other two program models on intake processes. In umbrella model programs, individuals contact the parent organization, are screened, and assigned to the lot that best fits their needs.²¹

The Composite Model: The lots are equipped with basic services, such as restrooms and handwashing stations, and parkers utilize additional services at another, closely integrated location. Shared services could be showers at another faith-based organization²² or more involved social services at an existing social service “hub” like a shelter.²³ The focus on community and safety is similar to the recognition that basic needs have to come before income or housing work.²⁴

Independent Model: Independent operator programs have modest housing goals and cite their major accomplishment as providing safety and security for parkers. The safety and comfort provided by these programs through a whole night’s sleep, food, and hygiene services are prerequisites for parkers to accept and benefit from a range of social services. In this way, these programs meet the basic physiological and safety needs of Maslow’s Hierarchy.²⁵

The response to the COVID-19 pandemic in early 2020 demonstrated that cities nationwide could take swift action to reconfigure their streets for safety using simple materials such as traffic cones, paint, and signs. In May of 2020 Portland’s Safe Streets Initiative restricted access on 100 miles of low-traffic streets in order to reduce cut-through traffic and create more open space for Portlanders to walk, bike and roll safely. The program has proven successful and popular enough to warrant long-term implementation of structures such as concrete planters to serve as more permanent barriers.²⁶

In conjunction with the Safe Streets Initiative, the Healthy Businesses program was created to permit private businesses to make temporary changes to the streets in order to give people more space to enjoy activities such as outdoor dining and shopping. Utilizing public right-of-way such as on-street parking and sidewalks helped many small businesses survive the past two years of the COVID-19 pandemic. The program has been widely successful and amenities such as outdoor dining have become a staple of Portland’s streets. The Healthy Businesses program’s free permitting has been extended through summer 2022. Similarly, the program has expanded into the Portland Public Street Plazas, creating community gathering places on public streets closed to traffic.²⁷

²¹ “Safe Sleep Sites.” Safe Sleep Sites | Eugene, OR Website. City of Eugene, March 22, 2022. <https://www.eugene-or.gov/4701/Safe-Sleep-Sites>.

²² Smart Practices for Safe Parking. 25–65.

²³ Ibid. 25–70.

²⁴ Cited example is an alternative to Eugene, OR’s Safe Sleep Sites. “Overnight & Safe Parking Program.” St. Vincent de Paul, June 6, 2022. <https://www.svdps.us/services/shelter-assistance/safe-parking-program>.

²⁵ Smart Practices for Safe Parking. 23.

²⁶ Jonathan Maus (Publisher/Editor). “PBOT’s New Concrete Barrels on Greenways Are a Very Big Deal.” BikePortland, August 11, 2021. <https://bikeportland.org/2021/08/03/pbots-new-concrete-barrels-on-greenways-are-a-very-big-deal-335946>.

²⁷ “PBOT News Release: PBOT Extends Healthy Businesses, Portland Public Street Plazas Programs to Help Portlanders Continue to Embrace Public Space after the COVID-19 Pandemic.” Portland.gov, March 16, 2022. <https://www.portland.gov/transportation/news/2022/3/14/pbot-news-release-pbot-extends-healthy-businesses-portland-public>.

Across the nation, similar programs have done much to transform public streets into safer spaces for people outside of a car. These programs were not without their inequities, however, and many questions remain how to address other public needs including the growing unsheltered population living on these same streets.

One example is Oakland's Slow Streets program, which has evolved into the "Essential Places" program. Originally rolled out at the beginning of the pandemic, Oakland's Slow Streets program focused on closing streets to through-traffic in order to provide more outdoor recreation space. Residents soon criticized the disproportionate level of community engagement and the effects of the program on different neighborhoods, particularly in low-income communities of color. Instead of more outdoor recreation space, residents advocated for safer access to basic needs and services such as grocery stores and health care along busy and dangerous streets.²⁸ The Essential Places program shifted resources toward safety improvements to these essential services prioritized by the City's High Injury Network.²⁹

Since the beginning of the pandemic, as so many cities have adapted their streets to provide more space for people outside of cars, NACTO has created a series of design guides for the implementation of "slow streets" style programs.³⁰ While many of these are likely familiar to PBOT, using such guidelines to address street safety for people experiencing homelessness could provide new alternatives.

Not a Best Practice: Portland RV Towing

In May, Portland police and city transportation officials seized their first RV under a new policy called the Community Caretaking Tow Program. In its first 45 days of operation, police have used the program to inspect 46 RVs, towing 25.³¹ In another case, Portland's attempt at sanctioned car camping at the Expo Center required Metro approval because it was on Metro property, costing an estimated \$1.5 million.³² Portland's crushing RVs instead of using them as shelters. PBOT estimated it spent \$1.3 to \$1.8 million on its RV towing program in the 2017-2018 fiscal year—a near 10 fold increase in spending over last year.³³

²⁸ Rani, Rikha Sharma. "How Covid-19 Inspired Oakland to Get Real about Equitable Urban Planning." Next City, October 8, 2020. <https://nextcity.org/urbanist-news/how-covid-19-inspired-oakland-to-get-real-about-equitable-urban-planning>.

²⁹ "Oakland Slow Streets Continues Adapting to Residents' Needs, Launches First 'Essential Places' Installation in East Oakland." Oakland CA. City of Oakland, May 22, 2020. <https://www.oaklandca.gov/news/2020/5-22-20-oakland-slow-streets-continues-adapting-to-residents-needs-launches-first-essential-places-installation-in-east-oakland>.

³⁰ "Streets for Pandemic Response & Recovery." National Association of City Transportation Officials, January 6, 2021. <https://nacto.org/publication/streets-for-pandemic-response-recovery/>.

³¹ Schmid, Thacher. "Portland Is Towing Caravans of Rvs off the Streets. Here's What It's like inside Those Motor Homes." Willamette Week, July 19, 2017.

<https://www.wweek.com/news/city/2017/07/19/portland-is-towing-caravans-of-rvs-off-the-streets-heres-what-its-like-inside-those-motor-homes/>.

³² Peel, Sophie. "Emails Show Why Dan Ryan's Plan for a Car Camp at the Expo Center Flopped." Willamette Week, November 10, 2021. <https://www.wweek.com/news/2021/11/10/emails-show-why-dan-ryans-plan-for-a-car-camp-at-the-expo-center-flopped/>.

³³ Templeton, Amelia. "Portland Wants Your Rundown RV." Oregon Public Broadcasting, October 27, 2017. <https://www.opb.org/news/article/portland-oregon-rv-transportation/>.

Infrastructure & Policy

Pedestrian Crash Reduction Factors (CRFs): the expected percentage reduction in pedestrian crashes after implementing a countermeasure, written as CRF(standard error).³⁴

Signalization Countermeasures

1. “Add exclusive pedestrian phasing: Crash Severity”—All, Pedestrian—34
2. “Improve signal timing to intervals specified by ITE”: Crash Severity—Fatal/Injury, Pedestrian—37
3. “Replace existing WALK / DON'T WALK signals with pedestrian countdown signal heads”: Crash Severity—All, Pedestrian—25
4. “Modify signal phasing (implement a leading pedestrian interval)”: Crash Severity—All, Pedestrian—5
5. “Remove unwarranted signals (one-way street)”: Crash Severity—All, Pedestrian—17
6. “Convert permissive or permissive/protected to protected only left-turn phasing”: Crash Severity—All, Left-Turn Crashes—99
7. “Convert permissive to protected left-turn phasing”: Crash Severity—All; Left-Turn Crashes—16

Geometric Countermeasures

1. “Convert unsignalized intersection to roundabout.” Crash Severity—Fatal/Injury, Pedestrian—27(12)
2. “Install pedestrian overpass/underpass”: Crash Severity—Fatal/Injury, Pedestrian—90; Crash Severity—All, Pedestrian—86
3. “Install pedestrian overpass/underpass (unsignalized intersection)”: Crash Severity—All, Pedestrian—13
4. “Install raised median”: Crash Severity—All, Pedestrian—25
5. “Install raised median (marked crosswalk) at unsignalized intersection”: Crash Severity—All, Pedestrian—46
6. “Install raised median (unmarked crosswalk) at unsignalized intersection”: Crash Severity—All, Pedestrian—39
7. “Install raised pedestrian crossing”: Crash Severity—All, All Crashes — 30 (67); Crash Severity—Fatal/Injury, All Crashes—36(54)
8. “Install refuge islands”: Crash Severity—All, Pedestrian—56
9. “Install sidewalk (to avoid walking along roadway)”: Crash Severity—All, Pedestrian—88 for “walking on the roadway” type crashes
10. “Provide paved shoulder (of at least 4 feet)”: Crash Severity—All, Pedestrian—71 for “walking on the roadway” type crashes
11. “Narrow roadway cross section from four lanes to three lanes (two through lanes with center turn lane)”: Crash Severity—All, All Crashes—29

³⁴ Toolbox of Countermeasures and Their Potential Effectiveness for Pedestrian Crashes; Published Date: 2008-05-01; Report Number: FHWA-SA-014; URL: <https://rosap.ntl.bis.gov/view/dot/42597>

Signs/Markings/Operational Countermeasures

1. “Add intersection lighting”: Crash Severity—Injury, All Nighttime Crashes—27; Crash Severity—All, All Nighttime Crashes—21
2. “Add segment lighting”: Crash Severity—Injury, All Nighttime Crashes—23; Crash Severity—All, All Nighttime Crashes—20
3. “Improve pavement friction (skid treatment with overlay)”: Crash Severity—Fatal/Injury, Pedestrian—3
4. Increase enforcement on corridors where sustained enforcement is used related to motorist yielding in marked crosswalks combined with a public education campaign: (Crash Severity — All; Pedestrian — 23)
5. “Prohibit right-turn-on-red”: Crash Severity — All; All Crashes — 3
6. “Prohibit left-turns”: Crash Severity — All; Pedestrian — 10
7. “Restrict parking near intersections (to off-street)”: Crash Severity — All; Pedestrian — 30

Summary of main findings³⁵

1. Marked vs. unmarked crosswalks at uncontrolled intersections on a two-lane road: just a marked crosswalk is associated with no difference in pedestrian crash rate compared to an unmarked crosswalk.
2. On multilane roads with traffic greater than 12,000 vehicles per day: just a marked crosswalk is associated with a higher pedestrian crash rate compared to an unmarked crosswalk.
3. Improvements suggested for safer pedestrian crossings at such points include traffic signals, raised medians, and speed-reducing measures. Raised medians on multilane roads reduce pedestrian crash risk. Nighttime lighting enhances pedestrian safety.
4. Standard time-schemes at signalized intersections have no effect on pedestrian crashes, whereas an exclusive pedestrian interval reduces pedestrian crashes by 50%. This is a trade-off that introduces traffic delay, so a mix of heavy pedestrian volumes, good pedestrian and vehicle compliance, and low motor vehicle volumes would be needed.
5. Allowing a right-turn-on-red (RTOR) induces a small but clear pedestrian safety risk. Risk-mitigating countermeasures here include illuminated no-turn-on-red (NTOR) signs or variations of them, and offset stop bars at intersections where RTOR is allowed.
6. Pedestrian and motorist warning signs that are found to reduce vehicles speeds or conflicts between pedestrians and motorists include: “strong yellow green” pedestrian warning sign, “YIELD TO PEDESTRIANS WHEN TURNING” sign, “PEDESTRIANS WATCH FOR TURNING VEHICLES” sign, three-section “WALK WITH CARE” signal head, and a “DON’T START” display to replace the flashing “DON’T WALK” display.
7. Curb medians are safer for pedestrians than with two-way, left-turn lanes (TWLTLs), while undivided highways have the highest crash risk for pedestrians in TWLTLs settings.
8. Treatments to address needs of pedestrians with disabilities include: textured pavement, audible and vibrating pedestrian signals, larger signs and pedestrian signals, and wheelchair ramps.
9. Use of bus stops on the far side of an intersection and at locations with good sight distance and alignment (e.g., not on steep grades or on horizontal curves) is important.
10. Crossing guards are appropriate for respective locations.

³⁵ Title: A Review of Pedestrian Safety Research in the United States and Abroad; Published Date: 2003-11-0; Report Number: FHWA-RD-03-042;HRDS-06/01-04(1M)E; URL: <https://rosap.ntl.bts.gov/view/dot/16111>

11. A better-connected network of sidewalks and walkways in urban and suburban areas are recommended. Pedestrian travel shoulders are recommended in rural areas.
12. Overpasses and underpasses that encourage pedestrians to cross freeways or busy arterial streets not at street level are recommended at respective locations.
13. Countermeasures to improve visibility of pedestrians include: a flashlight, jogger's vest, dangle tags, and rings (retroreflective material on the head band, wrist bands, belt, and ankle band). Such measures can increase a motorist' visibility distance of a pedestrian up to 1,300 feet, compared with about 200 feet for a "base pedestrian" wearing blue jeans and a white t-shirt.
14. Converting from two-way to one-way streets reduces pedestrian crashes, but may not be solely justified by pedestrian safety considerations. Traffic capacity, circulation, and safety overall are larger considerations. Still, one-way streets simplify crossings if they do not induce speeding.
15. Street closures, speed humps, chicanes, traffic curbs, and diverters have been found to improve safety for pedestrians and traffic as a whole based on reductions in crashes, vehicle speeds, and reductions in cut-through traffic on neighborhood streets
16. Educational measures are recommended, though there is a lack of formal evaluations and measurable effects
17. Enforcement of traffic laws and regulations are recommended (for pedestrians: jaywalking, crossing against the signal; for motor vehicles: speeding, yielding to pedestrians when turning, drunk driving)

Using statewide data on 122 locations in Maine, crash numbers were predicted and compared to outcomes using prediction models from Sweden and the UK.³⁶ High speeds and wide roads were found to lead to more crashes, and safety improvements should be prioritized along arterials and major collectors. Crash severity and speed were found to have a strong relationship.

The majority of fatalities and injuries from 2006 to 2007 in Israel occurred on road sections, not at junctions.³⁷ 80% of accidents happened when a pedestrian crossed the road, the majority of them at non-crosswalk locations or at non-signalized crossings. Fatal pedestrian crash characteristics were similar to the average pedestrian crash in Europe, in terms of crash location, time, and victims' demographic characteristics. 80% of 95 selected locations with a high level of pedestrian-vehicle crashes were on multilane arterial streets near city centers, where on a small scale there were no indications of major deficiencies in the basic design elements of most sites. To make a major change in the level of pedestrian injuries, a move from spot treatment to a systemic treatment is needed.

³⁶ Gårder, Per E. "The Impact of Speed and Other Variables on Pedestrian Safety in Maine." *Accident Analysis & Prevention*. Pergamon, June 24, 2003.

https://www.sciencedirect.com/science/article/pii/S0001457503000599?casa_token=qfJzHglgt8AAAAA%3A50_tujGOemob5BC4MGZc0rcPmt2xkYqu8TqqePr9Vm-ML76CVYvVEyXDtfzZpoK_r0MOSg7Unws.

³⁷ Gitelman, Victoria, Doron Balasha, Roby Carmel, Limor Hendel, and Fany Pesahov. "Characterization of Pedestrian Accidents and an Examination of Infrastructure Measures to Improve Pedestrian Safety in Israel." *Accident Analysis & Prevention*. Pergamon, December 21, 2010. https://www.sciencedirect.com/science/article/pii/S0001457510003611?casa_token=AQx2KRyykNUAAAAA%3AJxJhQc3tgCSfDRKLSY32wWQj8p5vrMFfDgTbJq6c3QOcBQP0jN54qyUPn6Tt_qmhY1za8YZV12U.

Categories for pedestrian safety: measures with their solutions for promoting safety³⁸ →

1. physical arrangements for pedestrians on street sections: building of sidewalks
2. mid-block crosswalk treatments: a grade-separated pedestrian crossing; adding a refuge island; removing visibility obstacles; road narrowing
3. traffic calming measures for collector roads: adding a raised median between travel directions
4. junction design: conversion of a junction to a roundabout; raised separation for closing left turns; closing an arm for vehicle traffic
5. traffic calming measures for streets: pedestrian zone; speed humps; raised crosswalks; pinch-point; Woonerf
6. measures for traffic signals: exclusive green for pedestrians at junctions; pedestrians' green separated from vehicles' green at conflict (leading pedestrian interval)
7. for all above: education, enforcement, publicity, vehicle technologies

Types of traffic arrangements: infrastructure measures for improving pedestrian safety →

1. unsignalized crosswalks on multilane streets: traffic calming measures on sections with high pedestrian activity, such as speed humps, road narrowing or lane reductions, roadway narrowing for parking, bus stops, a raised crosswalk, a raised junction, or a conversion of junction into a one-lane roundabout.
2. crosswalk visibility: remove obstructions, extend sidewalks, improve lighting, add light-reflecting high-mounted traffic signs, install pedestrian warning system with in-road warning lights
3. unsignalized crosswalks on two-way two-lane streets: adding a refuge island in the crosswalk zone, building a raised median along the street section, or conversion of a junction into a one-lane roundabout
4. signalized junctions: canceling of shared green phases for pedestrians and vehicles at conflict; an earlier appearance of pedestrians' green (leading pedestrian interval); reduction of cycle time for pedestrian signals; canceling of green waves for vehicles in non-peak hours; changes to the traffic signal programming to benefit of pedestrian flows; adding audible signs with the "WALK" phase
5. crosswalks at roundabouts: two-lane roundabouts are not recommended for pedestrian safety. For one-lane roundabouts, low deflection and insufficient narrowing toward the roundabout's entrance should be avoided.
6. street sections without crosswalks: measures that facilitate pedestrian crossings, such as crosswalks and raised medians; measures that deter such crossings, such as pedestrian fences along medians or sidewalks

Other recommended infrastructure solutions:

1. raised crosswalks on high-volume collector streets
2. advanced lighting and animated eyes' display, both operated by pedestrians, for mid-block crossings
3. zigzag markings for preventing parking and overtaking near crosswalks, for mid-block crossings
4. advanced stop line near mid-block crossing on a dual-carriageway road
5. pedestrian mid-block crosswalk signals such as "Pelican" and "Puffin"

³⁸ Gitelman, Victoria, Doron Balasha, and Roby Carmel. "Examination of Infrastructure Solutions for Improving Pedestrian Safety in Israel." Association for European Transport and contributors, 2009.
<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.680.5132&rep=rep1&type=pdf>

6. adding flashing red lights to pedestrian signals, pedestrian countdown signals, pedestrian detectors for extending the clearance time or pedestrian detectors instead of pushing buttons, at signalized crosswalks
7. an exclusive pedestrian phase (pedestrian scramble) for crossings and an earlier appearance of pedestrian signal (leading pedestrian interval) in shared pedestrians' and right-turning vehicles' green, at junctions

Bus stop usage is associated with pedestrian crashes along state facilities.³⁹ Weaker, but significant associations exist between retail location and size, traffic volume, and number of traffic lanes, and locations with many pedestrian-vehicle crashes. The findings suggest that facilities with many bus riders must accommodate pedestrian safety along and across streets.

The recommended pedestrian walking speeds are 3.5 feet per second for the general public and 3 feet per second for older or less able populations.⁴⁰ Motorist compliance was the main metric for the effectiveness of engineering interventions at unsignalized street crossings. The treatment had an effect on motorist compliance. Other variables explaining effectiveness were number of lanes being crossed and posted speed limit.

Red signal or beacon devices were found to be the most effective.⁴¹ Number of lanes and speed limit were statistically significant in predicting motorist yielding. Such interventions are recommended to improve pedestrian crossing safety along busy arterial streets.

A Spokane city ordinance required an automatic “WALK” indicator regardless of pedestrian signal actuation. The ordinance encourages a leading pedestrian interval in downtown and near schools, childcare centers, hospitals, senior living facilities, or an area with above average pedestrian flows. The ordinance sets a goal of deploying Accessible Pedestrian Signals (APSs) to all signalized intersections in Spokane by 2025 through projects in the Comprehensive Street Plan.⁴²

An 8-year crash dataset from Georgia DOT was used to investigate the influence of the built environment on pedestrian crashes in Dekalb County. Pedestrian crashes were more likely on flatter portions of roads with more transit stops, and to be close to census tracts with more transit riders, fewer seniors, and more linguistically isolated households.⁴³

³⁹ Hess, Paul Mitchell, Anne Vernez Moudon, and Julie M. Matlick. “Pedestrian Safety and Transit Corridors.” Digital Commons. University of South Florida, April 2, 2015. <https://digitalcommons.usf.edu/jpt/vol7/iss2/5/>.

⁴⁰ Fitzpatrick, Kay, Shawn M Turner, Marcus Brewer, Paul J Carlson, Brooke Ullman, Nada D Trout, Eun Sug Park, Jeffrey Whitacre, Nazir Lalani, and Dominique Lord. “Improving Pedestrian Safety at Unsignalized Crossings: Appendices B to O.” NCHRP Web-Only Document. Transportation Research Board, February 28, 2006. <https://trid.trb.org/view/790101>.

⁴¹ Turner, Shawn, Kay Fitzpatrick, Marcus Brewer, and Eun Sug Park. “Motorist Yielding to Pedestrians at Unsignalized Intersections: Findings from a National Study on Improving Pedestrian Safety.” Transportation Research Record 1982, no. 1 (January 2006): 1–12. <https://doi.org/10.1177/0361198106198200102>.

⁴² Stuckart, Ben. “Improving Pedestrian Safety at Signalized Intersections.” City Council Documents, Agendas & Minutes. City of Spokane, Washington, April 22, 2019. <https://my.spokanecity.org/citycouncil/documents/>.

⁴³ Dai, Dajun, and Derek Jaworski. “Influence of Built Environment on Pedestrian Crashes: A Network-Based GIS Analysis.” Applied Geography. Pergamon, July 1, 2016. https://www.sciencedirect.com/science/article/abs/pii/S0143622816301369?casa_token=e_FnqFBLZ2EAAAAA%3AMGem4987pUik6rOvvjAVv-bq9VB6ttV9M38nPMYD2D8yOZs2ORgqxa2Z3wPxot5SV9bxiFB8eQ.

Public Health

People experiencing houselessness do not share one experience or journey. Unhoused individuals come from a wide range of identities. Given these identities, a significant portion of the population has a wide range of illnesses and injuries that may surpass that experienced by the housed population. Inequitable design of streets can be challenging to navigate, particularly for individuals who may have a variety of ailments that can be debilitating. Street Perspective focuses on the health of houseless individuals and highlights Portland's public health crisis and the city's unhealthy infrastructure, which creates a variety of intersecting obstacles for the unhoused pedestrians.

Experiencing houselessness is physically and mentally exhausting. There is documentation stating that houseless individuals can be on their feet anywhere between 16 and 18 hours.⁴⁴ The constant standing up and ambulant creates pressure on the legs, lower back, and feet. In addition to constantly standing or walking, most shelters do not allow houseless individuals to stay for a day or leave their belongings behind. Individuals in many instances are forced to carry many of their heavy belongings while navigating the High Crash Network. As a result of carrying heavy belongings and constantly walking there are a plethora of physical ailments unhoused pedestrians endure.⁴⁵

Mental illnesses such as addiction and any chronic illness, diabetes, or hypertension are examples of additional unmanageable ailments unhoused pedestrians battle while navigating busy streets.⁴⁶ Experiencing houselessness makes the treatment and management of most illnesses more challenging though some services may be available. The location of these essential services i.e., hygiene stations, grocery stores and medical aid are often near or in High Crash Networks, making basic needs less accessible and even more so for people suffering from mental and physical ailments. As with all other aspects of the problems of houseless individuals, data on their health problems and health care needs do not provide an opportunity to construct a complete narrative. Despite the gap in the data, there is enough information about the health problems of houseless people. The information provides basic descriptive information and draws inferences for how these ailments can affect navigating busy streets and how programmatic intervention can be implemented.⁴⁷

Additionally, the growing number of elderly houseless individuals is on the rise, there is an estimate that about 200,000 people on any given night live on the streets, and an estimated half of single houseless adults are within the age range of 47 and older.⁴⁸ The makeup is 10% of the houseless population when older is defined as ages 50 and older, who comprise a third of the estimated houseless population. The analysis could be an underrepresentation because surveys or night counts of houseless people do not ask about age. Life expectancy for a houseless individual is about 64 years. Among individuals living in shelters, about 22% were aged 51–61 in 2010, and this figure is projected to increase by a third in 2020.⁴⁹ In retrospect for housed individuals, this age range may not be considered elderly; yet when houseless, 50

⁴⁴ Martin, Michel. "Homeless Age Faster." NPR. NPR, March 14, 2013. <https://www.npr.org/transcripts/174302726>.

⁴⁵ Ibid.

⁴⁶ "Homelessness, Health, and Human Needs." *National Library of Medicine*, 1988. <https://doi.org/10.17226/1092>.

⁴⁷ Ibid.

⁴⁸ Martin, Michel. "Homeless Age Faster." NPR. NPR, March 14, 2013. <https://www.npr.org/transcripts/174302726>.

⁴⁹ Hooyman, Nancy R., Kevin Kawamoto, and H. Asuman Kiyak. "Living Arrangements and Social Interactions." Essay. In *Aging Matters: An Introduction to Social Gerontology*, 374–411. Boston: Pearson Education, 2016.

years or above is considered old. This is because people experiencing houselessness are often 1 to 20 years older physiologically than their chronological age. This phenomenon is known as premature aging or weathering often due to prolonged stress.⁵⁰

Dennis Culhane, a researcher at the University of Pennsylvania, unveiled that the cohort of the late baby boomers, people who were born between 1955 and 1965, tend to be much more likely to be houseless than other people in other cohorts. Additionally, there is evidence of chronic houselessness within this cohort which dates back to their 20s, 30s, and 40s. There is a traceable trend of this cohort aging on the streets that explains why there is a significant population of houseless elderly.⁵¹

By creating age-friendly and disability-friendly infrastructure these practices could lead to equitable streets aiding in aging in place and safer roads for unhoused individuals with these intersections to navigate busy streets

In Dunedin, FL, 40% of the population is adults over age 60. Aware of this population's characteristics, local leaders decided to improve sidewalks and intersections to make them accessible and safer to use. Widening sidewalks, installing curb ramps and curb extensions to reduce crossing distance and slow traffic, and adding extra time to crossing signals, made it safer and more pleasant for older adults — and people of all ages and abilities—to walk around the compact city. These same practices can be tailored towards creating safer streets for unhoused pedestrians who may or may not have these intersecting identities.⁵²

The research conducted on public health, houseless communities and transportation is primarily through literature review, each article mentioned in citation has highlighted the intersection of public health, i.e., mental and physical wellness, age, transportation or policy change. Listed below are the overarching themes presented throughout the articles which have been briefly summarized in the writing above:

- The population of the houseless is aging (both chronic and newly unhoused people) and tends to age faster than housed individuals. There is an increase of older people also becoming houseless, which was forecasted to be at 33% in 2020.
- Unhoused individuals tend to have a plethora of medical issues sometimes before becoming unhoused (sometimes the cause of being unhoused) which makes it even harder for them to navigate streets, or access systems that could aid in becoming housed/sheltered.
- Planning for people who are elderly and/or have disabilities could create a safer environment for all to travel.
- Housing is becoming increasingly expensive which is another factor leading to more houseless individuals especially the elderly population.
- Ageism plays a role in job acquisition for elderly houseless people, making it challenging for them to be rehoused. This lengthens the time spent on the streets, worsening their health and making it challenging to navigate the streets.

⁵⁰ Ibid.

⁵¹ Homeless Age Faster.

⁵² "Growing Smarter, Living Healthier: A Guide to Smart Growth and Active Aging." *PsycEXTRA Dataset*, August 2009, 2–31. <https://doi.org/10.1037/e518642012-001>.

- Unhoused people aren't thoroughly researched which creates many gaps in the data. These gaps prevent the opportunity of constructing a complete narrative on the houseless community and how they are affected in many ways.
- Adults now in their 30s or early 40s who cannot afford to purchase a home and anticipate renting most of their lives may have fewer housing options at old age. The lack of housing options for such a large population could create a more daunting housing/houseless crisis.

Below are services essential for the unhoused community, these services would be effective if located closer to unhoused individuals.

| Hygiene | Infrastructure |
|---|-----------------------------------|
| Port-a-Potties | Day Centers |
| Handwashing Stations | Urban Rest Stops |
| Portland Loo | RV Services |
| Mobile Services (Shower Trucks) | Village Facilities |
| Laundry Services and Trash Pick Up | Storage for belongings |
| Medical Aide (Sores, Blisters, Scrapes, Mental support, etc.) | Shared Use of Existing Facilities |

Appendix D – Engagement

Interview Questions

Interviews were semi-structured. The questions below were used as a guide. Sometimes additional questions were asked based on where the conversation went. Sometimes questions were skipped or modified to be more relevant for a particular person or organization.

Partner Interviews

Time: 45-60 minutes

Topic 1: Travel Behavior

1. Can you give us a *brief* overview of your organization in your own words—what services you provide, particularly populations you serve (if any).
Potential follow-ups:
 - a. Are there common needs you get asked for, especially beyond your core services?
2. Do you know of other service organizations—or other places, destinations—that the people you serve visit, before or after visiting you perhaps?
Potential follow-ups:
 - a. Where do the people you serve come from/stay overnight?
 - b. Are there other services or destinations in your vicinity that people frequent (public restrooms, parks, food, climate control, etc.)?
3. Are there any major differences you see in how a person experiencing houselessness navigates our streets compared to most housed people—at particular times or places? Are there unique challenges, threats, or reactions that might influence their behavior?
4. What behaviors do you see on the part of drivers that specifically are dangerous to people experiencing houselessness? What about on the part of houseless people?

Topic 2: Interventions

5. What infrastructure gaps/problems do you see as particularly dangerous to people experiencing houselessness?
6. Do you have any thoughts about why houseless pedestrians have become such a large share of all the pedestrians killed in just the past couple years?
7. Are there any ideas you have that you'd like to see implemented or tested that would help keep people experiencing houselessness safer from traffic (other than housing, obviously)?
Potential follow-ups:
 - a. Do you see any obvious ways to mitigate the risk posed by traffic to houseless people that aren't being acted upon?
 - b. What would you direct PBOT to do if you were in the position to do so? (if interviewee seems open to hypotheticals)
8. Have you heard about Ted Wheeler's emergency order barring camping along high crash corridors and sweeping existing campsites? (until March 4) What reaction did you have to the announcement or policy?

Wrap-Up

9. Interviewee Recommendations:

- a. Do you know any people experiencing houslessness that we might be able to interview to get a first hand account?
 - b. Are there other people or organizations we should definitely contact?
10. Ground truthing: Would you be interested in reviewing our findings and recommendations later in this process to help us refine, narrow, score, etc. (in May)
11. Contact Info: If anything else comes up, please reach out.

First-person Interviews

Time: 20-30 minutes

1. The basics:
 - a. How old are you?
 - b. How long have you been houseless?
 - c. Where do you currently camp?
 - d. How do you usually get around—walking or rolling, transit, biking, driving, something else?
2. Where on the scale of threats or obstacles is traffic/How often do you think about traffic? (In comparison to concerns about sweeping, items, accessing necessities, etc.)
 - a. Has this changed during COVID?
3. When do you feel most at risk—time of day, location(s), situation?
4. We've heard from many interviews with service providers how detrimental sweeping is. How has sweeping affected you?

Follow-up if not volunteered:

 - a. Would you mind sharing how many times you've endured sweeps?
 - b. Have sweeps resulted in the loss/theft of your personal items?
5. What would you like to see the city do to make you safer from traffic (including and beyond housing)?
6. Do you know anyone who's been hit or had close calls while camping, rolling, walking, biking?

Potential follow-ups:

 - a. (If a victim) Do you mind sharing where and when (time of day) you were hit?
 - b. Do you see any obvious ways to mitigate the risk posed by traffic that isn't being acted upon?
 - c. What would you direct PBOT to do if you were in the position to do so? (if interviewee seems open to hypotheticals)
7. Anything else you'd like to share?

Partner interviews summary

Notes below contain many of the things service providers shared with Street Perspective, aggregated to protect their privacy.

- Organizations often get request for lots of **additional assistance** beyond their core services to meet their needs:
 - Employment, legal help, obtaining/replacing IDs, expungements.
 - Access to hygiene, especially restrooms but also showers, clean needles, clean clothes, etc.
 - Tents, tarps, clothing (esp. winter clothing).
 - Electricity, wifi.
 - Help navigating systems—gas vouchers, propane vouchers, motel vouchers, hotel vouchers.
 - Getting rides to appointments.
 - Community—need for sanctioned camping.
- Because people experiencing houselessness spend so much time outside they become numb to **the risk posed by traffic** which could contribute to risky behavior in some cases.
 - Traffic is a constant concern, but low priority—ambient fear.
 - Providers have heard from people experiencing houselessness that there seems to be more aggressive driving specifically targeting houseless people/camps.
 - Double standard in sweeping people experiencing houselessness while allowing paying customers to dine in parklets in the roadway.
 - There is a high prevalence of people with mobility challenges that need to be considered—physical disabilities, mental illness.
 - Houseless individuals are most at risk of injury from traffic because they have much more exposure to it than housed people.
 - Big need to slow people down.
- Multiple service providers called for the same **infrastructure solutions/issues**
 - The provision of housing & more places to camp.
 - Daylighting—“I would daylight every single corner in the city”
 - Need for more/better lighting at night.
 - Lack of sidewalks or poor walkability near services.
 - Supportive infrastructure at/near houseless communities with consent—porta potties, traffic barriers at camp edges, dumpsters (keep camp from expanding).
- Some people experiencing houselessness tend to congregate **around service providers** and sometimes those areas really aren't very safe for people walking, particularly in East Portland.
 - People will travel from across town, particularly before COVID. There's been a reduction in the wake of COVID (likely due to decrease in available services).
 - 122nd isn't walkable, nearby grocery stores, a park connected to their building,
 - Substance abuse and mental illness can exacerbate risky behavior.
 - People visit providers for food, community, comfortable places to meet people, sometimes meetings (organizing, advocacy, etc.).
 - Most people would walk if they're nearby; if coming from further away they often use the MAX.

- By and large, people experiencing houselessness in Portland used to be housed **Portlanders** but lost their housing over the years.
 - Many people experiencing houselessness are employed.
 - More crashes happen at night because that's when people are home (in their tents/vehicles).
 - People experiencing houselessness tend to try to stay around places they're familiar with.
 - Two interviewees mentioned they have personally experienced houselessness.
- People experiencing houselessness try to be inconspicuous, but still face **harassment**.
 - Anger towards the houseless community from housed residents, vigilantism is encouraged on websites like Next Door and in neighborhood associations.
 - Providers have heard complaints from the people they serve of people intentionally running over/clipping tents and other harassment.
 - Police have targeted houseless people in the past—while that's decreased with COVID, there's been an increase in rapid response and private contractors that facilitate clean ups/sweeps.
- **Housed neighbors** are a major source of issues
 - Theft, harassment, assault.
 - Service providers have been threatened by housed people for assisting unhoused folks at their camps so the volunteers no longer publicly identify themselves.
- **Sweeps** cause trauma and are harmful especially when there's no alternatives.
 - Stop sweeping. Sweeps kill.
 - Sweeps dictate where people camp—they try to avoid areas they think they'll get swept, which pushed many people to high crash corridors in the first place, where they could find some stability and security from theft/violence.
 - Private property and parks will get swept faster; ODOT land is perceived as safer.
 - People are swept to progressively more dangerous areas—an option of last resort; people will return without other safe places to go.
 - Sweeps contribute to poor mental health, loss of personal items, and cycles of violence and desperation.
 - About 10 percent of the houseless population is displaced by sweeping on a weekly basis.
 - Sweeping and theft can make it dangerous for people experiencing houselessness to leave their tent/RV/car for work, services, bottle drop, etc.—every time they leave they risk having all of their belongings stolen/swept/towed.
 - Sweeps destroy houseless communities that are often self governing. This impacts other houseless communities too who have to absorb new people which can increase violence and stress.
- People experiencing houselessness need **places to exist as people**, not just clients or patients, or near high crash roadways
 - Public libraries have been really beneficial since they have public access. Other public spaces could be retrofitted.
 - More day centers (like transition projects in NW Irving) to allow people to hang and find a sense of belonging.
- **COVID-19** has made it challenging for behavioral health services to do outreach and provide the services that people experiencing houselessness need.

- There's been a new wave of hopelessness amongst the service providers and people receiving services since the pandemic started.
- Everything going digital excluded a lot of people and left them behind—wifi and electricity are emerging essential services.
- Mental health for everyone—housed and unhoused—declined during COVID.
- **Chronic houselessness** is rampant and has increased which could be why unhoused individuals are becoming a large share of pedestrians killed in the past couple of years.
 - With chronic houselessness comes chronic ailments such as mental illness, comorbidities, and immobility.
 - Some people tend to get struck by cars a few days after sweeps/rapid response.
- The **most vulnerable** population statistically are black, trans, unhoused people who suffer the most abuse and harassment.
 - There is a rising population of single moms.
 - Chronic houseless people are often blacklisted and denied services.
 - Physically disabled or mentally divergent older people are the majority of the unhoused population.
 - Younger travelers are seen but are the minority of the population.
- There is a lack of **access to quality medical care**.
 - Small injuries (from a car crash for instance) can compound into bigger ones if not treated, and people often opt not to seek treatment (see sweeping)
 - People experiencing houselessness face prejudice and bias from medical professionals when they do seek help.
 - The ER just keeps you alive, not well. They may provide a prescription, which the patient has no way of paying for.
- The City needs to hear from **more voices** on houseless issues.
 - Shelters—and the people who profit from them—are over represented in who the city consults on these issues.
 - There is no one solution to houselessness.
 - Politics, bureaucracy, and white supremacist institutions often hinder attempts to solve solvable issues.

**All service providers provided specific infrastructure, policy, and/or program ideas which can be found in the main report on pages 36 & 37.*

First person interviews summary

Descriptions of First-Person Interviews & Stated Cause for Houselessness

Street Perspective interviewed 12 people experiencing houselessness. People ranged from 2 to 36 years in the time they lived unsheltered. One person used to be unhoused but is not anymore. A couple people lived unsheltered on and off but are currently unhoused. People were 28 to 66 years old and mostly identified as white. Three people identified as female, while nine identified as male. One person required a wheelchair, and a couple people required a walker. Two people required incontinence products. One person was HIV-positive. One person identified as a veteran, a former Marine. We conversed with people who suffered family conflict and eviction, landlord abuse, living below the poverty line, domestic violence, and drug relapse.

Tent Campers, RV/Car Campers, Non-Campers, and General Locations

Half of the people with whom we spoke camped in tents. One of these first-person interviewees mentioned they intentionally camp near a freeway, on land claimed by ODOT, in hopes of avoiding police and other people who may come and commit harassments or assaults upon them. One person mentioned they started out camp in a tent, eventually moved into a van, and is now camping in an RV. Mentioned previously, one person used to be houseless but is not anymore, living now with their extended family. A couple other first-person interviewees mentioned that they do not camp but rather remain transient at all times, traversing the city all night on foot and sleeping on park benches during the day, or sleeping in the doorways of buildings and moving frequently doorway to doorway. One first-person interviewee mentioned they live at a shelter. One person mentioned they are currently housed by the Northwest Pilot Project. A couple people mentioned they relied on social security benefits but that this was not enough to live adequately. In general, people were currently living or had lived Downtown, under bridges, in Northwest, in Southeast, in East, in far East, and all around the city at large.

Count of Sweeps, Instances of Losing Belongings or Opportunities

Some people suffered a wide range of sweeps, while other first-person interviewees suffered none. The number of sweeps suffered ranged from 2 to 23. Someone mentioned they suffered a sweep about twice a month. Someone mentioned that they themselves had been abducted before. Street Perspective noticed a disparity in who was being swept—people who did not camp in tents but instead lived in constant flux, at shelters, or with family (a minority of interviewees), mentioned consistently that they did not suffer sweeps. Many first-person interviewees lost their belongings and access to opportunities due to suffering from sweeps or related thefts, or otherwise throughout their lives being unhoused.

Primary Transportation & Level of Concern for Traffic

The most common mode of transportation among first-person interviewees was walking or rolling, like on a skateboard. The next most common was transit, and then driving. Riding a bicycle or a scooter were each mentioned twice. Six first-person interviewees mentioned traffic was a low concern for them. Some mentioned that losing belongings or access to services are more threatening; traffic is a constant worry not a major concern; and traffic is generally noisy. However, five first-person interviewees mentioned traffic was a high concern for them. Someone mentioned this is due to camping regulations that require tents to be at the edge of the curb, stating later that some drivers are biased against people living unsheltered.

Noticeable Influence of COVID-19 on Traffic Safety

Half of our first-person interviewees mentioned they had noticed a decrease in traffic safety since the beginning of the COVID-19 pandemic. A few people mentioned they noticed people were driving more aggressively, and someone mentioned they noticed people were now driving faster and with less attention. One person mentioned the decrease in traffic safety during the pandemic was due to the rapid change of the city, citing examples such as the number of bike lanes and the lack of clarity on what is and is not a travel lane. Someone mentioned that they and their community were now treated more as second-class citizens, stating that people are now more fixated on themselves and think they are better than others. Because traffic safety had so quickly declined during COVID-19, someone mentioned they now reconsider the routes they traverse to reach their destinations.

Time and Place of Concern for Traffic or Safety

Many people we spoke with were concerned about traffic or their safety when it was dark outside, citing the lack of visibility, the danger perceived by the city's bar scene, and the likelihood for people to come to commit harassments or assaults upon them. Related to this, someone mentioned especially that they were concerned for traffic or their safety around the time when most bars close. They cited that this is particularly true on weekends and when the bar scene is active, and that this is a concern for them all around Portland, but especially near Downtown, Clackamas Town Center, and similar areas like places around malls. A couple people we spoke with were concerned about traffic or their safety when the traffic volume was high, like during rush hour.

Count and Descriptions of Crashes or Close Calls with Traffic Experienced First-Hand or in the Community

Almost everyone we spoke with said they or someone in the community experienced a crash or close call with traffic. The number of crashes or close calls experienced among the community according to people we spoke with ranges from 1 to 15. A couple crash locations mentioned include SW 5th Ave and NW Glisan St and SW 1st Ave and SW Naito Pkwy. Only one person we spoke with mentioned they did not experience a close call or crash or knew someone in the community who did.

A few people were walking or rolling when they or someone they know in the community experienced a crash or close call with traffic—one person in particular was walking with a stroller during a close call. A few people were biking when it happened, and it happened for a few other first-person interviewees while they were sleeping in their tents. A few people experienced or knew people who had been hit or had a close call near the entrance and exit of a garage parking structures. On another occasion, one person cycling was hit by a car, flipped over the vehicle, and their bike was run over by the car and destroyed.

Another person mentioned they experienced a close call or knew someone who did due to a conflict with a person driving and taking a right turn—the first-person interviewee mentioned that a pole was blocking the view of the person driving. Another person experienced one or knew someone who did due to a person driving and running a red light.

**Many people experiencing houslessness provided specific infrastructure, policy, and/or program ideas which can be found in the main report on pages 36 & 37.*

Organizations serving People Experiencing Houselessness

Below is the entire list of organizations that Street Perspective reached out to, in no particular order. While most did not engage, each could be a potential informant and/or partner in the future.

| | | |
|--|--|---|
| Homelessness Research and Action Collaborative (PSU) | Cascadia Behavioral Healthcare, Street Outreach Team | Homelessness and Urban Camping Impact Reduction Program |
| Catholic Charities, Homeless Services | Allen Temple Emergency Aid Center | Janus Youth, Yellow Brick Road Portland |
| Western Regional Advocacy Project | Portland Bureau of Emergency Service | River District Navigation Center |
| Right 2 Survive | Dignity Village | Portland Rescue Mission |
| Hygiene4All* | Stop the Sweeps PDX | Hazelnut Grove |
| Kenton Women's Village | Don't Shoot PDX** | Outside in |
| Rahab's Sisters* | Ground Score* | Cultivate Initiatives* |
| Banfield Shelter Motel | Laurelwood Center | Right 2 Dream Too |
| Walnut Park | Oregon Walks** | Street Trust** |
| P:ear | Transition Projects | Central City Concern |
| Operation Nightwatch | Blanchet House | Street Roots* |
| Sisters of the Road* | Harbor of Hope | JOIN |

**interviewed organization*

***not primarily a houseless organization*