Connected by Transit
The Future of Community Access

Disability Mobility Initiative
5-31-2024
Connected by Transit: The Future of Community Access

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Featuring stories written by the Nondriver Seminar participants
May 2024

Keywords: Accessibility, fixed-route transit, mobility justice, public transportation, connectivity, community engagement, social equity, complete sidewalk network
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1 Overview: The Nondriver Seminar

The Nondriver Seminar was a 5 month lecture series coordinated by the Disability Mobility Initiative at Disability Rights Washington, held from January through May 2024. Insights from participants led to the creation of this report, which features recommendations for research to enhance accessibility in transportation.

This project received generous support from the Bullitt Foundation. We are also grateful for the professional transportation planners and advocates who donated their time and expertise.

- The participants included 20 disabled nondrivers in urban, suburban, and rural areas across Washington State
- Seminars were hosted by transportation professionals and advocates
- Topics covered include public transit, land use, climate justice, policy change, and legislative advocacy
- The agenda included a 45-minute educational presentation and a 30-minute discussion period

Engagement with the disability community has historically contributed to the advancement of transportation. This experience enabled the participants to identify critical gaps in transit mobility and make recommendations for solutions.
1.1 Objective
The purpose of this report is to share the lived experiences of our participants and their takeaways from the educational series. Advocates, professionals, students, and policymakers are encouraged to use these insights as a toolkit when discussing ways to enhance transportation accessibility.

1.2 Roadmap
By the end of the Nondriver Seminar series, our participants learned about the complex intersection of advocacy and transportation.

Each topic will be broken down into three sections:

1. **Seminar Overview**: Examples of learning materials and participant Insights
2. **The Problem**: Detailed breakdowns of common barriers faced in our communities
3. **Recommendations**: Proposed solutions for progress, including opportunities for research

Through sharing our stories, learning materials, and outcomes, we hope that readers will feel empowered to share their respective experiences when advocating for accessible communities.
2 Introduction

The intended audience for this report encompasses a diverse range of individuals who share a common goal: advocating for accessible communities. This report proposes actionable tactics for improving transit accessibility for disabled nondrivers, focusing on service frequency, comprehensive planning, and complete sidewalk networks.

2.1 Definition of Nondrivers

The [Nondrivers: Population, Demographics, and Analysis](#) report defines nondrivers as:

“[People] of all backgrounds and abilities such as aging adults, youth, students, recent immigrants, low-income individuals, those with physical, mental, intellectual, or developmental disabilities, and people who prefer not to drive.”

– Washington State Legislature Joint Transportation Committee, 2023

Nondrivers are present in every demographic. An estimated 26-30 percent of Washington State residents do not drive due to age, disability, economic status, or by choice. When public transportation is not an option, many nondrivers resort to asking for rides from friends and family, walking, biking, or rolling.¹

2.2 Participant Self Identification

Every participant of the Nondriver Seminar self-identified as disabled: approximately one-third identified as blind, almost one half reported mobility impairments, and several identified as hard-of-hearing. Out of those surveyed, around 66% had non-driver ID cards while others held drivers' licenses with various restrictions or preferred not to answer.

Participants were representative of a range of socio-economic and educational backgrounds. Experiences riding transit ranged from occasionally using on-demand shuttles to daily commutes using fixed route service. Availability of transit was heavily dependent on which region participants were from.
2.3 The Urgency of Infrastructure Investments
We rely on roads, bridges, and transit to access essential services daily. For disabled nondrivers, safe transit infrastructure is crucial for autonomy. Currently, Washington State has a severely neglected infrastructure system, which continues to decline in reliability due to aging, stress, and underinvestment. The American Society of Civil Engineers (ASCE) gave Washington a “C-” for transit infrastructure in its 2019 infrastructure report card.

The Puget Sound region is regarded as a leader in transit growth, with a peak ridership level of 122.2 million riders in 2017. However, compounding infrastructure damage will lead to mass disenfranchisement. According to the Failure to Act Report, if the nationwide infrastructure crisis is not fixed by 2039, the cost of repairs will outweigh the GDP loss of $10.3 trillion. Prioritizing transit infrastructure in future repairs to address these concerns will give residents more freedom to choose how they travel.

2.4 Inaccessible Transit and the Isolation Crisis
The U.S. Department of Health and Human Services reports that meaningful connections are not only influenced by human interactions, but also by the built environment. Disabled nondrivers are more likely to avoid travel altogether if they fear that asking for a ride would be an inconvenience. This results in decreased access to daily life activities. Efficient routes are important to avoid isolation. When a transit route is significantly more time-consuming than a similar car drive, many nondrivers decide to adjust their plans or abandon them entirely.

A lack of accessible transit can exacerbate feelings of exclusion, disconnect, and loneliness. This issue extends beyond the transit systems themselves. The way we plan our neighborhoods and communities determines which housing and employment opportunities are connected by transit. To address the isolation crisis, accessible housing and transit networks should be designed synchronously so travelers of all abilities may have the same opportunities.

2.5 We Believe
Investing in frequent transportation addresses multiple needs of Washington residents by increasing travel options and reducing car-dependency. Decision makers (e.g. elected officials) should collaborate with disabled advocates to understand how comprehensive planning can address their needs, including safe sidewalk networks. When disabled stakeholders are involved in every phase of the planning process, municipalities can create equal access across all communities. Disabled community members and professional advocates are encouraged to elevate the insights shared in this report to improve accessibility standards and practices.
3 Frequent Fixed Route Transit Service

3.1 Seminar Overview: Frequent Transit Service Study

WSDOT data analyst Thomas Craig presented the Frequent Transit Service Study to the nondriver seminar cohort. This report measured access to fixed route transit at seven levels of service frequency.

<table>
<thead>
<tr>
<th>Frequency level</th>
<th>Day Time (9am-5pm)</th>
<th>Extended hours (6am-9am; 5pm-10pm)</th>
<th>Weekend (9am-5pm)</th>
<th>Days of Service (minimum)</th>
<th>Population (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>&lt;=12 minutes</td>
<td>&lt;=15 minutes</td>
<td>&lt;=15 minutes</td>
<td>7 days</td>
<td>530,000 (7%)</td>
</tr>
<tr>
<td>Level 2</td>
<td>&lt;=15 minutes</td>
<td>&lt;=30 minutes</td>
<td>&lt;=30 minutes</td>
<td>7 days</td>
<td>1,520,000 (20%)</td>
</tr>
<tr>
<td>Level 3</td>
<td>&lt;= 30 minutes</td>
<td>&lt;= 60 minutes</td>
<td>&lt;= 60 minutes</td>
<td>7 days</td>
<td>3,040,000 (40%)</td>
</tr>
<tr>
<td>Level 4</td>
<td>&lt;= 60 minutes</td>
<td></td>
<td></td>
<td>5 days</td>
<td>4,390,000 (58%)</td>
</tr>
<tr>
<td>Level 5</td>
<td>6 trips per day any time</td>
<td></td>
<td></td>
<td>5 days</td>
<td>4,610,000 (61%)</td>
</tr>
<tr>
<td>Level 6</td>
<td>2 trips per day any time</td>
<td></td>
<td></td>
<td>5 days</td>
<td>4,720,000 (63%)</td>
</tr>
<tr>
<td>24-hour</td>
<td>1 trip every 2 hours overnight all days</td>
<td></td>
<td></td>
<td>7 days</td>
<td>690,000 (9%)</td>
</tr>
</tbody>
</table>

“We defined seven levels of frequency based on the input of transit agency and rider advocate partners—six of those levels range from infrequent service that comes twice a day on weekdays, to service that’s 15 minutes or better from morning till night every day of the week, and faster during midday. The seventh level specifically measures frequency from 10pm until 6am, to understand where there’s some service around the clock.”
“This is a slide with the six levels of increasing frequency displayed across the state.

In the urban centers, there is yellow or light green indicating levels 1 and 2 service. In smaller towns and suburbs there's green or blue indicating level 3 or 4 service. And along rural highway corridors, there is some magenta and pink indicating level 5 and 6 service that only arrives a few times a day.

In many rural areas, there's no fixed-route service at all.

We determined that frequent transit is not just one definition, to a degree it’s context dependent. This means geography, population density, and land use are significant factors that influence which levels of transit service are feasible and appropriate for different communities.”
3.1.1 **Participant Insights**

After this session, participants reported:

- Lack of service is a major barrier to accessing employment
- Participants largely desire fixed route service that runs seven days a week, as weekend service is severely limited in rural areas with no service on Sunday
- The available analysis matched their expectations of service in their respective areas
- Many participants strategically choose housing based on proximity to transit

For participants who have lived in both urban and rural areas, they noted a difference between the fixed route service offerings. Large cities offer strategic routes that are designed to carry people from neighborhoods to city centers, whereas rural areas rarely provide this level of service. They mentioned that the shift in access was disruptive to their daily lives.
3.2 Participant Stories

3.2.1 Irish Dancing Around Span of Service

By Joe Kunzler, Skagit County, WA

“I recently decided to spend a Saturday seeing the Seattle Irish Dance Company during St. Patrick’s Weekend. The problem is that I’m transit-dependent and live in Skagit County, so I depend on a Skagit Transit that runs from 8 AM until 6:15 PM on weekends. Yes, it’s not the best span of service. Nor is this service frequent. So I stood at my local bus stop with seven minutes to go after planning the trip on Google Maps a few days in advance. Why? Because if I miss a connection, I cannot make my next connection and would barely, at best, make the downtown Seattle performance. As Jarrett Walker explains in Human Transit, Revised Edition,

“Sometimes, when explaining the concept of frequency to someone who lives in a suburban house and gets around only by car, I’ll say, “Imagine there’s a gate at the end of your driveway that opens only once an hour.” If that were your reality, you’d start caring less about how fast the roads are and focus more on getting this gate to open more often. Then you’d be ready to think clearly about how transit actually works.”

Ultimately, this illustrates my key point why transit needs more resources, not less: We have to deal with when that rhetorical gate of public transit will open for us disabled to be full citizens and members of the community.

At least I could board and pay using Umo on my smartphone, which caps my fares at the cost of a day pass. The ride was excellent, especially with refurbished noise-canceling headphones.

After three transfers and two hours, I arrived in Everett. The time sink so far is why I prefer remote work, because I spent two hours to go what takes 45 minutes by automobile."
Once in Everett, I decided to try an Everett Transit battery electric Gillig for the first time. The bus was beautiful and clean but almost as infrequent as Skagit Transit. At least I would be dropped off at a Safeway with time to spare to stand outside for 10–20 minutes before being retrieved. I could have taken a Community Transit Swift, but I prefer electric buses.

I got flowers for the Irish dancers, reboarded the same Everett Transit bus, and returned to Everett Station. I then took a Sound Transit 510 to Northgate Station and Link. Once at Westlake Station, I found the station on the dark side and still challenging to navigate with little sense of North, so I left the station at the wrong exit. I also got to walk around Westlake during the end of the St. Patrick’s Day parade.

But I did make the dancing event with time to spare and got a good seat.

Sadly, I had to leave the dance early as I had to make a Link connection on a packed Link to a 510 bus that could get stuck in traffic to make the last Skagit Transit 90X out of Everett back to Skagit County. This 90X’s departure time that Sunday? 5 PM.

Thanks to being prepared I made all my connections back to Skagit. Once back at Skagit Station, I transferred to a 208 bus and disembarked in Burlington. An additional $18 – after discounts – was spent on a Lyft ride-hail to get home in an albeit lovely late model Toyota Camry.

Sadly, I won’t be able to afford the Seattle Irish Dancers’ performance when they come to Everett, as they start and end after the last bus and Amtrak Cascades home to Skagit on a Sunday with no Sounder north of Everett. It would cost over $130 to get home, and this time require an all Lyft ride.

In conclusion, Skagitonians need more span of service. Again, quoting Human Transit, Revised Edition:

> "Low-car or no-car lifestyles, in turn, mean that transit has to be available for many of life’s purposes, not just the peak commute. If this is happening, the transit authority needs to focus on its midday, evening, and weekend offerings (which, in the past, may have been a social service for the “captive rider”) so that it forms a consistent, reliable, and attractive product.

> While the prime sponsor of I-2117 proclaims good intentions to address affordability, the harm that its passage will do will set transit back further and build more mobility gates for those who can neither accept nor afford more such mobility gates.”
3.2.2  Filling Gaps in Service with Dial-a-Ride
By Kevin Frankeberger, Ph.D., Mason County, WA

“When it was time to purchase a new home, my spouse and I chose Mason County, WA. I had been renting in Bremerton and my new spouse had been living in Erie, PA. She too is blind. Our number one priority was being able to go and come at our pleasure as nondrivers. Mason Transit has a “demand response” or better known as “Dial-a-Ride” system along with a fixed route which does not serve the community where we live, Lake Limerick Country Club.”

“Now, some twenty years later, we live in the same house. Our transportation needs are sometimes met by volunteers to fill in the many gaps in demand response. We are happy to have what transit we do but our needs are far from being met.”

“Our Dial-a-Ride now operates with a half hour window. That is, a pickup time is made but the bus can be up to a half-hour before or half-hour after the agreed upon time. Thus, a total of two plus hours, an hour each way must be part of our schedule as well as the appointment itself. That wasted time is indeed, just wasted.”

3.2.3  Struggling with Paratransit
By Anisa Proda, North Seattle, WA

“People with disabilities lose so much time from the inefficiency of Paratransit transportation system. Even though the anticipated window is about 30 minutes we are either picked up or dropped off very early or very late as our time doesn’t have any value. The vehicles are far away from being comfortable, especially for people with disabilities who have underlying health conditions or are coming from hospital treatments. Some of us are not able to fully operate independently based on our specific disabilities and being paired with drivers that lack knowledge, language skills, and are not very capable, it’s a very bad combination. King County should make sure to find better trained drivers.”

3.2.4  An Extensive Bus Network for Work
By Karen Taylor, Beacon Hill, Seattle, WA

“I am on Social Security Disability, but it is not even near enough to live on, so I supplement it with cleaning gigs. I have one consistent client on Thursdays. She lives less than 10 minutes East of me, and the #14 has a stop nearby her house, but because I have to travel very far north on the bus to transfer to the #14 and the #14 comes rarely and inconsistently at a stop that’s unsafe to wait at, I have to pay for Lyfts each way each week, costing the equivalent of one and a half hours of work, just to get to and from work.[I desire an] extensive bus network that gets people directly and close to their destination North/South *and* East/West, not based solely on efficient commutes for corporate & white-collar workers, that runs frequently and on time, with seating at *every* stop...”
3.2.5  Relocation and a Lack of Transit  
*By Renée Corso, Kalama, WA*

“During my working years, in order to be gainfully employed, one of the major considerations when buying my home was that it be on a fixed transit route, and also, as a low-vision nondriver, that surrounding sidewalks and crossing signals were accessible. My position at the WA State School for the Blind required that I be available on short notice and at any time of day or night, to return to campus to respond to the ensuing emergency situation. This was an absolute necessity for my employability there. Thankfully, I found a home that was suitable and that met these criteria.”

“Now that life circumstances have changed, namely retirement and emergent family needs, I now live five miles outside of Kalama, WA. There is no public transportation whatsoever. The closest bus stop is in Woodland, WA, also about five miles away. This route, existing thanks to grants and subsidized funds, connects Woodland and Longview to existing fixed-route transportation in Vancouver, WA and Portland, OR, but only on a weekday basis, and at limited times during the day. Nothing is available after 6:00pm. The combination of having to have someone drive me to/from Woodland and having no transport after 6:00 pm on weekdays and no availability on weekends has greatly restricted my life choices. It has likewise limited my friends’ ability, as nondrivers, to visit me. I would love to have a bus system in and between Woodland, Kalama, and Longview, WA that would connect to already-existing bus systems.”

3.2.6  Life on DART  
*By Jenny Anderson, Snohomish, WA*

“I would like to say that riding on the Snohomish County Dial-a-Ride Bus is a piece of cake, but it is far from it. I have been a rider for 30 years now and have seen many changes throughout the years, some good and some not so good. I have also seen the system change hands because of the almighty dollar, and someone who promised to give better service for a cheaper price. It is not only not true that this is happening, I don’t believe for a minute that it is possible.

The way it works with the DART (Dial-a-Ride) System is that one must make their request before 5:00 pm Monday through Friday, and before 4:30 pm on weekends and holidays. The rider then receives their time at the same phone call. It is a 30 minute window in which the bus has to be on time, but the rider must be ready at the top of that window. When one books the ride, the rider is asked “What time do you want to be at your destination?”, and the ride is booked according to what bus is in that area at that time. The same goes for return rides.

The biggest problem that I see with the entire system is that Trans Dev, who now manages DART, is badly understaffed and has been since they took over management of DART. DART needed to have some changes done that would cost, and Community Transit, the underwriter, was in the process of working with Homage Services to make
those changes, but Trans Dev came with their own bid and made the claim that they already had those changes implemented, and their bid had a total savings of $1 million per year of a 10 year contract, so they got it. Unfortunately, though, when one runs the business consistently understaffed, one cannot keep those types of promises. The worst part is that the drivers start their solo shift and find that the job isn't worth the pay. They are basically caregivers for special needs people, and it takes a certain compassion and motivation to do the job and do it well.

All that to say that riding the bus can be frustrating to say the least. It is quite normal for the bus to be as late as 30 minutes outside the window, with no warning from the company. I have called many times and complained about this, and the answer is always the same on a recorded line, “We are working on making it better.” The last time I heard that I replied that, “Quite frankly, I am not seeing any results of those supposed changes.”

The rides can also be rather long. They usually are about one hour, sometimes less. This is the scary part. It is a shared ride service, so if the bus is late in picking the rider up, it still must run the route so chances are the rider will be late past the appointed time of their destination. It is a wonderful service for those of us who need it, but the rider must be equipped with a lot of patience or be prepared to call in often with complaints.”

For any ride taken, a 30 minute grace period can cause a ripple effect of delays, which places a disproportionate burden on disabled travelers. According to Access, King County Metro’s Paratransit service, riders should expect additional delays due to reduced workforce availability. Additionally, ridership depends on drivers who are properly trained. Paratransit services should account for the comfort and safety of riders by ensuring drivers are well-informed about the needs of disabled passengers.”
3.3 The Problem

Lack of access to frequent transit results in barriers that prevent nondrivers from participating equally in many aspects of society. Below are just some of the problems nondrivers face because transit services do not meet their needs.

3.3.1 Paratransit Service

The ADA defines paratransit as a specific on-demand service that serves disabled travelers within a three-quarter mile radius of pre-existing fixed-route transit, as the functional purpose is to fill gaps within pre-existing routes.3

As noted by participants of the Nondriver Seminar, people with disabilities face many barriers in accessing paratransit:

- Time-sensitive notifications about paratransit eligibility are often missed by riders due to a lack of accessible information. For example:
  - Paper notices being sent to a blind user who requires braille, large print, or screen-reader compatible formats.
  - Some paratransit riders do not have access to someone who can help them navigate the re-application process.
- Limited hours of service are a barrier for many disabled travelers who cannot otherwise access fixed route service.
- Paratransit service is not complementary and disabled travelers report that cost is sometimes more of a barrier than physical access.

3.3.2 Access to Employment

Since infrequent transit severely limits the type of work available to disabled nondrivers, participants desire a system of routes that will connect them to employment. For example, the Rural Resource bus in Chewelah, WA runs once a day at 7:15 a.m. and returns at 4:30 p.m. with no weekend service. While the rise in remote work has expanded numerous career opportunities for nondrivers, there are many benefits to working on-site.4 To best serve jobseekers, more frequent transit allows for more flexible work hours.

3.3.3 Service Frequency, Days, and Span

Service seven days a week, including early morning and late night, is a critical need for nondrivers. Several participants noted that Sunday service is necessary to attend important cultural and religious events. Frequent fixed-route service allows disabled travelers the freedom to leave their home as they wish in the same way drivers can.
3.4 Recommendations

3.4.1 On-Demand Paratransit Service
Reliable on-demand service was highly requested by participants, as noted in the participant story “Life on DART” by Jenny Anderson. However, there is a recurring issue with the process of scheduling rides with DART*, as the window to arrange transportation is limited and prone to delays. These obstructions can cause riders to miss time-sensitive appointments; for example, many medical practitioners have schedules that are booked out months in advance.

3.4.2 Including People with Disabilities in Transportation Decision-making
Planning alongside disabled nondrivers is an essential aspect of developing and updating transit hubs. This needs to start by ensuring people with disabilities are represented in the transportation workforce and serve in leadership roles on transportation agency boards. Going beyond ADA Requirements can be done by engaging in disability-inclusive planning methods such as conducting interviews, arranging sidewalk audits, and hiring disabled consultants. Engagement should be consistent throughout the design process to ensure the mobility needs of many travelers are met.5

* Services like Dial-A-Ride Transportation (DART) provide accessible transit for disabled Snohomish residents who cannot access the Community Transit fixed-route stops. A similar service is the King County Metro Dial-a-Ride Transit (DART). While the names are similar, they are different agencies.
3.4.3 Transit Hub Amenities and Accessible Vehicles
Currently, there is a reported lack of in-person attendants at transit hubs†. Transit employees can act as stewards to transit riders by opening doors, giving directions, helping navigate the station, and assisting riders with mobility aids. To meet the needs of disabled travelers, in-person attendants (with proper training) can provide crucial service on a personal level.

Since travelers may expect to wait longer at transit stations than individual bus stops, certain amenities should be required:

- In-person attendants
- Schedule information, maps, paper communications
- Restrooms with push buttons to open doors
- Adequate seating
- Weatherized shelter (shade, outdoor heating)
- Hubs within proximity to convenience stores, clinics, et cetera

3.4.4 Bus Stop Seating and Shelters
Unique problems exist at fixed route bus stops. For rural travelers, catching a connecting bus may involve waiting on a road with few or no nearby services. For example, trees blocking the view of people waiting at the bus stop can result in the driver leaving them behind. This may cause travelers to be stranded for long periods of time if the service is infrequent. To minimize discomfort for those who must wait, it is important to note how the weather, pavement conditions, and surrounding attributes can make a bus stop inaccessible.

Bus shelters should include:

- Street lighting along bus route, within one mile radius of all stops
- Shelters close to the bus stop pole (within ten feet maximum)
- Test that drivers can see people waiting at the shelter in all seasons (deciduous trees, overgrown shrubbery, bushes, et cetera)
- Repair to deficient sidewalk conditions that interfere with bus boarding (slopes, cracks, uneven terrain, incomplete paths)

† The King County Metro Route Facilities Guidelines, defines transit hubs as:

“A transit hub is located in areas with high ridership and served by more than one bus route. They typically consist of 4-6 adjacent bus stops where passengers are likely to transfer between routes. Transit hubs are typically located in areas such as central business districts and commercial areas.”
While the Americans with Disabilities Act does not require agencies to install benches and shelters at fixed-route stops, these features are critical for accessibility and therefore strongly encouraged. As stated previously, even if someone lives close to fixed-route service they may not have access if the available route or destination is deficient.

3.4.5 Anti-Ableism Driver Training
Driving for fixed-route transit covers a wide range of social work. Participants noted several incidents where mobility devices (like wheelchairs, scooters, and walkers) were damaged due to improper handling. Operators without proper training can prevent passengers from using transit.

Anti-ableism is a collection of theories, strategies, and actions that challenge inequalities faced by those with disabilities. Research through focus groups and surveys can lead to actionable suggestions for anti-ableism training, as it is crucial that training programs represent the breadth and depth of disabled travelers. Disability advocates with lived experience may also assist agencies with the development of training programs.6

Training programs may include topics related to:

- Intersectionality – how riders’ race, gender, and age affect their experiences
- Accountability by measuring progress in training programs
- How to handle mobility aids, properly securing all mobility devices and driving safely to minimize risk of injury
- Ways to professionally communicate with disabled passengers, speaking to the disabled passenger, not with others about the passenger
- Respecting traveler’s time

3.4.6 Documenting Gaps in Access
After consulting with disability advocates, it is of importance to identify and record actionable next steps. Tracking the deficiencies noted by passengers is the first step, followed by creating a plan to address these issues, then reporting progress to the public.

Gaps in access should document location, road conditions, connecting routes, nearby transit hubs, and housing. Defining these standards now will promote inclusivity in future projects.

Steps to take:

- Consistent community engagement with the disabled and aging population
- Developing a high standard of access at fixed-route stops and the surrounding areas
- Identifying and recording the location, nature, and cause of transit stop deficiencies
- Establishing ways to measure progress regarding remediation and construction efforts
3.4.7 Training For New Transit Riders
Several counties in Washington State offer free training for new transit riders including King, Snohomish, Kitsap, Whatcom, and Pierce. King County Metro offers the following types to people with disabilities and seniors:

- **Individual training:** Individual guidance to and from a specific destination
- **System training:** Introduces new travelers to rider tools like schedules, online trip planners, and help desks
- **Ramp training:** An overview of how to use mobility aids (wheelchairs, scooters, etc) on the bus
- **Group training and field trips:** Groups of people are taught transit riding skills in a classroom setting, followed by a field trip via transit to practice.

Fixed-route transit can be presented as a service that allows more freedom for those willing to learn how to use it.

Potential topics that may be covered in community education include:

- Safe street-crossing campaigns
- Emergency Services for nondrivers
- Paratransit informational sessions.
- Raising public awareness about the scope of accessible transit, including multimodal street design

3.4.8 Service Reliability Audits
To make fixed-route transit reliable for disabled travelers, fixed-route stops should be regularly audited for accessibility. For example, in 2018, King County Metro performed a Transit Reliability audit that sought to establish ways to make early and late departures transparent to transit riders.

To improve the pedestrian experience, Service Reliability programs should also extend to facility maintenance, such as structural damage, weather fatigue, road conditions, etc.
4 Comprehensive Planning and Transit Access

Community resilience depends on connectivity. Washington State requires all cities and counties to create 20-year-comprehensive plans to address population growth. These long-range plans provide an opportunity to set standards for equitable transportation policies. This section will cover how transit access may be addressed in comprehensive plans and the importance of establishing a transit network that connects people to services.

4.1 Seminar Overview: Comprehensive Planning and Transportation

Tiernan Martin, Policy Director of Research at Futurewise, and Peter Mumford, Service Planner at King County Metro, introduced the cohort to comprehensive planning and the 1990 Growth Management Act.

The presentation covered the 1990 Growth Management Act and how comprehensive plans are created. They used the 2024 comprehensive plans of Bellevue and Kirkland as examples.

Tiernan highlighted these aspects of the Growth Management Act: “The Growth Management Act encourages urban planning approaches that concentrate growth in urban areas to allow:

- efficient provision of services
- reduce sprawl
- promote physical activity
- support transportation choices.”
Local governments were required to create comprehensive plans and to update them every eight years when the state's Office of Financial Management produced new population projections.

They were also required to engage the public in the process of updating their comprehensive plans. The law also set up a new legal board dedicated to hearing GMA-related appeals, which created an opportunity for a new body of growth management case law to emerge.

A plan's goals and policies are comprehensive, and they inform all other plans, regulations, and programs—including many mobility-related tools like operating budgets, transportation plans, and capital facilities lists.
“This diagram illustrates how the City of Bellevue's comp plan ultimately affects on-the-ground conditions—such as what development can be built in which neighborhood, how the city ensures drinking water is clean, and the city's community engagement strategy for improving street safety”
An overview of how the City of Kirkland involved residents in its comprehensive planning process:

“Last summer, the City of Kirkland held a workshop as part of its comprehensive plan update community engagement process. The workshop was specifically focused on the comp plan’s Land Use element.”

“Community feedback highlighted many of the features needed to have a 15-minute city—or, to use the City’s framing, a “city of 10-minute neighborhoods.”

**Those features include:**

- building affordable housing
- adding accessible amenities
- mixing land uses
- supporting small/medium businesses
- stewarding natural resources like parks and green spaces.
4.1.1 The 15-Minute-City Theory

Tiernan and Peter introduced the cohort to the 15-Minute City Theory. This principle proposes the concept of most human needs being accessible within a 15-minute walk, or a three-quarter-mile radius. The principles of a 15-minute-city set a good example of what participants are looking for in a livable community.

Such facilities include:

- Goods and services
- Health care
- Grocery stores
- Schools
- Recreation

Within these principles, it is crucial to consider how the traveler’s mobility may impact their mode of transportation. 15-minute access may not be realistic for rural populations, yet the element of convenient access requires infrastructure that supports all pedestrians.
4.2 Participant Insights

- Participants overwhelmingly desire sidewalks, crosswalks, and bus facilities to be included in their city’s comprehensive plan.

- They wondered how rural transit riders would be represented in plans, especially when evaluated by “productivity measures, such as boardings per stop or boardings per revenue hour.”

- It is not clear how accessibility in transportation elements is documented and how progress is measured over a timeframe like 20 years.

- There is a need for more transparent communication regarding community involvement.

Karen, a participant from Seattle, WA, describes her ideal 15-minute commute as having the following:

“Free & frequent micro-shuttles that work for people who struggle walking - dispatched by both phone (for people without smartphones) and through a simple & clear app.

Sidewalks with good curb cuts and clear crosswalks.

Frequent buses on the same route - both express versions to efficiently get long distances and versions with many stops, so you can get as close as possible to your actual destination (which is an issue for me & other disabled folks).

Seating at every bus stop is mandatory for accessibility, and rain shelter is available whenever possible.”
4.4 Participant Stories

4.4.1 The Need for Accessible Housing
By Tanisha Sepulveda from Highland Park, Seattle, WA

“Could you imagine living in your home for 10 to 20+ years, raising a family, getting promotions, making memories in that home, and then sustaining an injury which prevents you from ever going back? This was the case for more than a few of the older adults I met while I was recovering from a spinal cord injury at Harborview Medical Center. The disabled community accounts for nearly 1/4 of the population yet the amount of accessible housing available is nowhere near enough to meet our needs. Aging adults often prefer accessible housing, so they can age in place. Moving is hard enough when you're in your 20s, imagine how difficult it would be when you are in your 60s. I was fortunate enough to be living in a unit that was accessible prior to my injury. However, when I needed to move, I quickly became aware of the lack of affordable, accessible housing, especially within the city.

Being a disabled nondriver, it is pertinent for me to live within proximity to basic needs such as grocery stores and pharmacies while being close enough to frequent transit so I can get to my doctor’s appointments in a reliable and timely manner. Finding affordable housing that checks all those boxes is almost impossible. It is becoming less and less common as our city’s rent prices skyrocket, and apartment square footage shrinks. Many people in the disabled community are low-income or unable to work and cannot afford to pay $1500 monthly for a one-bedroom apartment when Social Security/Disability pays less than that monthly. If you do work, your income is restricted otherwise you begin to pay it back. The cutoff point is around $2100 per month - this includes what Social Security pays you. On top of that, apartments often require you to have two to three times the amount of rent in income which is another restricting stipulation. While we are being pushed out of the city we are also being pushed away from frequent transit and access to basic needs and opportunities.

In my 14 years of being disabled I have never lived in an actual ADA accessible unit. I have only ever lived in units that are accessible to me. I am very fortunate to be small/narrow enough to fit through standard door frames (30 inches wide). I have friends who are larger than me and their wheelchairs cannot fit through standard door frames, only ADA accessible ones (36 inches wide). Something as simple as gaining weight could reduce my access to housing that much more.

It is said that a person/community’s character is shown by how they treat their most vulnerable populations. If that is the case, then Seattle has plenty of room for improvement. The disabled community is the only minority in which anyone can join at any time and aging is inevitable. There is a substantial need for affordable accessible housing that is near frequent transit and the time to act is now.”
4.4.2 The Journey to Redmond
By Anonymous Nondriver, U-District, Seattle, WA

“Recently, I wanted to attend the Lunar New Year celebration in Redmond. It was at Overlake Christian Church. It was a Saturday, and I was commuting from the U District in Seattle.

I took the 542 from Seattle to Redmond. The commute itself was not too bad. I only had to walk 13 minutes to my 542 bus stop in the U District. However, once I arrived at the bus stop in Redmond, I had to walk for 25 minutes to the church. I had to walk along the riverbank in Redmond in the rain. I walked underneath a bridge. I could see some trash here and there. The pavement had a lot of dirt and gravel, and there were no safe sidewalks when I left the riverbank trail for the church. It was raining hard, and I felt miserable. This is not an accessible path for people who rely on smooth pavements to get around.”

“This journey took me about one hour and ten minutes. I arrived at the church with wet and dirty tights since I wore tights for the trip. I had a good time at the celebration, but I did not appreciate how hard it was for me to get around on the Eastside. Later, my friend who was attending the celebration offered to give me a ride back to Seattle, which I gratefully accepted.”
4.5 The Problem

4.5.1 Rural, Suburban, and Urban Access
Transportation access in rural, suburban, and urban communities should be accounted for equally. Several members of the cohort strategically chose housing that was close to transit, as relocating to dense urban areas was not always a practical option. This resulted in many essential services (such as grocery shopping, medical appointments, and recreation) going unfulfilled.

Rural travelers experience extensive barriers related to limited service hours with few transit options available past 6 p.m. Sporadic schedules can prevent nondrivers from attending social events and significantly reduce access to employment opportunities.

In suburban and rural communities, there is often pushback surrounding the topic of expanding public transit. As many people are car-dependent, it is important to develop promising practices that highlight the potential for local economic growth.

4.5.2 Housing in Proximity to Transit
Refer to “The Need for Accessible Housing” by Tanisha Sepulveda for an in-depth anecdote about the experience of searching for accessible units.

Accessing transit is easier when one lives near city centers, however “aging-in-place” mostly occurs in suburban and rural areas. While older adults are generally open to the idea of riding public transit, most must make rational decisions based on their location, which typically prevents freedom of movement. Furthermore, it is not always realistic for older adults to move to urban environments to access their daily needs. Accessible, affordable housing within proximity to transit may lead to increased mobility for older adults and disabled travelers.

Living closer to transit makes many trips easier, but even if someone lives near a robust transit network, a disabled traveler may be excluded if the network does not address mobility between housing and public transit.

The Uniform Federal Accessibility Standards states the required minimum for most multi-family developments as:

“[Five] percent of the total, or at least one unit, whichever is greater, in projects of 15 or more dwelling units, or as determined by the appropriate Federal agency following a local needs assessment conducted by local government bodies or states under applicable regulations.”
The number of accessible units should align with the needs of the disabled community, including the aging population, which encompasses much more than 5 percent of Washingtonians. According to the CDC, roughly 20% of adults in Washington State live with a disability.

4.5.3 Barriers to Nearby Services
When planning connections that benefit several communities, access considers more than mobility. It also accounts for multiple factors regarding proximity to basic human services and desires such as:

- Grocery stores, farmers markets
- Parks and recreation
- Education
- Friends and family
- Community centers
- Medical Services (more than major hospitals, ex. treatment centers, small clinics, dialysis)
- Civic Duties
- Employment
- ...and more!

4.5.4 Measuring Accessibility in Communities
Community resilience depends on stable housing. This includes building homes that may be retrofitted to accommodate the needs of an aging or disabled resident. Accessible communities should include a variety of housing options, so that residents may move into appropriate housing while remaining within a familiar neighborhood. Additionally, affordable housing is crucial to ensure equitable access to transit.

There is currently a lack of standard data and processes to evaluate accessibility.

Missing components include:

- Missing/inconsistent sidewalk data
- Missing/inconsistent land use data
- Missing/inconsistent technology systems designed to consistently evaluate these against benchmarks

Investing in accessible neighborhoods must involve climate-resilient measures. As many older adults and disabled residents rely on fixed income, developers should anticipate and mitigate ways to reduce energy-related costs for these populations. To ensure housing can withstand extreme weather, homes may include triple-paned windows for better insulation, air conditioning, and weatherized home exteriors.
4.6 Recommendations

4.6.1 Multimodal Street Design
Multimodal street design gives travelers greater options when planning daily tasks. According to a report written by the University of Washington:

“The majority of local concurrency programs focus almost exclusively on auto congestion. Because this approach only counts vehicles and fails to account for people who walk, drive with friends or co-workers, ride transit, or bicycle.”

[Options for Making Concurrency More Multimodal]

Since concurrency between elements of a comprehensive plan is required, transportation elements would benefit from early public involvement to address mobility concerns. Documenting these concerns will help create a solid framework when planning transit that is in proximity to basic human needs.13

4.6.2 Environmentally Efficient Vehicles
Updating transit vehicles may also be an intuitive solution to congestion. Many transit riders note how older vehicles cause delays and traffic amidst breakdowns. New public transportation vehicles can be electric/hybrid to address environmental concerns with frequent service.

King County Metro aims to operate a zero-emission fixed-route fleet by 2035. [Zero-emissions fleet, King County Metro]

Examples:

- Upgrading fleets with energy-efficient vehicles that use 30% less energy than existing busses
- Ensuring shuttles and DRT are wheelchair accessible with fold out ramps, low floors, and ample disabled seating
- Electric trolley busses can move “off the wire”, allowing them to bypass road obstructions
- Ensure populations that have faced disproportionate health impacts from air pollution will not be negatively affected by electrical infrastructure (such as chargers and transformers)
4.6.3 Public Participation Programs
We asked participants how they would prefer to receive communications about comprehensive plan updates.

Suggested media:

- Mailing list for advocates and community members (e-mail or physical mail)
- Pamphlets in public places
- News Specials (TV)
- Newspaper articles
- Town hall meetings

Additionally, frequent updates are recommended for long term (10-20 years) plans. Most of our participants prefer community updates on a quarterly or annual basis.

4.6.4 Flexible Public Participation
When coordinating community education, flexible meeting options should be considered. Following Section 504 guidelines, it is important for federally assisted agencies to provide disabled community members an equal opportunity to participate. The U.S. Department of Health and Human Services states that “agencies must give primary consideration to the request of the individual with a disability” by providing types of auxiliary aids such as:

- Remote telecommunication
- Large print and braille materials
- Screen-reader compatible documents
- Audiotapes
- Qualified interpreters
- Live captioning

According to the ICT Accessibility Standards:

"The Section 508 Standards, which are part of the Federal Acquisition Regulation, ensure [access to information and communication technology] for people with physical, sensory, or cognitive disabilities."

While Section 508 only relates to federal agencies, considering the overlap of requirements with Section 504, these standards provide a solid benchmark for making civic involvement accessible for disabled nondrivers.

-[What is section 504 and how does it relate to Section 508?, US Dept of Human Services]
5 Complete Sidewalk Networks

Complete sidewalk networks are strategically designed pathways that connect residents, regardless of their mode of transportation, to essential destinations. These networks play a crucial role in promoting accessibility, safety, and community well-being. They ensure safe and convenient access to key points such as bus stops, residential areas, and other important locations. These networks contribute to a vibrant and connected community. The following seminar explores how community awareness and advocacy play a pivotal role in ensuring safe and accessible sidewalks.

5.1 Seminar Overview: Denver Streets Partnership

Similar to Seattle, sidewalk maintenance in Denver was once the responsibility of private property owners. Since most residents were unaware of this, the conditions of the city's sidewalks have rapidly deteriorated.

Molly McKinley gave a presentation about how the Denver Streets Partnership successfully partnered with 50+ organizations to advocate for a citywide sidewalk repair program. She introduced the topic with a quote from “Blueprint Denver”, the City of Denver's 2001 Comprehensive Plan:

“Since every trip begins and ends with walking, the pedestrian environment is the primary transportation element that connects all travel modes.”

Molly also used impactful imagery of the barriers pedestrians in Denver often face.

“When sidewalks are inaccessible, travelers with disabilities may choose to use the street instead. This poses safety concerns for travelers and drivers alike.”

“Pedestrians may rely on impromptu paths that lack proper paving and lighting. Without proper infrastructure, travelers may face unnecessary danger while walking or rolling alongside traffic.”
“In Denver, it was reported that incomplete sidewalks disproportionately affect low-income areas.”

“The price to complete the sidewalk network will only continue to rise the longer the problem is avoided.”

### 5.2 Participant Insights

- It is important for city governments to take responsibility for sidewalk maintenance, as uniformity is a message of inclusivity for all citizens
- Collaboration and an understanding of political strategies is key when advocating for infrastructure improvements
- A lack of reliable sidewalks places disproportionate burden on the disabled community, as poor maintenance restricts access to basic needs

Teaera, a participant from Tukwila, WA, noted:

> “I think [a sidewalk repair ordinance] is needed especially in my area, because there are no sidewalks. I cannot get to the train station, which is only a block away from my house or to the store, which is right across the street, but is unsafe [for] me being that I am blind, so I think it is needed and necessary.”
5.3 Participant Stories

5.3.1 A Burden on Property Owners
By Kris Colcock, Bainbridge, WA

“When property owners are responsible for sidewalks you can have portions of good sidewalk maintenance right next to poorly maintained sidewalks. It puts a huge burden on the property owner who might not even understand that sidewalks are their responsibility. Elderly, low income or disabled property owners might not have the financial ability to properly maintain sidewalks. By having the city or county responsible for sidewalks, funding from a number of sources as well as grants are usually available. The sidewalks become standardized. Pedestrians have a single contact point to report problems and ask for maintenance.”

5.3.2 We Need Mandatory Sidewalk Programs
By Harry Kilck, Vancouver, WA

“I've been in a number of communities in Washington, where the sidewalks, or lack of sidewalks, is a real issue. Washington needs a statewide program to make sure that all communities of certain sizes have adequate sidewalks for everyone. We need a comprehensive, statewide mandatory program. We can't allow communities to make excuses for not doing what's right.”

5.3.3 Mobility Aid Access
By Karen Taylor, Seattle, WA

“It would be incredible to be able to move around the city easily as a person with a cane and also when I'm with a friend in a wheelchair. So many hundreds/thousands of people, disabled and otherwise, would have an easier time getting wherever they need to go, which would reduce emissions and help Seattle/WA reach climate goals.”

5.3.4 Comparing Monroe and Seattle
By Jill Reasoner, Monroe, WA

“I didn't realize I had it so good where I live in Monroe. We have curb cuts at intersections and the whole neighborhood has working sidewalks. However, from what I remember about visiting older neighborhoods in Seattle, old sidewalks are not maintained, resulting in big cracks and buckling, making it extremely difficult to walk along. Since Denver has accomplished the seemingly impossible feat of changing the minds of officials and getting funding to repair and build sidewalks, it seems likely we can do the same in Seattle.”
5.4 The Problem
City governments are responsible for maintaining the right of way and have the necessary skills, knowledge, and responsibility to tackle these sidewalk issues. Investing in the uniformity of sidewalk networks presents numerous benefits for residents, including accessibility, safety, and a decreased burden on homeowners.

5.4.1 Responsibility of Sidewalk Maintenance
In many cities, the responsibility of sidewalk repairs falls on private property owners. Overgrown landscaping from a yard may be the duty of the homeowner, but publicly planted trees may cause extreme buckling which poses a risk to all road users. Residents with fixed incomes, elderly homeowners, and the disabled community may not have the ability to properly maintain landscape growth over the years.

For example, how does the city address the upkeep of vacant residential and business lots? Does the government contact property owners about deteriorating conditions? When these questions arise, the answers may not provide property owners with an immediate incentive. However, if local governments take responsibility for repairing sidewalks, the community will become more accessible. Families will feel safer as complete sidewalk networks favor all ages.

5.4.2 Winter Weather Conditions
Additionally, winter weather conditions such as ice and snow prove to be dangerous when left untreated. When snow piles up sidewalk users will often resort to using the streets, which increases the risk of traffic incidents. Visibility for drivers is also limited in extreme weather conditions. Heavy rainfall, which is common in Western Washington, poses similar concerns (e.g. large, deep rain puddles that make sidewalks difficult to navigate).

5.4.3 The Lack of Street Lighting Along Paths
The current state of sidewalks does not make active transportation an easy choice. For many participants, the burden of crumbling, uneven sidewalks are compounded by a lack of lighting. Without properly lit streets, sidewalk users may be unable to travel at night. Considering sidewalks are often along arterial roads with fast-moving traffic, pedestrian trips along these paths are usually longer. [Active Design: Shaping the Sidewalk Experience] Since governments have a responsibility to enhance safe transportation options, landscape lighting provides more visibility for sidewalk and road users. Complete sidewalk networks should be safe, reliable, and explicitly address the needs of disabled travelers.
5.5 Recommendations

5.5.1 Sidewalk Accessibility Audits
Almost everybody uses sidewalks daily. Sidewalk auditing is a community activity that seeks to identify, document, and inform people about sidewalk deficiencies. These audits are typically led by disabled nondrivers and transit advocates, who can lead the group with their first-hand experiences. Audit coordinators may choose routes that are frequently used by disabled nondrivers, such as paths to transportation, local destinations, or areas with missing or particularly damaged sidewalks.

When sidewalk audits are coordinated in a wide range of communities, this allows for the unique issues in urban, suburban, and rural areas to stand out. Being perceptive of sidewalk conditions is a valuable skill. By collaborating to accomplish frequent sidewalk audits, more insight can be collected about how conditions for all road users can be improved.

5.5.2 Safety Assessments Near Transit Hubs
The Disability Mobility Initiative organizes safety assessments to educate transportation professionals about ways to enhance accessibility around transit hubs. Ideally, appropriate safety measures for pedestrians should be considered prior to construction, but community involvement can guide future planning efforts. For example, the future Judkins Park Light Rail Station in Seattle is located next to the I-90 highway entrance, adjacent to high-speed traffic and several crosswalks. Safety should be of utmost concern when planning transit hub projects in such areas as it is in a prime location for bus transfers, cyclists, and pedestrians.

5.5.3 Pedestrian-First Data Standards
While the definition of accessibility varies for everyone, collecting pedestrian data is a community effort. Through community-led initiatives such as sidewalk audits, safety assessments, and participatory co-design, open source pedestrian data will enable all navigation apps to put every traveler’s safety first.

Disabled nondrivers frequently use mainstream routing apps such as Apple Maps, Google Maps, and Bing Maps to coordinate daily travel. Currently, there is a significant incentive for these apps to prioritize car routing due to the consumer life cycle of vehicles. In turn, our participants reported that mainstream apps often suggest inaccessible pedestrian routes.

For example, blind users may end up walking in the street if an app does not specify the surrounding area. Users have no way of indicating when a sidewalk is only present on one side of the road. Additionally, wheelchair users may resort to traveling on the road if sidewalks or curb ramps are not present. Without consideration, disabled travelers often face unprecedented danger while using GPS applications.

To avoid time consuming rerouting, AccessMap Multimodal, created by the Taskar Center for Accessible Technology at the University of Washington, provides a solution for planning safe routes. In contrast to mainstream apps, AccessMap Multimodal uses a
participatory co-design process to map robust sidewalk data that accounts for characteristics such as curb cuts, lighting, slopes, and surface conditions. These factors allow users to generate custom routes that can be changed according to their individualized mobility preferences. When pedestrian data becomes more specific, disabled travelers will gain enhanced freedom of movement.

6 Conclusion

With the declining conditions of infrastructure across Washington State, it is crucial that we develop standards that address the most common barriers identified through the work of disabled nondrivers. Such issues include access to everyday needs, minimizing isolation, and expanding employment opportunities. Ultimately, the future of accessible communities relies on making transit systems safe and reliable. The responsibility of this feat falls on advocates, policymakers, transportation professionals, and students. Frequent fixed route transit, comprehensive planning, and complete sidewalk networks will lay the foundation for a more sustainable and interconnected transit system. Accessible transportation cannot wait.
7 Appendix

7.1 Further Reading: The Aging Population and Pedestrian Data
The following seminar overviews are particularly relevant to assessing resilient communities through the lens of aging and using accessibility metrics to improve pedestrian data standards. In addition to the primary seminars featured in this report, the insights below were frequently addressed by participants.

7.1.1 Seminar Overview: Why We Must Assess Resilience Through the Lens of Aging
Danielle Arigoni gave a presentation about the disproportionate barriers faced by the aging population. Older adults are misunderstood and underserved in a growing number of ways.

“People over 65 are the fastest growing demographic.

- One hundred years ago, one in twenty people were over 65; today, one in six.
- By 2034, we will live in a country where we have more people over the age of 65 than we will have under the age of 18 for the first time ever.
- That group will be increasingly diverse with much higher growth rates among Black, Asian, and Latino older adults than among White older adults.”
“There’s often a presumption that older adults live in a nursing home or an assisted living facility and that’s not the case for the vast majority. We lack a standard definition of what an older adult even is. It’s really a shortfall for all of us when we fail to acknowledge these realities and use them to inform the work that we all do to create communities and advocate for transportation solutions.”

1. Acknowledge that **climate change impacts older adults differently** – and not just during disasters

2. Recognize that **individual and institutional preparedness is not enough**

3. Lean into solutions that **build community resilience** for all ages.

“Older adults are a varied group in ages and abilities, and more racially, ethnically and linguistically diverse every year.”

“One conclusion that I reached from my research was that these tragic lives lost aren’t often the result of a failure of individuals to prepare. More often they’re the result of unrealistic expectations about what it means to be prepared for someone who lives on fixed income or who cares for a homebound family member or who doesn't drive.”

“They are also the result of system-wide failures that impact the whole community. These and other reasons are why we need to lean into community-wide resilience, and that means that all sectors and all disciplines have a role to play: emergency managers, housing advocates, transportation planners, health care providers, and many others. This is no longer a job for any one sector. It really is a job for all.”

“Community resilience would also include multiple ways of communicating about disasters, keeping in mind the significant share of older adults who don't use the Internet, or who live with disabilities, or who speak a language other than English.”
“Certainly, community resilience would deliver a diverse transportation system that includes public transit, and fosters biking and walking, to provide safe, affordable, reliable options for those one in five people over 65 who don't drive, and the many more who don't drive either by choice or circumstance. Doing so creates redundancy in how people can access services and how help can be delivered.

But it also helps to mitigate one of the largest sources of carbon emissions. Many more sectors of diverse partnerships are required to work towards a climate resilient future, including more accessible energy, emergency vehicles, better bike and pedestrian infrastructure that is better maintained in times of disaster and fosters more activity on both the daily and in a disaster setting.”

“Certainly, we need a more robust and agile public transit network, one that can adapt to changing needs and sometimes serve double duty as cooling centers or warming centers. Should that be required, shared use agreements are an important part of making sure all of the available transportation resources can be brought to bear when the need exists.

We need human service transportation plans that account for disasters right now. Transportation agencies need to be accountable for how they would serve residents in times of disasters.”
When discussing how access could be measured in a community, auditing tools such as the AARP Homefit Guide, AARP Walk Audit Tool, AARP Bike Audit Tool may serve as a “checklist” to future-proof neighborhoods. These toolkits assess how suitable a home is for changing access needs and gives examples of solutions and costs to make homes more accessible.

7.1.1.1 Participant Insights

- Participants noted strong interest in the “aging in place” concept and relevant toolkits for home and community assessments
- How do we age in place in a rural environment? Village to Village Network was offered as an example of community resilience efforts that may bridge gaps in rural communities, represented as a “village” of volunteers and neighbors who can provide travel, run errands, and more
- Many participants reported feeling unprepared for natural disasters, so emergency transportation plans should account for evacuation of vulnerable residents
- Communication should meet the needs of older adults who may not be internet-savvy
- Disproportionate barriers faced by older adults and vast misunderstanding of the needs of older adults

Investing in accessible neighborhoods must also involve climate-resilient measures. As many older adults and disabled residents rely on fixed income, developers should anticipate and mitigate ways to reduce energy-related costs for these populations. To ensure housing can withstand extreme weather, homes may include triple-paned windows for better insulation, air conditioning, and weatherized home exteriors.
7.1.2 Seminar Overview: Access Map Multimodal: Advancing Pedestrian Wayfinding and Accessible Mapping

Dr. Anat Capsi, Director of the Taskar Center for Accessible Technology (TCAT) at the University of Washington, gave a presentation about the importance of managing pedestrian mobility data. While most major transportation agencies are required to record pedestrian data, few have the standards in place to obtain such information. Recognizing the need to provide agencies with open-source sidewalk data, Dr. Caspi shared the quote, “If you’re not measuring it, you’re not managing it.“

With the mission of realizing a connected and accessible pedestrian network, TCAT worked with WSDOT and the Washington Legislature to secure funding for statewide sidewalk mapping efforts. [TCAT_WSDOT_Research_Report_Proviso_2023 - Copy (wa.gov)]

Additionally, TCAT has produced two projects for the It’s Transportation for All of Us (ITS4US) program, a grant program managed by the USDOT:

OpenSidewalks:
- An open-source database that builds off of OpenStreetMaps
- Seeks to create a comprehensive and accessibility-forward standard for sidewalk mapping
- Records sidewalk attributes like steepness, width, surface conditions, and shared traffic

AccessMap Multimodal:
- Routing application with highly customizable, real time accessibility preferences
- Utilizes data schema from OpenSidealks with immediate availability to the app
- Co-created with participatory community design, constantly mapping for new locations

AccessMap Multimodal seeks to provide travelers of all abilities with safe, customizable routes. While Mass-Produced Maps (Google, Apple, Bing, etc.) are universally popular among the surveyed cohort, participants reported they spent 30 mins – 4 hours planning a single trip. Due to this, many people have given up on trips because these apps do not prioritize safe pedestrian routing.
Dr. Caspi highlighted the following stakeholder gaps:

- “How do I find safe, accessible routes tailored to my abilities, needs and wants?”
- “What is my reach in a particular environment?”
- “What neighborhood is best fit for me, my family, [and] my particular non-motorized transportation goals?”

Accessibility is subjective and terms such as “accessible/inaccessible” may cause friction when discussing pedestrian data. Dr. Caspi emphasized the importance of individual mobility profiles, as everybody’s needs are different and subject to change.
When mapping a new city, participatory codesign is key. These are the steps involved in mapping a new area:

1. An engagement meeting where an AccessMap Multimodal presentation is given to the community
2. Collect people’s stories and concerns regarding barriers faced in the area
3. Go to the “back office” and create a new section for the city
4. The app is launched for that region, and the community gathers together to complete “quests” – a gamified approach to recording sidewalk data
This map visualizes the connectivity of sidewalks across Seattle. The color scheme provides insights into the level of connectivity:

- Purple: Indicates areas with insufficient sidewalk connections.
- Green and Blue: Represent moderate connectivity.
- Yellow: Signifies high sidewalk connectivity.

For instance, neighborhoods like Capitol Hill, Leschi, and First Hill boast extensive sidewalk networks. In contrast, North Seattle neighborhoods, such as Lake City, face a severe shortage of connected sidewalks. A robust sidewalk infrastructure enables non-drivers to move independently, enhancing access to alternative modes of transportation.
7.2 Further Reading: User Testing for Project Tracking

The Puget Sound Regional Council (PSRC) is a four-county Metropolitan Planning Organization that is unique to Washington State due to the Growth Management Act 1990. The PSRC oversees comprehensive plans, including the 30 year Regional Transportation Plan. The Puget Sound region is great at developing ambitious plans, but accountability tends to fall short. For example, the Seattle Complete Streets program has been prone to several delays and abandoned projects.

Our participants frequently express the desire for transparent communication regarding project implementation. To improve accountability measures, King County Councilmember Claudia Balducci, established the Regional Transportation Plan Implementation Dashboard. Users can browse summaries of projects including subjects, data points, and performance. Tools like these empower the region to track the outcome of long-range plans.

Blake Trask, Chief of Staff for Councilmember Balducci, presented the RTP Implementation Dashboard to our seminar cohort. Participants had an immediate response to the dashboard, enthusiastic about the concept, but concerned about the accessibility of such a tool. In the exit survey, we asked participants to provide feedback about the RTP Implementation Dashboard.

One participant, a screen-reader user, noted:

“Overall it is accessible for the areas I investigated. However there are a number of issues:

The tabs are not labeled properly. They say "wtb..tab 1" So I must click on the tab to understand what the tab is related to. This is true for all tabs.

There are a couple of links that are not labeled correctly. Again it starts out with a WTB and then a string of numbers with a dash and then numbered 12 and 13 respectively. These labels need to be addressed.

There are no alt tags on the graphics. I don't want to navigate away from the page to find out what the image is. Sighted individuals don't have to do this. Simply using a short descriptive alt tag will fix this issue.”
Usability testing with stakeholders from the disabled community is necessary. Since blind and low vision residents are key users of public transportation and active advocates, it is crucial to minimize miscommunication when developing accountability tools. Asking stakeholders questions like “Is it currently a good dashboard?” and “What should be changed about it?” is a good starting point.

It is also suggested that councilmembers and/or their associates attend a variety of consumer organization meetings, such as:

- The National Federation of the Blind of Washington
- The United Blind
- The Washington Council of the Blind
- Visually Impaired Persons (VIP) groups
- County committees for accessibility such as Accessible Communities Advisory Committees
- Connecting the Hearing, Speech, and Deafness center
7.3 Full list of topics covered during the Nondriver Seminar series

1. “The Healthy Environment for All (HEAL) Act and Climate Commitment Act (CCA)”, January 5th, 2024
   Guillermo Rogel Jr., Front and Centered
2. “Denver Streets Partnership Sidewalk Repair Campaign”, January 12th, 2024
   Molly McKinley, Denver Streets Partnership
3. Frequent Transit Service Study”, January 19th, 2024
   Thomas Craig, Washington State Department of Transportation
   Tiernan Martin, Futurewise, & Peter Mumford, King County Metro
5. “Autonomous Vehicles”, February 9th, 2024
   Armand Shahbazian, Seattle Department of Transportation
6. “Why Me Must Assess Resilience Through the Lens of Aging”, March 5th, 2024
   Danielle Arigoni, National Housing Trust
7. “Workers with Disabilities in the Transportation Industry”, March 12th, 2024
   Shawn Murinko & Alvina Mao, Washington State Department of Transportation
   Dr. Anat Caspi, Tasker Center for Accessible Technology at the University of Washington
9. “Updating the Puget Sound Regional Council and the Regional Transportation Plan”, April 5th, 2024
   Blake Trask, Chief of Staff for Councilmemebra Claudia Balducci
10. “Transportation Infrastructure Funding 101”, April 12th, 2024
    Jaibin Mathew, Benito Perez, & Elisa Ramierz, Transportation for America,
11. “Equity, Opportunity, Outcomes & Inclusion: An Equity Lens“, April 19th, 2024
    Dr. Beverly Scott, Introducing Youth to American Infrastructure
    Lorrie Alfonsie, Jeremy Trenhalie, Dion Graham, King County Metro
13. “Fixed Route Service Planning”, “Metro On-Demand Services”, & “Access Transportation – Connecting to Fixed Route, Service Integration”, May 10th, 2024
    Peter Mumford, Jordan Hoover, Luke Distelhorst, & Jeremy Trenhaile, King County Metro
    Taylor Eidt & Eric Florip, C-TRAN
8 References


8. Transit Instruction - King County, Washington

9. Transit Manages Reliability Well, but Could Further Improve Customer Experience - King County, Washington

10. Comprehensive Planning, MRSC, Jan. 2024

11. What is a 15-Minute-City?, MRSC, Oct. 2021

12. Disability Access Requirements | UFAS actual link
