Mapping to Belonging: Sidewalk & Accessibility Data - Visibility to Action

An accessible slide narrative by the Taskar Center for Accessible Technology (TCAT), University of Washington

Hello from the Taskar Center for Accessible Technology! We're trying out a new simple language translation, screen-reader first slide narrative for our content. If you have suggestions or comments, we would love to hear them! Please do not hesitate to contact Anat Caspi or Kunal Mehta at uwtcat@uw.edu. Thanks for your interest in our content

Today's workshop is presented by: Anat Caspi, PhD [Director of Taskar Center or TCAT] and Kunal Mehta [UX/UI design at TCAT]

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Time: 7-8:00 PM Eastern

CEU: 1

Session length: 60 minutes!

Orientation & Mobility Specialists Workshop

TITLE

Mapping to Belonging

How lived disability experience becomes route guidance, shared data, and public action

Subtitle:
Orientation & Mobility Specialists Workshop

TOPIC 2

What we will cover today

1. What “mapping to belonging” means
2. Why accessibility systems often fail
3. What TCAT and Washington State built
4. How our tools connect lived experience to operational systems
5. How these tools may support O&M practice
6. Where we need partnership, critique, and participation

Significance to the belonging roadmap:

This presentation is not about presenting perfect technology. It is about exploring how accessibility systems can better connect lived experience, public infrastructure, and operational decision-making.

TOPIC 3

Belonging is not just movement

Belonging means:

- being able to reach important places
- understanding the environment
- trusting the route
- participating without constant negotiation
- being able to challenge inaccessible conditions
- having systems that respond

Significance to the belonging roadmap:

A route can technically exist and still fail to support belonging.

TOPIC 4

Accessibility breaks down between systems

Trips often fail because:

- pedestrian infrastructure is disconnected
- accessibility information is fragmented
- institutions cannot absorb community feedback easily
- people must negotiate many disconnected tools and environments
- lived experience disappears before it reaches operational systems

Significance to the belonging roadmap:

We approached accessibility as a systems problem rather than a single-app problem.

TOPIC 5 — INTERACTIVITY

Reflection Prompt

What most determines whether a place feels usable for a BLV traveler?

Please rank top 3 of these possible responses:

- crossing complexity
- familiarity

- environmental predictability
- transit access
- sidewalk continuity
- confidence
- auditory signaling on crosswalks
- support network
- temporary barriers
- something else - please specify

Discussion framing:

Many of the factors shaping belonging remain difficult to represent in conventional transportation systems.

TOPIC 6

What is TCAT?

The Taskar Center for Accessible Technology designs for the fullness of human experience through:

- accessibility-focused tools
- pedestrian accessibility infrastructure
- participatory accessibility systems
- routing and planning tools
- public accessibility data ecosystems

Our work focuses on:

- mobility
- accessibility
- participatory systems
- public infrastructure
- disability-centered design

Significance to the belonging roadmap:

We are not only building applications. We are building connective infrastructure between communities, data systems, and institutions.

TOPIC 7

Why we took a systems approach

The most invisible aspect of disability to planners is often:

- how diverse the disability community really is
- how differently environments are experienced
- how quickly assumptions break down in practice

Even thoughtful planners cannot predict every accessibility reality from inside the institution alone.

Please note:

People with disabilities need to be consulted early and often. Even when systems believe they accounted for everything, the community often knows what is still missing.

TOPIC 8

The challenge is operational translation

Communities already know:

- where routes fail
- where crossings feel unsafe
- where environments become exhausting
- where accessibility information is incomplete

The challenge is helping institutions absorb that knowledge operationally.

Significance to the belonging roadmap:

Our tools are designed to ease that conversation by helping lived experience attach to specific pieces of infrastructure and workflows.

TOPIC 9

What Washington State built

Washington State funded creation of:

- a connected pedestrian network
- accessibility-focused pedestrian data
- statewide QA/QC systems
- routing and analysis tools
- participatory update pathways
- public accessibility infrastructure

This work contributes to:

- OS-CONNECT – that is the dataset of all the sidewalks and crossings in WA
- OpenSidewalks – a data schema that everyone can use to repeat this everywhere
- TDEI infrastructure – a platform paid for by USDOT to support not only the collection, but the use, the maintenance and stewardship of the data
- accessibility-focused routing systems – tools to encourage people to use the data every day and provide comment and feedback on it.

TOPIC 10

Accessibility infrastructure at statewide scale

Washington State pedestrian accessibility infrastructure includes:

- 593,204 sidewalks
- 670,231 crossings
- 351,931 curb nodes
- 562 jurisdictional datasets

Significance to the belonging roadmap:

The important shift is not only scale. It is the move toward connected, maintainable, publicly stewarded pedestrian infrastructure.

TOPIC 11

Different tools support different accessibility questions

Accessibility Question	Tool	Possible O&M Relevance
“Can I get there in a way that works for me?”	AccessMap	Discuss route tradeoffs, environmental variability, and uncertainty
“Could I realistically build a life here?”	Livability Tool	Compare housing, school, work, and neighborhood options
“Where does the pedestrian network break down?”	Walksheds + QA/QC	Identify disconnected or difficult pedestrian corridors
“How do I tell the system what it missed?”	AVIV ScoutRoute	Support structured reporting of barriers encountered during travel
“How can communities inspect and improve accessibility data?”	OS-CONNECT Viewer	Help clients and advocates understand local infrastructure

Significance to the belonging roadmap:

Different tools support different moments in the relationship between lived experience and public systems.

TOPIC 12

Accessibility systems should remain challengeable

Accessibility systems should:

- support planning
- communicate uncertainty
- improve through participation
- preserve local knowledge
- remain open to correction

Please note:

The goal is not to replace O&M expertise or lived experience. The goal is to better support those conversations.

TOOL BLOCK 1 — ACCESSMAP

TOPIC 13

AccessMap

“Can I get there in a way that works for me?”

BLV travelers often need to evaluate:

- crossing complexity
- sidewalk continuity
- environmental predictability
- route consistency
- transit transitions
- construction impacts
- confidence before travel

Significance to the belonging roadmap:

Accessibility is not simply whether a path exists. It is whether a route feels usable and understandable for a specific traveler.

TOPIC 14

What data currently informs routing?

Current pedestrian routing inputs may include:

- sidewalks
- crossings
- curb ramps
- slopes
- surfaces
- pathway connectivity
- transit access paths

Significance to the belonging roadmap:

This already differs substantially from conventional road-centered routing systems.

TOPIC 15

Future accessibility signals for BLV mobility and belonging

Potential future accessibility signals:

- crossing alignment quality
- auditory crossing complexity
- temporary barriers
- pedestrian signal reliability
- environmental predictability
- crowding patterns
- indoor/outdoor continuity
- stress or confidence indicators

Please note:

Many of the most important accessibility factors remain difficult to represent computationally and still require community interpretation.

TOPIC 16

Demo: Comparing route choices

Example comparison:

- shortest route
- calmer crossing route
- more predictable pedestrian route

Discussion framing:

The question is not “What is the best route?” The question is “What route characteristics matter for different travelers?”

TOPIC 17

Possible O&M relevance

Possible uses:

- discussing route tradeoffs
- preparing for unfamiliar environments
- identifying difficult transitions
- discussing uncertainty before travel
- comparing route options
- identifying where field assessment may still be needed

What this tool should NOT imply:

- guaranteed safety
- universal accessibility
- replacement for O&M expertise
- complete environmental understanding
- certainty for all travelers

TOPIC 18 — INTERACTIVITY

Reflection Prompt

Think about a route that technically existed but still failed in practice.

Menti Discussion

Possible reasons:

- crossing ambiguity
- inconsistent infrastructure
- temporary barriers

- environmental unpredictability
- confidence mismatch
- cognitive load

Discussion framing:

Many accessibility failures emerge in transitions between systems rather than from one isolated barrier.

TOOL BLOCK 2 — LIVABILITY TOOL

TOPIC 19

Livability Tool

“Could I realistically build a life here?”

The question is not simply:
“What amenities are nearby?”

The question is:
“What destinations are realistically reachable through the pedestrian environment?”

Significance to the belonging roadmap:

The shift from “nearby” to “reachable” changes accessibility from a map problem into a lived mobility problem.

TOPIC 20

What data currently informs this question?

Current inputs may include:

- pedestrian routing
- sidewalk connectivity
- crossings
- transit access
- destination locations
- walksheds
- travel-time estimates

Significance to the belonging roadmap:

This attempts to move from proximity to practical reachability.

TOPIC 21

Future accessibility signals for BLV belonging

Potential future factors:

- environmental predictability
- route stress
- familiarity
- noise complexity
- nighttime navigation conditions
- temporary barriers
- social support networks
- indoor accessibility continuity

Please note:

Belonging includes emotional and social dimensions that remain difficult to model computationally.

TOPIC 22

Demo: Comparing two neighborhoods

Example comparison:

- nearby amenities but complex crossings
  vs
- fewer amenities but calmer pedestrian conditions

Discussion framing:

The system should not decide where someone should live. The goal is to help surface useful accessibility questions.

TOPIC 23

Possible O&M relevance

Possible uses:

- discussing future housing options
- evaluating school/work access
- supporting transition planning
- discussing unfamiliar environments
- identifying areas requiring field assessment
- exploring environmental uncertainty

What this tool should NOT imply:

- that one environment is universally “better”

- that route familiarity can be fully modeled
- that reachability automatically equals belonging

TOPIC 24 — INTERACTIVITY

Scenario Exercise

A BLV traveler is comparing two apartments.

Apartment A

- nearby grocery store
- disconnected sidewalks
- complex crossings

Apartment B

- fewer nearby destinations
- calmer pedestrian environment
- more predictable crossings

Which environment may better support independent travel?

Discussion framing:

There may not be one correct answer. The goal is understanding what factors matter.

TOOL BLOCK 3 — AVIV SCOUTROUTE

TOPIC 25

AVIV ScoutRoute

“How do I tell the system what it missed?”

Communities already know:

- where routes fail
- where crossings are stressful
- where barriers recur
- where accessibility information is incomplete

The challenge is helping institutions absorb that knowledge operationally.

Significance to the belonging roadmap:

Participatory systems help lived experience remain visible inside public workflows.

TOPIC 26

What currently enters the system?

Examples include:

- geolocated observations
- infrastructure-linked comments
- route-level notes
- accessibility reports
- field validation
- community walkabout observations

Significance to the belonging roadmap:

The goal is not simply collecting reports. It is preserving contextual accessibility knowledge.

TOPIC 27

Future participation signals

Potential future contributions:

- recurring temporary barriers
- emotional stress points
- confidence indicators
- environmental inconsistency
- wayfinding confusion
- inaccessible transitions
- changes over time

Please note:

Many accessibility realities are dynamic rather than static.

TOPIC 28

Demo: Turning lived experience into operational feedback

Example workflow:

1. Traveler encounters a problem
2. Observation attaches to infrastructure
3. Agency reviews or validates
4. Information improves routing or planning
5. Community sees visible response

Significance to the belonging roadmap:

Participatory systems only build trust when communities can see how feedback becomes operational action.

TOPIC 29

Possible O&M relevance

Possible uses:

- documenting recurring barriers
- supporting community walk audits
- identifying inaccessible transitions
- helping clients report environmental changes
- preserving local accessibility knowledge
- supporting participatory accessibility studies

What this tool should NOT imply:

- that all feedback is automatically resolved
- that community participation replaces institutional responsibility
- that reporting alone creates accessibility

TOPIC 30 — INTERACTIVITY

What information is still invisible?

Menti Word Cloud

Possible responses:

- auditory confusion
- temporary barriers
- stress
- social safety
- fatigue
- predictability
- weather impacts
- crowding
- alignment quality

Discussion framing:

If these factors matter, accessibility systems must remain participatory and continuously updated.

TOPIC 31

O&M specialists already do this translation work

O&M specialists routinely translate:

- lived travel experience
- environmental uncertainty
- route complexity
- contextual barriers
- confidence
- environmental variability

…into practical navigation strategies.

Significance to the belonging roadmap:

Our goal is not to replace that expertise. Our goal is to better support and preserve some of that knowledge operationally.

TOPIC 32

If your region already has pedestrian accessibility data

Possible next steps:

- explore routes in AccessMap
- inspect environments in the Viewer
- compare mapped conditions with lived experience
- use AVIV ScoutRoute to document barriers
- incorporate route discussion into O&M instruction
- participate in studies evaluating trustworthiness

Significance to the belonging roadmap:

Existing accessibility infrastructure becomes more valuable when communities actively use, challenge, and improve it.

TOPIC 33

If your region does NOT yet have accessibility infrastructure data

You can still:

- organize community walk audits
- identify important destinations and missing links
- document recurring mobility failures
- participate in pilot studies
- help define what accessibility information matters most
- advocate for connected pedestrian accessibility infrastructure

Significance to the belonging roadmap:

One of the most important community contributions is helping define what accessibility systems should pay attention to in the first place.

TOPIC 34

What we hope this audience helps us do next

We hope O&M specialists will help:

- critique our assumptions
- identify misleading accessibility signals
- define meaningful accessibility information
- evaluate trustworthiness
- identify where systems fail
- shape participatory workflows
- help ensure these tools support belonging rather than oversimplification

Please note:

Failure cases are valuable. They help reveal where accessibility systems still do not reflect reality.

TOPIC 35

Mapping to belonging

Belonging is not created by maps alone.

It requires:

- connected infrastructure
- trustworthy information
- participatory systems
- institutional responsiveness
- long-term stewardship
- systems that know how to listen

Final significance to the belonging roadmap:

People already know where access breaks down. The question is whether our systems know how to listen operationally.