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AGING & DISABILITY SERVICES

CITY OF SEATTLE - HUMAN SERVICES DEPARTMENT

UNIVERSAL DESIGN & PEDESTRIAN WAYFINDING

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 >>Speaker: Hello everybody and good afternoon. I want to thank you for coming today to The Northwest Universal Design Council and public wayfinding. I am Tom and one of the founding mentors of the Universal Design Council. I would like to thank our sponsors; King County Mobility Coalition, Rooted in Rights as well as the organizations that are represented here today on our panel.

The Washington State for Blind Citizens and wayfinding. Department of Transportation and Sound Transit.

This is a matter of housekeeping. In case of emergency the exists are that way and the restrooms are that way as well.

We have the refreshment table so if you need water or coffee everything is there.

 >>Participant: Did you say which way that way was?

 >>Speaker: Thank you. That way would be east to your right.

In case of earthquake drop and cover. Hopefully (inaudible). I would like to stress that when we have questions this afternoon, please use the microphone even if you think you have a booming voice. It doesn't help people with hearing impairments. We are recording this with the Seattle Channel as well.

 The Universal Design Council was created to promote and educate the concept of universal design. Universal design is really not a guideline for accessibility but a set of principles that says not just in our building environment but in education and digital communications. Things need to be designed with those principles so they are usable by the greatest number of people possible regardless of abilities or age.

 Today we are going to have Staci as our moderator and mobility manager and improves transportation and involves transportation problems. King County coalition for ability for all and work with coalition involves exclusive planning and collaboration. She happens to be a member of our northwest universal design steering council.

I want to thank the King County Mobility Coalition of the sponsorship of this. I want to introduce Staci.

 >>> Staci: My goal is to introduce the speakers. I'll get to that in a moment. Good afternoon everyone. My name is Staci Haber and I am the director of Mobility Coalition provide state staff support and partnership with my colleagues Cassidy who is in the front row and you'll see her around as well. King County Mobility Coalition is the one who sponsored this event and want to have a platform with principles and wayfinding. Our vision is to coordinate a transportation system which all people can move freely through King County and the Puget Sound region. To move freely to see there's no barriers from your home to the pedestrian environment to the bus stop and station back to the pedestrian environment and to the ultimate destinations. Individuals and all ages and abilities might have the tools to navigate complex built environment. Thankfully there's solutions and great case studies that leverage Universal Design principles and making sure that wayfindings are a successful feature.

Our speakers have knowledge for you. I'll read off their Bios and they will speak.

Our first speaker is David Miller.

Waving on my left side. David Miller is a certified orientation and mobility specialist at Lighthouse for the Blind. He 30 years developing curriculum and providing instruction around transportation access for the blind, Deafblind King, Pierce, and Snohomish County Transit Systems. He is actively involved in consultation with Department of Transportation in implementing ADA standards and with Transit Agencies and Urban Designers in understanding and implementing accessibility programs with the goal of creating pedestrian friendly environments for all.

The next is Debra Kahn.

Debra Kahn is Deafblind and moved to Seattle in 2015. She really appreciates the city life after growing up on a farm in Montana and Iowa.

She graduated from Gallaudet University with a BA in psychology and currently does various contract work related to DeafBlind culture and educating others as a DeafBlind Mentor. She's the proud mother of two grown children.

 The next speaker is Adrian Bell.

 Adrian Bell is Planning Director at Applied Wayfinding. Adrian has experience for 30 years in the public and private sectors. He has practiced in the UK and North America and specializes in active transportation, behavior change, and urban wayfinding.

 Aditi Kambuj. She's part of Seattle Department of Transportation urban design program which supports their departmental mission and vision to create high‑quality streets and vibrant quality spaces. Our work focuses on optimizing the human experience in the public realm. By designing high quality streets for all people of all ages and abilities, our goal is to promote greater use of our streets by all.

 The last is Candace Toth. Candace is a project management professional with over 10 years' experience managing design and wayfinding projects. In her current role at Sound Transit, she manages and coordinates the development and implementation of the agency's signage and wayfinding program, focusing on supporting the Agency's capital expansion projects.

 That is our speakers. I hope you are in the right room.

 Again, if you could hold questions in will the very end. They will go one by one and offer their insights and then we will do Q and A at the ends. Hold your questions. I'll turn it over to David.

 >>David: Can everybody hear me. I am David and I work for Lighthouse for the Blind. The light house is largely a manufacturer. We manufacturer and produce parts with commercial aircraft's and a large number of employees who maintain 50% of our employees are either blind or Deafblind. Again, I've been working there for 30 years providing training for blind individuals access to individuals for transit and debt get to other places. I want to acknowledge the commission that the work they do on universal design. It is a foundation for orientation and mobility without streets and intersections and sidewalks and traffic controls and pedestrian access at intersections.

Things would be very difficult. Orientation mobility and cane instruction is over laid on that system and network.

Benefits of universal design is its attempt at providing some degree of predictability and makes it easier to learn and navigate. I want to appreciate the topic for today. Wayfinding is human activity and it is what we do to make connections with other people.

Wayfinding systems generally are intended to identify gaps and provide the information that we need to find our way.

So, when we get up in the morning we decide to go to work and you have to find the door and make your way to the bus stop or train station or get to work or some appointment or social event. It is a very aspect of daily living. Also, as a trainer of Deafblind individuals, I consider myself a wayfinding specialist or a way finder, or personal trainer. Identifying routes that will work for them and trying to expose or eliminate gaps when things don't go well. Experience with that would be both safe and efficient and it is an important part of efficiency. This is something that I've been doing for 30 years. One of the benefits of being a person involved in training individuals is as systems are evolving or wayfinding materials are being applied, the process of working with someone and training individuals gives them exposure to those systems or those materials that they need to visual or tactile. That exposure allows them an opportunity for if it is working well.

 Also provides an opportunity for materials. Because many accessible or accessibility features to our environment have gone through a transition of improvement based on probably consumer feedback and problems in traveling.

 So, one of the things I want to mention at the beginning is the importance of operational solutions. King County Metro has had a policy and disability policy that specifically addresses of communication of Deafblind individuals. Training the drivers is done in such a way that it makes travel by transit a much safer option and much more reliable option. A person waiting on a curb can feel confident they get on the right bus and off on the right place because of the policy. Without that I wouldn't be able to do my job. It is a factor in our wayfinding scheme and accessibility.

When I first started here, the only option we had in terms of transport buses. Since that time we added many more elements of transportation and the system has gotten more and more complicated. As a part of that we had to reconsider and look at how to make those systems work for everybody.

In addition to the bus system we have of course, light rail and streetcar and putting it on bus islands and street cars separated by a bicycle light and those are risks and concerns and new applications for maybe standard wayfinding or accessibility materials.

 One of the biggest changes for a blind person has always been managing traffic. In the old days in the 90s the solution for that was if a person was downtown or in an area and needed to cross a busy street they would be required to hold a card and wave for somebody to come along and guide them across the street. I have a fond memory of an experience where I was training somebody in north Seattle. An individual was making his way to the DVR office and we were working on his bus route. He got off on the right location and stood on 130th and 125th and waited for someone to guide him across the street. The office he was trying to get to was separated by that one crossing. What happened with the light green, King County metro bus driver put on his break and got out of his bus and guided him across the street.

That was the way that people managed to get across busy traffic like intersections. Downtown, much easier scenario. A person might wait 1 or 2 minutes to get a ride.

 Later, we had a government specialist named Mark Lander (Inaudible) and he was a blind person and he likes to travel. He went to Australia and he found push buttons that vibrate. He came to Seattle and said I saw this amazing thing in Australia and we have to have these here. We contracted Department of Transportation agreed to install the first vibrating pedestrian signal at 23rd. Over a period of 10 years there was a series of other traffic engineers who were handling the ADA requests and slowly but surely Seattle had more and more of these devices installed at targeted locations and locations per request by individuals. In the 1990s we had the light rail proposal that passed finally and welcomed deaf and Deafblind individuals to the table for access. One of the takeaways was the Martin Luther King corridor was installed with APS or accessible pedestrian signals. The light rail stations there the Columbia City station was a very complex design they had to figure out. The result was that crossing from corner to corner or to access the station, they had to install 6 of these accessible pedestrian signals APS and break down the space that the person could actually understand it and access those stations. Since then APS has become a standard and they are being installed all over Seattle along arterials. The 23rd avenue improvement project is installing that. It is a standard. People can expect to have that available.

Having APS in place is the difference it makes for them to have a complete trip or to travel efficiently and independently on their own. Sound Transit developed tactile wayfinding for their stations because their stations were extremely complicated. (Inaudible)

The tactile‑ability was not sufficient. Sound Transit came back and called people together and reconsidered that material and now they will be installing a granite for future stations.

That seems to be working. There's no standards for tactile way wayfinding in the United States. Washington State ferry system is also employing this kind of material and installing it on their Whatcom ferry already. It is an exciting development.

There's been all kinds of other things that made travel easier that I consider wayfinding. Certainly with the improvements with curb ramps and adding to wheelchair ramps and those set up with APS including the lighted curbing and gives people 3 points of contact and get people in the right direction. People doing the design work don't understand how this works. There are plenty of examples of it and innovation and improvement over the past.

Other things that people come to appreciate certainly include buses. Bus automated stop announcements, dynamic signage which is easier to see than static signage.

 The installation of curb signage.

Transit apps like One Bus Away and refine and become more efficient. They don't have to spend at much time standing and waiting. That person might be more vulnerable especially at night.

 SMS testing and smart phones is a huge innovation for Deafblind folks and has given them a safety cord to contact friends. We have been loading an app called Find Friends on people's phones so I can identify where they are at any time during the day. If they find themselves getting lost, I can find them. They may not know where they are located because they can't visually apprehend their visual space and they can contact me by text and I am able to find them and the police department can swoop them up and bring them home. There's that kind of technology that is something that gives people much more comfort when they are out on their own.

 Let's see, oh, and the development of ‑‑ allow to have text in braille and GPS on their phones and track a location independently on a bus and makes them more autonomous and self‑sufficient. These are all examples of wayfinding and been developed and becoming useful and the gaps being closed by either developments or technology.

 >>> We are about 5 minutes ahead of schedule.

Debra, do you want to speak?

 >>Debra: He is absolutely awesome. What can I say? I wanted to say that yes, I moved here in 2015. I used to live in Yakima Washington. There's a big difference between Yakima and Seattle. Here the access is incredible and very good even though there's room for improvement.

 David was good trainer and able to train me and able to navigate my way around the Seattle area. One of the challenges I had was how to solve ‑‑ there's a list of things. I'll talk about a couple.

First I would like to share an antidote with you ‑‑ a story.

 Antidote.

 Recently I was traveling from SODO area on the light rail and tried to meet a friend at the Starbucks headquarters down in the SODO area. I was using the transit app and able to get off of the bus on the right spot. It said to turn right. When I turned right I was met with construction. The sidewalk was closed. What was I to do now? What I did after my initial panic was to transfer over to Google maps and it was able to reroute me into a way I could go. It was a called lander and something. I don't know the name of the street. There was a sidewalk on the south side but not on the north side of that street. I was like hmm, luckily I saw a crosswalk and I was able to navigate my way around there. There are challenges out there and we have to figure out how to get ourselves through them creatively.

Let me think of another.

 With the bus and the light rail, I've had a couple of things happen. Both within a week. Last week up on the bus, there's that reader that you are able to see when the next stop is and what it is. But it kept repeatedly saying the same thing. MID 1 or something. I was on my app trying to figure out where am I and where do I get off because it was not announcing the next stop. It was a huge challenge for me. Without my hand-held device I would have been totally lost. On the light rail they have information on a reader that is pretty good as well but it doesn't always work. I was getting on at Mt. Baker and headed off to the University of Washington area and the reader said Tukwila. I thought that is way back there. I had to carefully use my eye site and figure out where I was and count the stops so I could get off on the right spot. It is an interesting challenge but I wish there was another way to get through the issues we encounter. Maybe an app that tells me where I am so I get a live feed where I have at any moment in my travel. Am I using up all of my time?

 >>Participant: You can have a few more minutes.

 >>Debra: Okay thank you.

I'll refer to my notes. I do recall on Facebook, there's a group on Facebook for Deafblind people and there's discussion about different issues about wayfinding. That's where I learned about Google maps. Maybe I am not able to see like on a bright day I can't read my phone. I need other options. I am learning braille but that is a transition and will take time.

David had mentioned about the bike paths. I recall ‑‑ I used to work on Capital Hill at the Deafblind service center and I would make my way down to Broadway. I would get off of the bus and get confused because I didn't know where to cross on the sidewalk because of the bypass and the bike lane. I didn't like that and I chose not to use the bus as often on Broadway because the street cars ‑‑ they were not accessible on street cars. If I am on a streetcar, I don't know, where is the door going to open? I didn't know I had to push a button to have the door open. It I was oh! I have a lot more other antidotes. Perhaps training on speaker would be helpful.

Training does definitely help. For example today, I live in north Seattle north 104th street but no sidewalk on my block and no streetlights. All right, I can do this and trust my cane and navigate my way to where I need to go thanks to David who helped train me and made a safe route for me where I can count a streetlight or two as I go onto a quiet street. It has made me nervous but the sidewalk no matter what, are critical elements to have available to us.

I think that is it for now.

(APPLAUSE).

 >>Adrian: Thank you. This is Adrian from Applied Wayfinding. There are people professionally who do wayfinding and my background is a transportation manager but the company I work for is a design company. The issues around access and the use information and how we think about design.

I want to talk about the background of wayfinding design and what it is. How we approach it and how the wayfinding interesting is thinking about it where to improve and where opportunities lie and challenges in finding real world solutions. I have a few slides that are described and text on it as well.

 Just to mention the company I work for Applied Wayfinding. It has been around since 1997 and the company is responsible for London and a transport for London. That project set a new standard in a way where it was focused on providing information. That is the difference of wayfinding have done in the past and it is for buildings or traffic. Guidelines for vehicles to move. But at the time people who were walking or using (inaudible). We created the system in London to use a more important mode in the city and more inclusive and transportation system.

It also led us to look at the needs of the tourists and people who had various physical sensory needs and how we can start to include more people in what is essentially a very visual system. That started us on that pathway and we looked with (Inaudible) to help with those ideas.

First of all wayfinding is a serious human function and apparently only mammals with a sense of direction.

 But it is something that we do by recognizing patents and the physical involvement around us and how we interpret environment and culture we have. It is very important for us in a complex city to not only get from A to B but get something from that journey. Wayfinding plays a role in our understanding as well as our efficient movement through a city or a transit system.

The slide here recognizes that all of us have individual requirements. We all have our individual journeys who are all unique and sometimes wayfinding is something we don't need to think about. We go into that usual journey to work or local story. You don't even think about it. If you were in a new place it is very much in the front of your mind and the only thing to think about if you feel you are lost or uncomfortable where you are. We have to recognize there's not just one solution for these circumstances. Universal design and developing the information that suits as many people as possible and need them to adapt specially. The situation when wheelchair access that was much more prevalent a ramp in the back of the store and need to put it at the front in terms of design. Everyone can use it out special.

 A little bit how we approach wayfinding. We will talk more about the project in Seattle. We have to think about the audience. The people who are using that system and that sort of information and that is the focus of today's talk. Also the place in which they are trying to navigate. A city is great huge mixture of destinations and different districts and places and buildings. Trying to coordinate that system into information is a complex start. You need to find a way or a language for that, that is easily represented in the city and in reality. (Inaudible).

The other important point is to understand how particularly public sector municipal projects come about. All through the accessibility discussion there's always what is practical or what is affordable. Those realistic issues are very much at the forefront of everything we would like to do. Those are things we have to consider when we are thinking about design solutions. I want to talk a little bit more about people and places.

 I think it is important to recognize that how we find our way through an environment is both how we perceive that environment and how that environment speaks to us. Our perception of an environment is not the sense we use to detect that environment but how we've been brought up and where we live and what state of mind we are in that day. Whether we are in a rush or on a specific journey in that space and time. All of the information we need. That is adding to what physical environment tells us. Earlier, if there's no sidewalk that tells you where you are in the world in your environment. There are steps on your route, you need to know that and you may need to know there's a rest point. All of those factors come together and that makes the initial part of your work to make it understandable and how we have the users of that place. We have various tools to help our clients and the people we work with to think broadly about users and not just down one route. We approach the project and say who is the project for and the response is it is for tourists. That is a homogenous idea and explore what that is.

 We are in a time where the opportunities for us to provide information is changing rapidly.

We are in an unprecedented period of technological change and giving us access to unbelievable amounts of information and accessing it and getting that information. We are in a situation where it is difficult to have a technical information and goes out of date.

 Also remembering that technology is not suitable for everybody. It is something that changes by its very nature. Some traditional techniques or designs, clear maps, always have a place for a very long time and getting a balance between the expectation that everybody has to be online or an app. Other forms of information is very important to have. We are often told you can't do all of that.

 In terms of what is driving this industry and our city is becoming more and more busy and more dense and makes them more complicated and cities are trying to encourage people to travel in various ways. The demands for them to travel around are complicated. We recognize that overall populations are aging and health care is allowing us to age and providing chronic solutions over time.

 We are thinking of diverse ‑‑ these are a number of places that are not about physically ability. It is socioeconomic position and motive position.

Spin this Rubik's cube and come up with a lot of different facets to their character and help us broaden out our approach to design.

 We do a lot of listening.

We always try to involve accessibility advisory so we can hear about the experience of those people in that city or in that transit department. We never know it as well as those people. They are more practical about solutions that would help them. One of those solutions is an example here of a bus stop we designed for Toronto. It was not the fact that we had a design tactile and braille but most people using a cane felt they couldn't tell one street from another. The first problem is am I standing at a bus stop. We designed a foot for the bus stop and produced a different sound. From an information design it is outside of the scope of wayfinding but critical for someone who needed to use that information in the first place.

 You want to give them ‑‑ if that information is not at the right height it makes the condition even worse.

 I think another important point is about box ticking.

Sometimes we call it blue washing. This is an example of Union Station in Toronto and where all of the information is repeated in color blue because it is level. That seems to be a box and did you not provide a lot of information. We are careful to say and maybe for a discussion here about trying to reduce that data and they should be accessible and step free and mark it rather than blanketing.

We pay a lot of attention to how we give that information clearly. This is central park and rest points and we are not pretending it is perfect but let's people know how much energy they have to use in getting around central park.

 Finally going back to the point of technology and interesting developments to wayfinding is a company that has open standard. We are very happy to work with the idea of apps and other personal devices but without standard it is difficult to make recommendations. Wayfinding can coalesce around one standard and in the industry we can make recommendation that is we need.

 That is it. Thank you.

(APPLAUSE).

 >>Aditi: I am with the Seattle Department of Transportation.

 I want to speak about our current project in Seattle. It is the city's new first step to establish a standard for wayfinding in the city.

It is leveraging a lot of coordination. This is a picture that summarizes the state of the existing wayfinding in Seattle. This is down on the west side and signs from two different agencies and one thing that is missing is sounder. It is right around the corner and people getting to the sounder.

 There are multiple agencies working and trying to provide a service and trying to address this and industry minded and user oriented.

I wanted to start the slide deck with SDOT's mission and to deliver a transportation. (Reading Screen).

 Our mission is to deliver a transportation system that provides safe and affordable access and opportunities.

 I have a lot of information to cover because it is a project in our community and will effect all of us. I'll try to keep it brief to the time. What is wayfinding and what is the process and our strategy that we came up with and approach of design for all and the projects we plan to build in the next couple of years.

Why wayfinding? As our city grows and becomes more dense we have policy goals to get people walking and support walking journeys and transit used. We have that kind of information for vehicles for a long time and regardless of which see you are in and you can navigate that.

We want to create a more equitable and accessible public realm. The signage and other issues and also a city that is changing rapidly.

The time is right now to establish a common standard because if we don't then every project is likely to do its own thing and exacerbates the condition of having one thing.

Sound Transit is expanding and development and creating the common standard.

 It is an opportunity for our agencies working together to make a better system.

The first day we did as we started this project was bringing together a diverse and what we are trying to achieve and vision for the project. I am provided with the information I need when I need it to inspire me to explore Seattle and the choose the best way to travel in the city. It is based in the user's voice and perspective and that is one fundamental shift to think about what works for the end user and the user's convenience. Every trip is different and every user is different with unique needs and we are going to try and meet the broadest range possible.

So a little bit about our process.

The first slide here is talking about how the people way find? Applied Wayfinding was our main consultant to help us with this work and hire the right people to help us. There was a team ULTA.

 I have two maps up on the slide and they are drawn sketches that came out in the workshop with the end users. It gives a clue how people way find in Seattle and what are the points of reference that people use and the process.

The next step was getting mobility and a unique set of opportunities and challenges. The image here is the cross section of a sloping street and represents the water front of Seattle to our west going up to First Avenue and Second Avenue. It is a unique challenge here if you are unfamiliar with Seattle's topography. There's a mass of change and we have a hard time navigating that because of the elevators and they are not well marked.

 Summary of challenges and opportunities ‑‑ street topology is getting more complex and we are trying to get people biking more safely and walking more safely.

There's the absence of a standard is established how to do that well and trying to get better at it.

 A street grid is challenging and it leads to interesting challenges with street and the navigating the street grid even with folks who are familiar with the neighborhood, get turned around. We looked at how people think about their neighborhoods. Neighborhoods are the key of connection that people have to their particular environments for our design.

So I do acknowledge that wayfinding and signs is one part of the solution.

Signals and there were a lot of work and several other things including a bench pilot.

Part of the process deals with engaging with the end user. Significantly from focus groups to more specific working groups and workshops with commissions and boards.

Improve the rich amount of information for this project.

 Our strategy focused on 4 pillars. The 4 being modal integration and there's a common standard in the light rail station and bus stops.

How local distinctiveness and system wide accessibility.

Design for all is the most useful.

Systemization is something that we've traditionally been weaker on. Creating the rules to make sure it is a sustainable system and project expense.

Talked about the design and I am not going to go too much into this but really the key takeaways for me is every journey is unique. The journey starts in the planning stage like in the introduction and think about where you want to go and that is how you start to think about how and when wayfinding starts. You could be a commuter in a neighborhood that you are unfamiliar with and it might throw you off. You are with your child or a different kind of user or traveling to work. There are different needs depending on your situation.

 Universal design as we said.

 There's best practices with design for all.

 How to do accessible infrastructure planning and local status in Seattle with the improving manual. UW is doing with their access map. Common standard accessible wayfinding. We are hoping that this project is the start of our discussion.

 We also looked at other local design for best practices including how can we integrate some of this information about more complex streets in tactile and braille information and street intersections and that is something that we are intrigued by and in a pilot phase with initiatives and Seattle Pacific university and the access map.

 More internationally the City of Sidney is an interesting example where they have both braille and tactile information and 3,000 controlled crossings in the city. It provides orientation information for all users. It confirms where you are in your journey as you go along. It is at all of their locations for example. It is in predictable places and we are going to test it in a location and see how it can be scaled.

New York City's Central Park map which has a lot of information about ramps and how to describe slopes in Seattle on our map.

 More specifically our actual project that we are doing 2020/2021, we are looking at 4 pilot understand. West lake hub area a 5‑minute walk and a 5‑minute walk around ID. There's a lot of signage and clutter and our project is decluttering and removing information and essential for president and safety.

 In China Town we have multiple languages being spoken and it is a great opportunity how our system would adapt to that and a large portion of older adults living there.

 In the pilot page we have 6 elements. From left to right on the slide there's an image there's something called ‑‑ it is a 20‑minute walk.

There's red that we will replacing. Slender small sign that have public access to them as a public benefit to them. Those are hidden unless you are a Seattle resident you don't know you can go between 3rd and 4th Avenue using an escalator.

Transit stops and markers for accessible routes.

Sign family design features and elements to make the information legible including viewing heights. Text size and color contrast and braille information.

Each of the sign that is we have included braille and tactile information at predictable locations as well as 4th and Pine we will have it on street poles and providing that information to help people confirm where they are in their journey.

 Map features show through building routes and whether they have elevator or escalator access. The map is heads up and turns around and you don't have to navigate north up and relate to the map including the landmarks. Adding information about restrooms and public health facilities and accessible transit entrances.

Some of the recommendations we have it came up in our workshop having these tools is very important so it is more widely usable. We have creative wayfinding platform in Seattle as well as a digital map that shows information and sidewalk close lures and missing sidewalks and sidewalk closures.

 We want to discuss and assess make it more discoverable and have more tactile treatment for the sign of right of way and connecting the physical on street signage and the link where that.

 That is what I have thank you.

(APPLAUSE).

 >>Candace: So thank you for having me today. My name is Candace and I am with Sound Transit. I want to show you the different wayfinding tools that is in our facilities navigating our transit system.

I'll start with a brief background on who Sound Transit is and what we do and then I'll talk about physical and tactile tools in our system and audio and visual and end with innovation projects.

 Sound Transit is serving the central Puget Sound and 8 million people which is 40% of Washington State population. Our district covers 3 counties and 52 cities and governed by a board of 18.

 That covers multiple modes which is link light rail and runs from SeaTac to UW.

Connecting cities of Seattle Bellevue, Redmond, Kirkland, Issaquah, Tacoma, Everett and the neighborhoods of Ballard and West Seattle. We have a Tacoma link right rail that is in Tacoma and Tacoma Community College. We operate sounder commuter trains over 90 miles of track and adding service improvements to that system. We have bus routes and will be opening a new mode serving 12 cities.

 We are busy.

 As we design and build our station and vehicles, we use a number of tools to ensure the modes are accessible to all. We have tactile papers which are a system of textured ground tiles that have detectable cues through stations and platforms. They assist riders who are visually impaired but help everyone. Detected by foot or by cane.

 There are 3 types of tactile pavers. They indicate stop on all of our platforms. We have two other tactile pavers in our light rail system. We have corduroy pavers and create waiting pads. Linear pavers that provide tactile pathway for our stations. The domed pavers are detectable warning strips or DWS for short that is located on the edge of all of our platforms. It is a 2‑foot wide strip of yellow tile that is a buffer zone. We use it on all of our platforms.

This detectable or warning strip is required by EDA.

 They require riders to take a few steps up. The detectable strip and high plot form ramp are provided so they can board the train safely. It is an elevated section with a ramp to it. One per sounder platform.

On link light rail there's level boarding. A different system evolved. We have added between car barriers on the detectable strip with hitting train doors. These are required by the FDA and are new requirements in the last couple of years. There are steps 3-foot-high yellow flexible (inaudible) are located along the platform edge and ensure riders who are visually impaired to stay back (inaudible) train doors. Additionally at link, the stations are typically level and more complex environments. We have two other additional tactile pavers. We have tactile pathway from the station entries all the way to the station platforms. Those are made with granite and have a gray pattern on them and originally designed by an artist in collaboration with people in the community and still exists today as a great resource for our community. They proceed through the station branching through things like ticketing machines and to the different choices that people have in vertical situations and continue to the platform. The linear paver tactile pathway indicates waiting zones. These waiting zones are located in front of elevators and on our platforms.

The corduroy paver on link platforms align with the train doors and synced‑up with the platform.

 They have a striped ridge pattern to them like corduroy pattern.

 Combined in our system the tactile waivers go above and beyond requirements. There's not strict tactile wayfinding in the U.S. and we try to improve.

 On that note changes are coming to the tactile path. Again that has been mentioned. In 2018 we decided to change the linear paver. It will change to 3 linear ridges to detect in our station. It will start in north gait in 2021 and all of the stations after that. Our guidance criteria wasn't clear enough to ensure (inaudible) were in consistent ways so it goes to a ticketing machine not a ticketing wall. We have been revising our criteria to get better guidance as well.

Our tactile paver has changed over time based on ADA and feedback from our riders. It goes above and beyond ADA requirements. Tactile signage has raised letters and braille. It was made out of acrylic and faced vandalism with people picking the braille bumps off of it. We went overboard and put tactile signage throughout the entire station and told by riders it was hard to find. As a result, we updated our tactile signage in 2016 and changed the material from (inaudible) to zinc and strategy where we located it and consolidated it on a key decision point on a tactile pathway. We have the mode and direction of travel and required by ADA and platforms and we also provided a key decision point like elevators. I have a couple of examples here from Capital Hill station and there's a sign on the platform where it is a center platform and you have to choose to go left or right depending on the train. It says Capital Hill station left platform linked to the University of Washington and right to Engel lake: There the sign says Capital Hill station elevator up to exit Broadway East John Street.

 I won't go through every aspect of static signage. They are not electronic. Currently we have a labelled exit signage pilot in our 4 downtown station which is Westlake, International District, Pioneer Square.

Providing text cross street information. Pairing that with directory. This allows us to have larger text and addresses the issue with people orienting them self in the tunnel. Best practices with a number of other systems and benefits of labelled exists particularly for nonnative speakers, limited English proficiency, first‑time users, riders for high‑functioning literates, and riders who have low vision.

Overhead numbered signs are paired with wall‑mounted directories and hanging, popular destinations and local landmarks. Pairing information in photos we think is going to help people navigate our stations and systems. The criteria was based on the seamless Seattle work and finding for transit stations and deploying the maps that DB has been working on. We like riders with disabilities to give us feedback on how the signage is working. Our system is audio features to make it more accessed with headsets.

 You do need to buy a ticket or use an Orca card on our systems. They have audio cues to help find in our systems. Tap on when you ride and beep twice when you are off your ride.

 Provides audiovisual announcements. The dynamic signs to clarify electronic digital signs that have changeable context and safety and emergency messaging. We are working on improvements on dynamic signage and rolled out in 2023 with this link and we are changing the full color resolution flat panel sides on new vehicles being built. Trains there's a moving line map shows the station you passed and it will have a graphic display which side of the train the train door is opening on. We are trying to reduce reliance on text where possible.

 In stations we are going to display train arrival information but with increased accuracy.

The brain that manages the signs has better integration to our alert system and quicker across all modes and sight specific. It will give us the ability to do something like, if you are on a train going towards capital Hill and the elevators are out we can deploy information two stops before Capital Hill say elevator is out at Capital Hill and give that information at an appropriate time in their journey.

Another project is we are developing line naming for link. It is going to impact a number of things like audiovisual announcements and mobile trip planning tools. In 2012, adopted a policy where link lines were paved with a color and end of line destination for example red line to Northgate. And we heard quickly from the community there was a concern about the name red line which was a discriminatory practice with home loans, marginalized people of colors and develop a new line naming proposal. The last 4 months we developed a new naming system for Northgate opening next year. We are taking it to the board in April. This is an overview of what had been planned for a name. (Reading Screen).

But we decided to not only move away from colors but drop the color red. That has a big impact to ensure that we can provide appropriate color contrast between lines in our map system. We also relied this are other colors that are problematic. We are going to use one that doesn't use colors as a primary identifier. It includes making sure the new naming system is friendly and intuitive and inclusive and equitable and scalable. Colors can be limited but letters and numbers cannot. Riders with lower English deficiency. Minimizes the needs for future changes and systemic approach for all of our modes not just link. Stride and sounder in Tacoma.

 Stay tuned.

 Lastly I want to touch on wayfinding technology projects and innovation efforts that is focused on wayfinding and accessible mobility and pairing those to enhance to and through our stations. We recently submitted an accessible mobility on demand grant which is being reviewed by the federal transit administration and we want to use that for accessible wayfinding technology. Bluetooth beacons and move towards mobility as a service with this effort. Accessible can be delivered through a number of different ways. Technology and solutions can be determined but have a bunch of different impacts and accessible in certain ways. Assist with finding gaps within our system and the gap between a drop off point and the station. I have a little visual of a hypothetical example of technology that could happen if we get their grant. Say you are dropped off at pioneer station fed with mobile beacons and you get an alert that says you are about to arrive at your drop off station and ticketing machine and north bound. We have a lot of things in the works we are working on. That concludes my presentation. Thank you.

(APPLAUSE).

 >>> Thank you everybody. Round of applause to all of the speakers.

We are going to have a couple of microphone runners.

Before that, I had a couple of questions prepared that I could probably ask a dozen but I want to make sure that you are free to ask any question that is you have of all of the speakers. You all mentioned technology a lot. I am curious to here, can you speak to the opportunities and challenges with integrating technology than the physical wayfinding that you spoke about?

 >>David: While I was sitting listening to the presentations I was writing my wish list and things that I would like to see happen.

In terms of technology, one thing that would be useful is ‑‑ this is something related to bus transit as much as it is for light rail. A second line in the bus tunnel. Deafblind individuals to make an independent decision which train they want to get on is eliminated. There needs to be a solution or technology solution or smart phone solution where they get early arrival. It is sent immediately to their smart phone that the next train is going to the east side or the next train is going to the airport or wherever their ultimate destination. Similarly in terms of bus transit, I can see smart phone technology like for example, currently there's an option where a person can use numbers and get real time bus announcements. You can be standing at a bus stop and use this particular text number and you enter the stop number and send it to the number then you immediately get the series of next bus arrival times and the numbers. It would be certainly a way to identify what buses have taken that particular stop and give particular information to the individual. One thing that is difficult in that particular case is getting access to the stop number. So, just as an example of enhanced braille program, all King County Metro coaches have a coach number in braille or print. If you could put a similar with the buses or shelters with the stop number then the person could have access to the stop number and send out the text and get the information. If that can't be done automatically through electronic method then a physical braille label would access a lot of information and probably limit the amount of braille needed to be installed because people like to have as much information as the general public at bus stops. That is one technology. Or two technology issues and possible solutions. There's others on my wish list.

 >>Candace: David brought up good examples how it can be improved. The issue with Deafblind riders knowing which trains are arriving particularly when east link is 2023 and serving a platform is a gap we are aware of. We are partnering with innovation program which is a new program within Sound Transit and provide solutions to that gap. As far as knowing what the plan is, it depends on the proposals. We are working on it. Realtime is a big thing and navigation tools within our system and how can we help improve and literally navigating the station environment as well.

 >>Aditi: Technology, there's always advantages and pushing realtime information and sidewalk closures and physical signage and being able to share that with our partners like Google maps. It is not something we necessarily have or the best at. There's a learning curve for us to push that information out to the apps and so that the riders can absorb including One Bus Away. Technology is changes so rapidly. For example Sound Transit had an application but we move forward how do we stay connected. Exiting stations or pointing them to the same places and the same names and not creating more confusion as we go forward. It is a great option.

 >>> Thank you. I had one more. I would love to hear from Debra first on this. You mentioned clutter and confusion. Maybe wayfinding you can have too much of a good thing. You can have too much. Debra and then we can hear from others. Have you ever experienced where there's too much noise or too much wayfinding and what are practices to give you just the right amount of information?

 >>Debra: Well, I think that the technology as it improves and gets better we are dependent on the technology.

That may be the best solution.

For example, in the tunnels with the light rail, we look up and see the numbers 1, 2, 3, 4, 5, 6 they don't mean anything to me currently because that is because I am still dependent on the street names and not the number of a particular system.

I really don't like the signs because they don't really work for us. We have to look and try to find where they are located. I think technology would be a better option ultimately.

 >>> Thank you Debra. Anybody else?

 >>Adrian: Talking about the physical side of information we are aware of one of the (inaudible) that we seen in the Seattle project was recognizing straightaway that adding more signs however pretty they may be (Inaudible)

 >>Participant: Adrian, we are having a hard time hearing you.

 >>Adrian: Sorry. We are very aware that too many signs is a bad thing no matter how well they are designed. We are not in the business of making sense and our job is to make places more understandable and legible. The first solution is always to change the physical environment so that is easier to move around in and adding information if you can't physically resolve the environment. It is very difficult in most cities and impossible to use the information. Our first instinct is to say effectively from the door to the building and back. That makes the job a lot easier. One, from a design point of view signs are not the first answer. Secondly, our cities are already cluttered with information. If we are going to put information in, we should do it with a view to remove other information first.

 >>David: A follow up comment to Debra's comment of additional signage in stations. That is an issue of (inaudible) not having signs in a place where someone is going to naturally look when they get off of the train. The signage is beautiful in terms of font, color, contrast, but it is mounted on the sidewall of the platform. When the person goes out of the train to the escalator they are not looking at the walls. The numbering of exists and information becomes tangible and hard to understand.

The other thing I wanted to comment on was the clutter question. Clutter on city streets is a big issue for cane travelers. We have lots of issues with shared bikes. This is not a wayfinding issue but efficiency. Being able to move from block to block without having obstacles to navigate and work around. The arrangement of the signage certainly how it is displayed and trying to preserve the sanctity. Of the sidewalk and trying to make the street livelier and having a multipurpose street where you have sidewalks and streets as a ‑‑ surface. A person walking up the sidewalk doesn't end up in the street. You can separate the activity zones the outdoor cafe space from the sidewalk so there's not a lot of confusion as people are working their way up the street.

 >>Candace: I don't agree with all of my fellow panelists up here, thinking of signage of signage it is more than that. Physical environment itself being more intuitive to use.

But, signs are not the first sign of defense but necessary in our environment. Wherever we are more efficient with the environment is an improvement. We have been mindful at the agency of expanding our system and having signage updates and inclusive of signage maintenance and removing extra signage that populates and that is an ongoing effort. It is important as we have new initiatives that be always part of the scope. That is something that came up with seamless Seattle and as we launch something new let's think of the old things. If they are orphans, let's get them out of that environment.

Debra, and David's point that could be improved. Part of it is ledge built and clarity. The other part is the sign in the right place for a decision.

That is something we are interested in hearing. I would definitely have everyone take our survey. That is really useful feedback. If you go to the stations right now, a lot of those stations are temporary materials. We want the opportunity to test the signs and get information and improve the system before we make it permanent.

 >>> We will open up for questions. I already see a hand raised. Just state your name if you are affiliated with an organization.

 >>Participant: Thanks everyone. My name is Marci Carpenter and I am the President of the National Federation for the Blind of Washington. I agree with what Debra was saying about the numbered signs. I saw the beautiful numbers and didn't know what they meant. Maybe you could send out in the alerts or e‑mail alerts, hey, there's a new system of finding your way out of the station and here is the link. Are there any plans for putting audible ‑‑ when the link trains open ‑‑ have audible announcements this is the train to wherever the end destination is? That is an issue with Connect 2020 but it is an issue when there's a problem and the trains all board when there's a problem on the south platform. They are boarding at the north platform or however that works. Then, I don't know if any of you know the answer to this, do you know if there's any plan to finally make the Trip Planner app accessible or is it going to be abandoned?

 >>Candace: I am writing it down so I can write it in the order you asked. The number idea is a great idea. We are planning to have audible announcements where this is the train to ‑‑. That is wrapped into the dynamic system we are building and our system is pretty old and limited capabilities.

This new system we are building which will launch in 2023 with the opening of east link will give us that ability. We are developing those messages now for that design team and that project. I am not sure about the trip planner app but I'll find out.

 Any other questions?

 >>Participant: Thank you my name is Jamie and I work with SDOT in management. This issue of the various issues of the riders of the bike lines and transit center, it is new for Seattle and there's a lot to figure out with that accessibility but not new in other cities. I am wondering in America I guess is. In northern Europe are there good examples that are available where accessibility is at the forefront how they designed things?

 >>Adrian: At the representative of the UK or whatever ‑‑ it is being ‑‑ we had a head start and been looking at the 90s when we started. It is an ongoing issue and the ambition for streets closed to traffic that are valuable for people with very good ambitions there.

We created environments with vision impairments are completely unable to access those environments. That is an ongoing issue in those areas and battle between design and the environment and the need to create tactile guidelines. Other forms of delineation. Perhaps where you have like in London where you have streets where buses access pedestrian streets. Practice that works well with vision impairments don't go there.

It is a battle of ideologies as much as anything. Many people in many cities don't have enough public space. There's ongoing issue. Fortunately things like beacons and technologies and can't explain all of that. My contact backing in the UK, there's still arguments about this. It is growing in most cities and it is a battle of advocacy which is healthy and a mechanism for that resolution. I think it is very actually having those discussions and resolutions. They have the best intentions and only know by actually experiencing these and addressing the willingness and willingness to discuss and I am not sure how hopeful it is.

 >>> Okay you are good? Any other questions?

 >>Participant: I am Elizabeth, of King County Design and Engagement.

How are you planning to implement the urban landscape in Seattle with the build of all of these ‑‑ the streets are constantly changing, and city blocks I don't recognize anywhere, and you can't quickly switch out signs.

 >>Aditi: There's a couple of different approaches. The information on the maps are things that are unlikely to change and 2 to 5‑year time frame. The design of the sign if it is just the map we can switch it out. Again, going back to some of the realtime changes that are happening with closures and digital tactile form that had that information. Those gaps that we put out with static signs.

 >>> I am going to ask another one. I have you all until 3.

I am curious to hear about engagement. Candace, you have that with a survey. Wayfinding, they are tactile and uncover what is the best practice. I know in New York City the subway station they created an accessibility lab where you can test out a variety of tools. Just understanding a little more about the engagement strategies that worked or didn't work in order to come to the right solution.

 >>Candace: In our agency over the last few years we've been incorporating more user center design in the projects and the scope of our projects. That is a field of testing that we as subject matters experts or designers may have a solution or a problem but that is building in a testing base where we observe riders and do surveys with riders or deploy pilots with somebody and interact with the new signs. We did this with our ticket vending machine and created examples. Screens on an iPad and asked people to complete it. Took notes on what worked and what didn't and asked them to think out loud and identify themes of pros and cons and how to update. Make database decisions. That is something we've been moving towards more. We definitely do rely on surveys. Those can be online like the signage pilot survey or in the station with the user testing. We plan to do user testing and we have staff members who have experience on that. They will be developing a test plan. We have a number of committees with accessibility advisory. We will use those groups as well to get feedback on various projects or do material or sample testing.

 >>David: I wanted to mention about texture and. The work that sound trance sit has done with wayfinding stations and there's material ‑‑ one of the examples of that would be the corduroy tile that is used for identifying the boarding location on link light rail.

The sounder stations on the other hand the material used on those platforms are almost undetectable. It would be nice to upgrade that and use material that we know works so people can identify the door locations on the platforms. Not only useful for boarding on any location ‑‑ if you are in a wheelchair you can get on any coach and make that easier to identify the door of the train. It provides grammar for the life of the platform. Usually those stations have an adjacent transit facility for buses. Having worked for a Deafblind person finding the bays on the opposite side of the platform is hard to find if you don't have grammar. Having markers for the doors having ways to count. Rapid ride and downtown bus stops where you have the corduroy spread in a perpendicular. Then a person would have to be hunting for the kiosk or zone walking curb edge and you can get right to the place to pick up.

 >>Candace: David got me thinking. It is true our sounder stations are pretty different tactile systems. We have the corduroy pavers there. We will welcome mats which are etched granite pavements they are developed in tandem with the art program. It is difficult when we are looking at a system that is fully built. That means retrofit. We have opportunity for expansion and provide opportunities for updates. We are thinking about tactile in the bus route and transit platforms which is level boarding on the trains. We can provide those pads at the doors and pavement embedments and visible

 >>Aditi: I would love our agencies to get together to have applied. Philosophically the light rail in terms of operation and we are not going in different directions. There's a conversation on if there's bike lanes next to sidewalks and have one central standard.

 >>Participant: I am Al and I have some questions about cultural and physical changes that have happened. You used to be you could hear a bicycle coming with the click, click, click, and hear a car coming. Now that we have stealth cars that are electric and you can't hear them until you are under them. People have voluntary deafness because of headphones or tunnel visions because their noses are stuck in their smart phones and can't see anything. Has wayfinding got plans for adapting with the changes in how people interactor no longer interact with the city around them?

 >>Adrian: That is an important point of course. A lot of our work is about exploration and we talk about how we can use information to remove explorations (Inaudible) and the average tourist Seattle and Pike Place Market and Pioneer Square and you go home and (Inaudible) a lot of what we try to do is exploring the city.

That is why a lot of those projects are mapped projects. We inherently we internalize them to see the world and we can't avoid the fact that we are attached to our cell phones.

 But, what we are trying to do is to make it to provide information to get through another perspective.

Certainly what we can do is provide information that helps you enjoy the place more. That is as important as getting efficient.

 >>Debra: I want to make a comment. So many people are reliant on the visual and auditory and wayfinding. It is difficult. It is mapping with visual mapping are useless to us.

It is important to consider those aspects as well as you develop those tools.

 >>Aditi: I think about the silent cars and it comes down to elevating the base design standard for streets to make safer pedestrian and non‑vehicle environments and reducing speeds. Parallel efforts for comfort. SDOT is trying to think about these legible oriented people spaces. Projects that have tried to do that and gone away. It is the process of learning and inclusive areas.

 >>> Thank you.

 >>Participant: I wanted to comment on ‑‑ I am from Metro. I think the question around the tactile pavers and trying to be consistent across the board. Metro, sounder, we are not all just in Seattle. It is having those conversations with jurisdictions. I think about the international signs for accessibility, how do we put pressure on the ADA or whoever to have standards so that it is easier to go to jurisdictions and say look, we need to have this type of paver with this type of textile on it and it makes our job easier to make that happen. I imagine going to jurisdictions and say we want to upgrade the bus shelters and want to have the sidewalk and who is going to pay for that? I know Seattle might be able to do that but I don't know if some of our other areas would be able to ‑‑ those are issues we would need to have a larger advocacy around.

 >>> Thank you for ending us on a call to action. We are out of time. Give another round of applause.

 I want to thank The Northwest Universal Design Council putting this together and Jon and the aging give them a round of applause.

 I hope you learned something new today. Tell a friend about wayfinding and telling them what a detectable warning is with that I'll turn it over to Jon.

 >>> Jon: Thank you Staci and thank all of you today for coming. On behalf of the Universal Design Council and panelists as well. Hopefully this stimulated thoughts for you too. It is really universal design that is a way of thinking outside of the box. Often times the simple solution to a complex problem is a slap on the forehead huh ha moment. It doesn't know where or when it is coming to. I would like to extend a thanks from the volunteers. Universal Design Council and thanks to Irene Stewart, are you still here? She has been really an asset as far as communications manager for the aging disability services. As well as her contributions to numerous events including this one and continual contribution to universal design and advocacy. Thank you for the interpreters and CART translators. The City of Seattle for hosting this. Please check with our website. It is environmentsforall.org or futures coming up. July 22nd on your calendar we will be celebrating the 30th anniversary with Americans with disabilities act. If you borrowed a listening device return it to the table. What we love doing with these forms, it is a great opportunity to network with like-minded individuals. We encourage you to get out and talk to other people before you leave and make great connections. So, again, thank you all of you for coming today. Try and enjoy the beautiful sunshine.

(APPLAUSE).