Agenda

Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Meeting: Transportation Policy Alternatives Committee (TPAC) and Metro Technical Advisory Committee (MTAC) Workshop
Date: Wednesday, December 5, 2018
Time: 9:30 a.m. – 12 p.m.
Place: Metro Regional Center, Council Chamber

9:30 am	**1.**		**Call To Order and Introductions**	**Tom Kloster, Chair**
9:40 am	**2.**		**Public Communications On Agenda Items**	
9:45 am	**3.**	*	**Air Quality (AQ) Year in Review** Purpose: To provide TPAC and MTAC an overview of the various transportation-related air quality activities taking place and to discuss the annual air quality monitoring report for 2017.	**Grace Cho, Metro** **Cory Ann Wind, Oregon Department of Environmental Quality**
10:30 am	**4.**	*	**One-Call/One-Click: Supporting Mobility for All** Purpose: Increase awareness of a recently completed planning project to improve the discovery and booking of demand responsive transit to meet the growing transportation needs of older adults and people with disabilities. The project looked at "one-call/one-click" systems with the potential to make transit seamless across the variety of people's needs and eligibility for services. The panel will share key findings from the plan and discuss considerations and opportunities for implementation. Project documents are shared here: http://bit.ly/ococ-plan	**Julie Wilcke, Ride Connection** **Rebecca Miller, Multnomah County Aging, Disability & Veteran Services Division** **Caleb Winter, Metro** **Kevin Chambers, Full Path Transit Technology**
11:30 am	**5.**		**Continuation Discussion of TPAC/MTAC Workshops – Next Steps 2019** Purpose: To continue discussion on 2019 TPAC/MTAC workshops topics and calendar dates of interest with committee members. Plan next steps to take for 2019 schedule.	**Tom Kloster, Chair**
12 p.m.	**6.**		**Adjourn**	**Tom Kloster, Chair**

Next TPAC/MTAC Workshop Meeting: To be determined

* Material will be emailed with meeting notice

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Meeting minutes

600 NE Grand Ave.
Portland, OR 97232-2736

Meeting: Transportation Policy Alternatives Committee (TPAC) and Metro Technical Advisory Committee (MTAC) Workshop

Date/time: Wednesday, Nov. 7, 2018 | 10 a.m. – 12 p.m.

Place: Metro Regional Center, Council chamber

Attending	**Affiliate**
Tom Kloster, Chair	Metro
Glenn Koehrsen	TPAC Community Member
Carol Chesarek	Multnomah County
Raymond Eck	Washington County Representative
Eric Hesse	City of Portland
Joanna Valencia	Multnomah County
Jon Makler	Oregon Department of Transportation
Marlee Schuld	City of Troutdale
Denny Egner	City of Milwaukie
Emily Lai	TPAC Community Member
Anne Debbaut	DLCD
Katherine Kelly	City of Gresham
Karen Buehrig	Clackamas County
Adam Barber	Multnomah County
Jennifer Donnelly	DLCD
Laura Hanson	Regional Disaster Preparedness Organization
Denise Barrett	Regional Disaster Preparedness Organization
John MacArthur	Portland State University
Jonna Papaefthimiou	Portland Bureau of Emergency Management
Nina Carlson	NW Natural
Talia Jacobson	Oregon Department of Transportation
Mike O'Brien	Anderson Krygier, Inc.
Laura Terway	City of Oregon City
Ros Zoeller	City of Beaverton
Jennifer Hughes	Clackamas County
Karen Pearl Fox	City of Tualatin
Greg Theisen	Port of Portland
Tom Bouillion	Port of Portland
Laura Weigel	City of Hillsboro
Dayna Webb	City of Oregon City
Chris Neamtzu	City of Wilsonville
Chris Deffebach	Washington County
Susan Nielsen	Clackamas County
Jessica Berry	Multnomah County
Jeff Owen	TriMet

Metro Staff

Kim Ellis, Senior Transportation Planner	Tim Collins, Senior Transportation Planner
Ted Leybold, Planning Manager	Jamie Snook, Principal Transportation Planner
Grace Cho, Associate Transportation Planner	Frankie Lewington, Associate Public Affairs Specialist
Marie Miller, TPAC Recorder	

1. **Call to Order and Introductions**
   Chair Tom Kloster called the workshop meeting to order at 10 a.m. Introductions were made. There were no public communications on agenda items.

2. **Transportation Resiliency and Emergency Preparedness Efforts in the Region (Denise Barrett and Laura Hanson, Regional Disaster Preparedness Organization, John MacArthur, Portland State University, Jonna Papaefthimiou, Portland Bureau of Emergency Management, Kim Ellis, Metro)**
   Kim Ellis provided an overview of the panel discussion on transportation resiliency and emergency preparedness efforts in the region. Part of the Regional Transportation Plan (RTP) provided emergency route updates. This presentation would include this information and discussion on future collaboration planning for emergency preparedness.

   Denise Barrett, Regional Disaster Preparedness Organization (RDPO) provided information on the organization, that is a partnership of government agencies, non-governmental organizations and private sector stakeholders in the Portland Metropolitan Region collaborating to increase the region's resiliency to disasters. The region spans five counties; Clackamas, Columbia, Multnomah, and Washington County in Oregon and Clark County in Washington.

   The RDPO was formalized in January 2015 through an intergovernmental agreement. The organization recognizes that they can more effectively respond to emergencies and facilitate recovery of communities if they prepare together. Regional collaboration in building disaster preparedness capabilities is more cost-effective for taxpayers, develops roles and relationships needed for efficient disaster response and recovery, and increases the ability to involve the whole community in preparedness initiatives.

   The RDPO mission is to build and maintain regional disaster prevention, protection, response, mitigation, and recovery capabilities in the region through strategic and coordinated planning, training and exercising, and investment in technology and specialized equipment. Current funding for the RDPO comes from the Department of Homeland Security Urban Areas Security Initiative (UASI) Grant program and RDPO contributing members. The Portland Bureau of Emergency Management serves as the lead administrative agency for the RDPO and the fiscal agent for the UASI grant funds and partner contributions.

   The membership and organizational structure of RDPO, work groups, committees and task force groups were described. Critical transportation core capabilities were shown, with prioritizing plans to address resiliency for recovery and support efforts.

   Comments from the committee:
   - Jon Makler asked where information could be found on representatives from the agencies and region policy makers. Ms. Barrett reported on the fact sheet in the meeting packet that listed committee members. The organization website provides detailed information as well: www.RDPO.org
   - Tom Bouillion asked what type of coordination was happening with military organizations such as the National Guard. Ms. Barrett reported on the ongoing collaborative conversation with Oregon National Guard. Recent meetings provided cyber capability services to jurisdictions, as well as State equipment cooperation when disaster recovery plans are needed.

   Laura Hanson, RDPO Planning, highlighted some of the projects with planning and training that are critical for transportation core capabilities for disaster preparedness. Recently an emergency fuel

distribution exercise was taken to establish and coordinate emergency fuel management following a major earthquake scenario, which validated state and local plans, and identified gaps and regional components. Lessons learned included:

- State needs to establish pre-incident fuel allocation priorities to support life safety and critical infrastructure restoration
- State fuel priorities should balance life safety issues in heavily damaged areas with the lifeline services restoration in lesser impacted areas
- State and counties need to establish consistent fuel request procedures for organizations operating in multiple counties
- Not all petroleum industry partners are aware of the state and county fuel management role during disasters
- All 7 fuel terminals work closely with ODOE, but many fuel distributors do not
- Most counties do not have established relationships with the fuel distributors

Regional fuel planning next steps:
All counties need a plan, but likely will be very different based on:

- Threat
- Fuel system capabilities (public and private)
- Anticipated incident impacts

Ongoing work with state plans, and regional coordination to support counties will be needed, including transportation routes. Funding for Multnomah and Clackamas counties fall short of needs. UASI money from RDPO to regionalize the planning efforts will come in spring 2019.

Comments from the committee:
Denny Egner asked what is meant by collecting fuel. Ms. Hanson explained the underground gathering of fuel can be obtained through systems, but local distributors may be challenged by power losses.
Susan Nielsen what other sources of fuel besides gas might be required. Ms. Hanson mentioned natural gas included in the state plan. Hospitals will also need medical gas needs to include in planning.
Tom Bouillion asked what the level or cooperation was with liquid fuel retailers with the plan. Ms. Hanson reported there has been good response formed from the exercise, with region-wide leadership created. The initial response is critical with the 3-4 weeks fuel supply capacity, so full coordination is needed. Next steps will also include detailed public communications.

The Regional Recovery Framework project goals were provided. This framework will provide a roadmap for rebuilding a stronger, more cohesive community after a catastrophic event. Work will be made together as a region that helps identify regional priorities to ensure a smoothers and more equitable recovery process. A 2-day Recovery Conference is planned in early 2019 with speakers on topics including recovery case studies, infrastructure interdependences and more. Other resources for information are monthly newsletters, webinars and the website: www.regionalrecovery.org

Kim Ellis presented information on Emergency Transportation Routes (ETRs). Early work with these efforts focused on coordination of disaster preparedness and response through primary ETR routes defined to prioritize hazard mitigation and response efforts in the region. More recent work for ETR calls for MOU updates every 5 years, ODOT State Lifeline routes included for seismic considerations, and updating seismic priorities with counties and investing in bridges.

The seismic update project in 2019 includes:

- Partnership with the Regional Disaster Preparedness Organization
- Build on updated earthquake analysis completed by DOGAMI

- Reflect bridges that have been built/updated to be seismically resilient
- Map vulnerable locations and emergency routes on regional transportation system
- Prioritize routes for investment

The desired outcomes from the planning process include work with work groups to update existing ETRs and adopt them in the RTP, apply a seismic resilience lens to update existing designated routes, develop new MOU for future updates and data management, and develop recommendations for future work and collaboration around transportation resilience and recovery. Next steps call to review ETR work completed to date by ODOT and counties, and develop scope of work, timeline and engagement plan, January – June, 2019.

Comments from the committee:

- Chris Deffebach commented on identified routes that have been usefully updated with snow and inclement weather for efficient travel. It was suggested to identify priorities for investment beyond emergencies with these routes.
- Mike O'Brien asked where resiliency was called out in the RTP. Ms. Ellis mentioned the starting points in the RTP where definitions have been made, but policies have yet to be developed. Small steps in this large project will be taken with the committees asked to be engaged this year.
- Marlee Schuld asked for more information on the Regional Recovery Conference mentioned in the presentation. Ms. Hanson reported they planned on plenary speakers on topics including recovery case studies, with infrastructure topics being one of the most challenging. The conference is planned for early 2019. The committees will receive detailed information.

John MacArthur presented information on the Portland All-Hazards Transportation Recovery Plan. This was a two-fold approach with 1) to develop the recovery system, and 2) provide regional training. Partners in the program provided a regional focus. They are looking transition from response to recovery in the phases of emergency management, linking transportation planners to emergency planners, building on response data and training.

Objectives given with the plan included:

- Evaluate the transition between emergency response and recovery, looking at the role of Emergency Transportation Routes (ETR), damage assessment, and debris management, and assessing the prioritization of restoring active transportation and transit routes, drafting alternatives prioritization tool, and planning processes that can inform what it means to rebuild better. This plan challenged routes to meet the needs of the public addressing employment, schools, hospitals and major routes of supply distributions.

A copy of the Portland Transportation Recovery Plan was included in the committee packet. Mr. MacArthur described the response stages to named seven steps to recovery, each with levels of action planned and checklists of planning and execution. Roles and responsibilities were defined including the establishment of a Disaster Recovery Office, and forming a Transportation Recovery Plan Working Group, with agencies, public organizations and various regional stakeholders.

The Alternatives Prioritization Tool (APT) was briefly described. The APT scoring methodology includes:

- Roadways, transit, bikeways, pedestrian facilities
- Three major performance categories: Usage, Access, Equity, with 19 criteria
- The purpose is to help agencies post-disaster to prioritize needed investments and phasing strategies.

Another tool that has been developed is the Employer TDM Transportation Recovery Guide. This provides alternative means to work for employees, ways for employers to communicate with their employees, and empower employees to find and utilize access to transportation for work. Noting that transportation was only one part to recovery, other suggested follow-on activities were given.

Comments from the committee:

- Mike O'Brien asked what the rationale was in low number of points with the hospital criteria example. Mr. MacArthur pointed out that the criteria addressed recovery, not response. Hospitals would likely have responded, but recovery efforts would need to address places of employment and others.
- Carol Chesarek commented on the maps that appeared routes not evenly distributed by population needs. What was planned to address better ratios in the region by population? The panel discussed tiered structure maps with additional routes not currently listed. Part of the update will address state routes designed for less likely slide areas, but that could be incorporated for other access within the system. Missing information will be added, and bike routes can provide access for more transportation options also.
- Adam Barber asked how vehicles left on roads in emergency situations would be addressed. It was mentioned the City of Portland had a system of removing vehicles left abandoned, but more needed to be addressed so that congestion and obstacles on roads would be removed.
- Jon Makler asked what the outlook using social media, applications to websites and smartphones would be in serving communications. The panel agreed that cell connections would be faster than fuel connections, and with emerging technology development there are many opportunities for better regional communications.

Jonna Papefthimiou with the Portland Bureau of Emergency Management presented information on the Resilient Infrastructure Planning Exercise (RIPE) that began in early 2017 as an effort to better understand the risks posed by major natural disasters to the City of Portland infrastructure, and to identify near and long-term steps to build the resilience of those systems. Steps taken by Portland and the region to build resilience and to have clearly established recovery priorities in place prior to a disaster will have positive cascading effects resulting in a faster and more successful recovery.

From public input:

- 74% of Portlanders believe a natural disaster will occur in Portland in the next ten years
- 83% believe local responders will assist them within three days of a major emergency
- 63% agree: "If Portland experiences a major natural disaster, being individually prepared won't be enough. What really matters is how quickly government agencies bring help."
- 42% agree "In the case of a natural disaster that left me without electricity or water for at least two weeks, I would leave Portland."

Workshops were held that focused on two types of disasters that pose a very real threat to Portland including a Cascadia Subduction Zone earthquake, and major flooding and landslides precipitated by a historically unprecedented rain-on-snow event made more severe from climate change. Disaster scenarios helped to identify critical infrastructure, assess interdependencies, and estimate the expected time required to recover and/or rebuild those systems. The RIPE process confirmed, refined, and elevated the importance of resilience and recovery planning work in the City of Portland.

Each infrastructure bureau manages assets that can be impacted by failures of the systems managed by other infrastructure bureaus. If one bureau's assets fail, there could be cascading impacts for the other bureaus. Investing in resilience and recovery planning can prevent these cascading failures, protect

critical infrastructure and the community, and help Portland and the region rebuild efficiently and equitably after a disaster.

Through a series of maps highlighting critical areas, flood plains, "last mile" road access, and "resilient islands", Ms. Papefthimiou provided key takeaways from the RIPE workshops:

A. Resilience and recovery planning is a smart investment, but Parks and Transportation need additional resources and staff capacity, as well as direction from leadership, to be able to fully engage in this work.
B. Success requires cross-bureau preparation, as well as engagement of external partners, stakeholders, and the community.
C. Bold leadership and a cross-bureau support structure to facilitate the work will help maintain the momentum engendered by the RIPE workshops.
D. Uncovering interdependencies will enable more effective and equitable recovery after a disaster, and an integrated citywide recovery strategy will bring it all together.
E. Rebuilding smarter and more equitably requires a shared community vision that should be shaped prior to a disaster.

Comments from the committee:

- Jon Makler commented on the need for the public to encourage ODOT and other agencies to look at governance ahead of disaster, rather than following emergencies. It was agreed that opportunities discussed with the view of "when", not "if" disaster happens would move up policy significance in planning.
- Glenn Koehrsen asked how successful and applicable our plans are compared to other areas of the region. Ms. Barrett reported that updates with the RDPO lead to the constant search for new opportunities and methods to introduce new ideas from lessons learned from others. They are looking at ways to draw people in to the discussion. Mr. MacArthur added that new federal government requirements and funding following recent disasters in the country have provided new input and ideas to help move forward the process from response to recovery much faster.
- Jeff Owen commented on the importance of partnership and involvements to keep everyone informed during emergency situations. Noting there are limited resources making response difficult, thinking forward to the recovery framework while bringing more people into discussions and decision making is advantageous. The committee added forming the mindset from emergency response to the longer rebuilding phases needs to include making equity more intentional so that the entire region is reached, with opportunities to develop improved systems and planning networks.

3. Accessory Dwelling Unit (ADU) Code Audit Work (Frankie Lewington, Metro)

This agenda item was tabled to a later meeting.

4. Discussion and Review of TPAC/MTAC Workshops – Looking Ahead to 2019 (Chair Tom Kloster)

Chairman Kloster lead off a discussion on future TPAC/MTAC workshops in 2019, scheduled as more on-demand and ad-hoc basis. These combined committee workshops might be 3-4 times a year. Several committee members agreed to this idea, including having the workshop placed in the middle of the month not close to the TPAC first Friday each monthly meeting, with topic on demand and keeping 2040 Plan coordination between the committees.

Other suggestions for workshops was the approach to more retreat and training, where professional development on topics would be given time for conversations with community leaders and speakers. Making equity the focus in these conversations to inform and provide lessons, not reporting.

Chair Kloster noted that Metro's Planning and Development Equity Policy Strategy will soon be adopted, and can be provided to the committees. Discussion on equity included the lack of planners and presenters at committee meetings that fail to address equity in terms of life lessons, experiences and approachable methods. There did not seem to be encouragement to learn more about equity in the studies and reports presented. It was suggested that structural changes at the committee levels occur where equity priority is given, which needs to be filtered upwards to policy makers beyond TPAC.

Chair Kloster reported that meeting expectations and courtesies will be brought to the next meeting for discussion. Metro's equity strategy plan will be sent out to committee members.

It was asked that the Urban Growth Management Report be provided for an update in January. It was suggested that MTAC in January discuss a direction where focus of topics be provided for the year. The mobility policy will be discussed at both TPAC and MTAC early in 2019. At the next TPAC meeting in January more discussion will be held on topics for the work program, as will TPAC & MTAC at the Dec. 5, 2018 workshop meeting. Chair Kloster asked committee members to send further feedback and topic ideas for meetings and workshops to him and Marie Miller.

5. Adjourn

There being no further business, workshop meeting was adjourned by Chair Kloster at 12 p.m.
Meeting minutes submitted by,
Marie Miller
TPAC Recorder

Item	Document Type	Document Date	Document Description	Document No.
1	Agenda	11/7/2018	November 7, 2018 TPAC/MTAC Workshop Agenda	110718T-01
2	Work Program	10/23/2018	2018 Combined TPAC/MTAC Workshop Work Program	110718T-02
3	Meeting Minutes	10/3/2018	Meeting minutes from October 3, 2018 TPAC/MTAC Workshop meeting	110718T-03
4	Handout	N/A	Regional Disaster Preparedness Organization (RDPO)	110718T-04
5	Handout	N/A	2017-2-21 Strategic Plan/Portland Homeland Security Strategy: Towards a more resilient Portland Metropolitan Region	110718T-05
6	Handout	N/A	What is Disaster Recover? A roadmap back to a strong community after a natural disaster	110718T-06
7	Report	July 2018	Portland Transportation Recovery Plan, Version 1.0	110718T-07
8	Report	June 2018	Resilient Infrastructure Planning Exercise (RIPE) Summary of Findings	110718T-08
9	Handout	June 29, 2018	Emergency Transportation Routes Project, Chapter 8, 8.2.3.10 from Public Review Draft 2018 Regional Transportation Plan	110718T-09
10	Presentation	11/7/2018	Presentation to TPAC and MTAC, from Regional Disaster Preparedness Organization, Portland Bureau of Emergency Management, Portland State University and Metro	110718T-10

Memo

Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Date: Wednesday, December 5, 2018

To: Transportation Policy Alternatives Committee (TPAC), Metropolitan Technical Advisory Committee (MTAC), and Interested Parties

From: Grace Cho, Associate Transportation Planner, Metro
Cory Ann Wind, Clean Fuels Program Manager/Air Quality Planner, Oregon Department of Environmental Quality (DEQ)

Subject: 2018 Air Quality Year-in-Review and Transportation-Related Air Quality Activities

Purpose
To provide TPAC and MTAC an overview of the various transportation-related air quality activities taking place and to discuss the annual air quality monitoring report for 2017.

Background
As identified in the State Implementation Plan (SIP), TPAC serves as the Portland region's interagency consultation entity. In TPAC's roles as the interagency consultation entity, the committee receives presentations on transportation-related air quality activities as well as relevant SIP and air quality index monitoring activities. These updates are intended to keep regional partners informed and flag ahead of potential transportation-related implications.

Additionally, when the region was subject to transportation conformity (up to October 2017), TPAC also served as a formal approval body of transportation conformity-related activities.

Air Quality Related Activities
DEQ staff will provide updates on the following transportation-related air quality activities:

- Clean Diesel Contracting Specifications
- Clean Fuels Program
- Electric Vehicles Rebates
- Low Emissions Vehicles Program
- Zero Emissions Vehicles Executive Order
- Volkswagen Investment/Mitigation Fund

Additionally, DEQ staff will provide an overview of the annual monitoring reporting data for the Portland region from the Oregon Air Quality Annual Report for calendar year 2017. Within the report, details regarding the region's air quality conditions will be discussed for U.S. EPA regulated criteria pollutants and state regulated air toxics. The annual air quality report is to inform TPAC and MTAC members of previous year exceedances of national ambient air quality standards and potential implications.

PROJECT MISSION:
Planning process to support the development of a multifaceted plan for implementing a one-call/one-click system for regional travel options discovery and booking.

PLANNING COMMITTEE MISSION:
Initiating and overseeing the phases of the journey toward implementation of the OC/OC

PORTLAND REGIONAL One Call/One Click (OC/OC) System

RIDERS

- General Public
- Older Adults
- People with Disabilities
- Low Income
- Veterans
- Rural
- Non-English Speaking & Visually Impaired

	PHASE 1: Develop Mission of OC/OC	PHASE 2: Establish Oversight of the System	PHASE 3: Establish Operating Requirements	PHASE 4: Establish short-term funding plan and long-term financial strategy	PHASE 5: Software Development and Implementation	PHASE 6: Launch of System, Customer Experience
GOAL	Improve access to transportation information and services.	Establish decision-making entity/group	Determine essential functions and processes	Increase efficiencies in business practices among transportation system providers	Develop central repository of information on transportation	Easy to use and easy access system
OBJECTIVES	• Set: **Project mission**, catchy name, system functions, stakeholder benefits, Identify key policy decision makers • Add committee members	• **Secure champions** • Identify lead agency • Formalize commitments & expectations • Establish policy for each phase	• **Standardize data** • Establish geographic scope • Streamline eligibility • Standardize software • Standardize process to add providers	• **Develop a business plan** • Determine costs for building system & ongoing maintenance • Perform cost/benefit analysis	• **Populate database** • Create visual tools for customer journey output • Create system to support travel training • Establish criteria identifying final product	• **Develop protocol for user experience:** Call, website, apps, site assistance (call center or online), information access, feedback, etc. • Communicate, train, and disseminate information

TOUCHPOINTS

General	• Address inequities and ensure inclusion • Host forums and focus groups	• Engage consumers • Engage lead decision makers from each stakeholder • Engage existing committees in region	• Build consensus and support for lead agency • Establish capacity to share information & data • Use simple literacy, language options in system	Advocate for funding	• Beta test system among agencies and consumers • Include accessibility features for visually impaired and non-English speakers	Build consensus for human element
Ride Connection	Build advocacy for project	Potential lead if funding available	Travel training, navigators and call center in place			Leverage Travel Training reach throughout region
TRIMET	Leverage MOD and Shared Use Mobility Project	★ **STFAC** - Key influence on state & federal funding	• System of transfer points • Reciprocity or streamlining of eligibility	★ **STFAC** - Key influence on state & federal funding	Currently developed MOD project with shared use mobility component *(Uber, Lyft, and Bike town)*	Potential for brand confusion between MOD and OC/OC System if not aligned
Community Transit Providers	Align system goals with provider goals and needs		• System of transfer points • Reciprocity or streamlining of eligibility		• Ability to update software • Local political issues	
Information & Referral (211; ADRC)		Potential lead providers for call center function if funding available	• Manage databases • Use established database protocols		Current relationship between ADRC and 211	
Metro		TPAC, Regional Transportation Plan and TIP		★ Include project in Regional Transportation Plan	Include project in Regional & State Transportation Plans	
Social Service Providers	Articulate consumer needs	Direct services to consumers				★ Human element in assisting customers essential
Oregon Department of Transportation		Vested interest for uniform and replicable platforms to support other regions in state	• Leverage TripCheck updates • Engage transit districts statewide	Leverage TripCheck update & financial support through ODOT	Build system through TripCheck	

⚠ **RISKS**	• Limited uniformity in customer needs • Differences in priorities and resources among providers	• No entity steps up to take lead • Unable to establish participation of key decision makers • Unable to achieve broader participation	• Limited consensus on lead agency • Limited capacity to share information & data • Duplication of data entry • Stakeholders may perceive this to be duplication of existing	• Too expensive to maintain • Lack of funding for system • Funders attain disproportionate power over product • Limited pool of funders	• No confirmed lead agencies for database, call center and/or software development • No dedicated funding source	• No lead agency to maintain system • No protocol to receive data updates • Insufficient service to support demand • Expectations system has new solutions • No travel navigators to help in difficult situations
OPPORTUNITIES	• Expand participation to include all Tri-county transportation providers including non-profit and private • Identify high profile champions • Leverage role of Planning committee	• Establish formal role of Planning committee • Identify roles for Committee members • Develop advocacy plan • Consider forming new entity	**Develop tiered approach to adding features:** 1. General information 2. Travel training information 3. Trip planning 4. Information for providers & startups 5. Easy site navigation	• Develop business case for system Lobby for new state transit funding discretionary 5% • Find legislative champion with funding stream • Create subscription model • Secure sponsorships • Public private partnership • Advertising on site	• Find Champion • Use wireframesto demonstrate site experience • Consider open source software	• Ensure multiple formats to for access: Website, phone, smartphone applications, case manager • Market and advertise site • Secure resources to support call center • Collect data on service gaps

Portland Tri-County Region
One-Call/One-Click (OC/OC) System
Planning Summary

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June, 2018

Portland Tri-County Region
One-Call/One-Click (OC/OC) System Planning Summary

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Executive Summary

Ride Connection, in coordination with local and regional partners and stakeholders engaged as a planning committee, commissioned a detailed planning process to identify the elements and issues for a one-call/one-click system for the Portland Tri-County Region. The system will provide discovery of travel options through seamless and integrated information, referral, and transportation intake. It will also support the future implementation of ride matching and booking and ultimately integrate with Mobility as a Service (MaaS) programs underway in the region. The planning process, with the guidance and support of the Planning Committee, undertook nine distinct tasks and was completed over a one-year period. The tasks addressed the core elements, both technical and non-technical, required to provide the system. A detailed report was completed for each task. This final document summarizes the most significant findings of the planning project.

The following are the central themes that the planning process identified in each task that will guide the implementation of the OC/OC system.

Key Lessons from Successful OC/OC Systems in Other Cities

- Identify how goals of OC/OC align with broader transportation technology program goals of regional transit providers at onset of project planning.
- Examine the capacity of current technology programs to serve as an umbrella under which OC/OC services and providers can be nested.
- Identifying committed and financially stable partners at the onset of the OC/OC development is important relative to assigning roles and responsibilities.
- Call center capacity may not need to rest with agency hosting, developing, and maintaining the site.
- Consider the costs and benefits of creating an independent nonprofit or authority to serve as a designated lead of the OC/OC.
- Having a designated mobility manager for the region may be essential to receiving any dedicated funding streams to coordinate and direct mobility management goals.
- Coordinated efforts between 211 and a mobility management platform and the provision of services may create economies of scale both with data management and call center capacity.

- Innovative brokerage solutions are necessary to overcome existing institutional barriers limiting the ability to coordinate services. An example: Finding a way to bulk purchase unused taxi capacity and sell them to hospitals to use for large discharges can create more regional transportation options and yield a small profit to help fund ongoing maintenance of the OC/OC or a small promotional campaign.
- Consider the relationship between meeting current demand and the ability to support a growth in demand when marketing efforts increase ridership.

Best practices regarding implementation of OC/OC systems:

- The goals and of objectives can best be met if they are aligned with the mobility management agenda of the largest public transit agency (TriMet in this case) and the regional metropolitan entity (Metro).
- The lead agency for the one-click web component does not need to be the same as the lead for one-call center.
- If the lead agency for the OC/OC is also designated as the lead mobility manager, it has more capacity to direct efforts toward supporting the build-out and use of OC/OC.
- Some systems have bypassed the complexity of sharing seats on other government program vans (i.e. senior services, VA medical, etc.) to brokering directly with private taxi providers and Transportation Network Companies (TNCs) such as Uber or Lyft.
- The lack of attention to marketing is often driven by the concern that the transportation providers will not be able to keep pace with new demand created by the OC/OC.
- It is important to manage expectations. The OC/OC tool and database will not automatically lead to newly available transportation solutions. There may still be many areas in the coverage area that remain without services. The system will only help to point out the gaps that remain.
- The lack of funding for marketing and creating public awareness to drive users to the OC/OC system may create early and ongoing barriers to establishing the OC/OC brand as the go-to trip planning tool for human service providers, social services, and people needing transportation.

Key Findings from Major Transportation Providers in the Region

Interviews were conducted with public, private, and community transportation providers to introduce the technological capabilities of the OC/OC system and identify their willingness, ability, and barriers that may impact implementation of the system.

OC/OC Concepts Introduced:

- The OC/OC should link seamlessly to existing transit and human service providers;
- The system can integrate and coordinate services by automatically importing (where possible) transportation resource information and connecting to federal and state programs;

- The system has the capacity to provide information to existing commercial scheduling and dispatching software (consideration to long term goals of ride matching and dispatching); and
- The system can be designed to store current customer requirements such as trip patterns, eligibility, consumer preferences, and most frequent origins and destinations.

The interviews conducted revealed a variety of concerns and recommendations:

- The biggest barrier to the system's success is the availability of transportation resources in the region - particularly in the rural reaches of the tri-county area. It is important for the system to focus first on areas where there are some available resources and work to provide information that can potentially contribute to direct funding and possibly new options in surrounding communities.
- Smaller community transit agencies have relatively unsophisticated scheduling and dispatch systems that may require funding and assistance for necessary technology upgrades.
- HIPAA regulations must be investigated thoroughly for each element of the system that involves gathering or storing of personal information.
- No immediate lead agency was identified in the interview process. The lead agency must be an agency that can support ongoing software maintenance, updates and upgrades, integration of new database systems, and long-term software operations. They will host the network system, support upgrades to the software, and provide continuous technical support to the myriad users. Providing this function requires a high degree of commitment. For a lead agency to emerge it will require assurance that there will be funding and a clear return on investment through more streamlined service and reduced transportation operating costs.

Technical capacity

- Call center functions vary among systems but call centers are currently in operation and already help callers with transportation options.
- TriMet and ODOT are currently investing in advanced technology relevant to an OC/OC.
- Mobility as a Service concepts allow for integration with other technology platforms and transportation services.
- The Planning Committee should remain engaged in the progress of these programs. The OC/OC system should be developed with the agility to adapt and integrate with the evolving technologies.

Availability of Options

- Community transportation providers do currently connect their riders to the TriMet system whenever a viable opportunity arises. As they have limited resources, there is a sustained strong interest in working with TriMet and other systems to address their local transportation needs.
- Strong travel training and transit orientation programs exist, offered by Ride Connection and TriMet. Encouraging use of the public transit system, its accessibility features and the ability to participate in the travel training programs (at no cost) should be a priority feature on the OC/OC site.
- The OC/OC's potential to drive ridership to the public transit system may be viewed as a strongly favorable element by TriMet, particularly if it also reduces reliance on their (more expensive) ADA Paratransit services.

Value Proposition for Funders and Providers

- Opportunities can be pursued to nest the OC/OC concept under a broader planning agenda for Mobility Management in the Portland Tri-County region.
- Usage statistics, rider demographics, and other data captured by OC/OC can contribute to the knowledge base of planners, funders, and policy and decision makers.
- Communicating the value of the OC/OC may also open up funding opportunities for system development or ongoing maintenance.
- Attracting new riders and coordinating transportation may create new economies of scale for providers and reduce their average operating cost per trip.

General Cost Considerations for the OC/OC Development

The total development cost of the OC/OC will depend on the system's level of functionality and customization. Most of the functionality needed to support the development of the Portland OC/OC system is considered an "off the shelf" product through the open source environment. Customization may be needed if the system is integrated with TriMet MOD Trip Planner and/or the community transit systems' databases to support the deployment of trip booking and dispatching functionality.

The estimated cost ranges are categorized into three areas of the OC/OC system development, OC/OC project management, and initial upfront and ongoing costs of the system. The cost range for OC/OC develop of Level 1 and Level 2 functionality is estimated at $90,000 to $140,000. Estimated costs for Level 1 and Level 2 OC/OC project management ranges from $111,600 to $173,600. The cost range for initial and ongoing OC/OC ranges from $262,040 to $384,040[1]. The specific details are included in both Section 4.4 of this Final Report and Task 9: Cost Analysis.

[1] Based on Option 1 Third Party Hosting; does not include translation and interpretation services.

Available Funding/Resources

Funding allocation is a critical element for the successful deployment and buildout of the OC/OC system. Based on Portland's Coordinated Transportation Plan for Elderly and Persons with Disabilities, 2012[2], all available funding sources are allocated. The plan also suggests the need to identify additional funding in the region. Specifically, the regional plan states:

"An additional $2 million a year for innovative services could help curb the growth of paratransit services and provide a cost-effective foundation for the future as the region's elderly population increases."

This means new funding will be needed for the OC/OC. Coordination between organizations and agencies may yield a greater number of financial resources. Current funding resources eligible for OC/OC development and ongoing support are listed in the table below. It is important to note that all resources listed below are currently allocated.

General Potential Fund Categories

Finding	Description
Federal	Federal Transit Administration Sec 5310 programs Metro – Regional Transportation Plan
State	Oregon Special Transportation Fund New Oregon Statewide Transportation Improvement Funding
Local	City and County General Fund Revenues Local OAA Title IIIB Funds for Transportation[3]

[2] https://trimet.org/pdfs/publications/elderly-and-disabled-plan.pdf

[3] OAA funds are direct pass-through from the state to the county; General county funds used to leverage (match) IIIB; Only $ 5,600 IIIB is committed to transportation for FY 18 & 19; General fund mostly funds transportation in support of OAA program transportation needs - i.e. getting to a meal site or exercise class

Portland Tri-County Region
One-Call/One-Click (OC/OC) System
Planning Guidelines Summary

1. Introduction

1.1 One-Call/One-Click System Concept:

One-Call/One-Click systems leverage technology to improve access to transportation resources for persons with disabilities, older Americans, veterans, rural communities and other populations facing challenges in finding transportation to meet their needs. The concept envisions utilizing web tools, smartphone applications and call center resources to assist individuals and their support system to find transportation. The system can also use technology to assist transportation providers to coordinate services, streamline trip booking, dispatching and fare payment. The mission of the One-Call/One-Click (OC/OC) system is*:*

> *"To create a public, easy to use, and definitive online resource for transportation options that covers the entire Portland metro region. The OC/OC system will have a website, call center access and smartphone applications when it is fully operational. The system will serve all residents, with a priority on meeting the needs of older adults, people with disabilities, and those with economic and geographic barriers to transportation."*

1.2 Project Purpose

Working with several regional partners, Ride Connection formed a project planning committee and commissioned a multi-faceted OC/OC planning project. The purpose of the project is to develop a plan that addresses the various technical and non-technical components of the project and incorporates the needs and perspectives of the wide range of stakeholders. The development of the plan in advance of beginning the procurement and implementation of the one-call/one-click system will deliver strong benefits. It ensures the scope, priorities and components are clearly defined. It also allows time to solidify stakeholder participation, transfer knowledge to all partners, empower ownership of the project among stakeholders, and establish a long-term commitment to contributing to the project.

1.3 Project Approach and Elements:

The planning team, comprised of the planning consultants, the OC/OC Planning Committee, and the Ride Connection project management team, approached the planning project using a variety of resources to ensure the plan meets the needs of the Portland Region and leads to a successful implementation process. The resources included:

- Consulting with local and regional partners including transportation providers, regional and state officials, target populations and agencies that work with populations requiring improved access to transportation;
- Engaging the OC/OC planning committee, comprised of community leaders and representatives, in all aspects of the project as well as a broader set of stakeholders throughout the Portland region as identified by the committee;
- Researching the experiences and best practices of other OC/OC systems from other cities;
- Interviewing industry experts; and
- Investigating other transportation technology projects underway and planned in the Portland region, potential funding mechanisms and leading-edge approaches in Mobility Management.

This approach ensured the proposed plan is relevant to the Portland region's needs and identifies where the system can build on existing and emerging trends, start to solidify partnerships, and evolve synergy with what is already in place or underway.

The planning process spanned one year (June 2017 to 2018) and included various tasks.

The first three tasks were designed to gain understanding of OC/OC experience across the country and local resources, needs and wants.

- Research other local and national efforts for current practices, lessons learned and best practices;
- Kick off meeting with Planning Committee and workshop with community members regarding issues, needs and wants for an OC/OC system;
- Interviews with transportation providers and local information and referral services for technical requirements and deeper understanding of operations and issues.

The next set of tasks were designed to organize a regional approach to developing the OC/OC.

- **Journey Map Development**: This step envisioned the process and role of local agencies in evolving the OC/OC from concept to implementation.
- **Early Wins and Potential Funding Sources**: This process identified current resources that can be leveraged immediately to establish a strong foundation once project

implementation begins and lay the groundwork for a successful way forward once the project implementation begins.

- **Governance Structure:** This step examined the local transportation decision-making and leadership structure to identify potential candidates to act as the Lead Agency for the OC/OC project, possible project champions from among political leaders, and essential partnerships that should be forged to ensure the community-based approach to the project continues as implementation progresses.

A major step of the project examined the technology alternatives and related cost analysis to assist in determining funding requirements and to assist in cost/benefit/timing decisions in adding functionality to the systems. This step included further assessment of funding resources.

Finally, the planning project incorporated a variety of tasks to develop the features of the system that will be needed to effectively meet the needs of the population and ensure the system meets its full potential. These tasks are summarized in the "Toolkit" section of this report.

- **Accessibility Elements**: International Standards to meet accessibility requirements for a broad range of abilities, disabilities and languages;
- **Outreach and Marketing Plan:** Engaging the community and promoting the OC/OC to maximize market reach
- **Performance Measures and Data Collection/Analysis**: Measuring effectiveness of the OC/OC system in assisting persons find transportation resources, measuring customer satisfaction and gathering data/information that can inform planners and decision makers on where to allocate future transportation funding and resources.

2. Existing Conditions: Portland Metro Region

2.1 Current Recognized Need

The need for the development and deployment of an OC/OC system is validated by the current projected demographics of the potential OC/OC customer, and reinforced through findings collected through multiple stakeholder workshops, surveys, and agency interviews.

2.1.1 Demographics of the Customer:

The table below presents key statistics on the proportion of total population represented by primary market segments in the population. The statistics provide general order of magnitude indicators. Not all of the populations included in the statistics require transportation assistance. For example, a large proportion of persons aged 65+ prefer to drive and can still do so safely. Individuals may have family members, friends or neighbors to provide them with rides. There may be overlap among the segments. Many veterans may also be represented among persons with disabilities. With the above caveats in mind, the statistics indicated that 8.4% of the population under the age of 65 in the Tri-County region, have a disability. The proportion of the

population in the post-retirement age cohort (aged 65+) increased from 11% to 13.6% between 2010 and 2016. Veterans represented 5.8% of the population in 2015. Allowing for overlap among these groups and an assumption that not all persons in these demographics segments require transportation assistance, it may be surmised that the market for individuals in these demographic segments requiring transportation system is likely to be in the range of 6% to 8% of total population. Equally difficult to estimate is the proportion of people living in poverty and in the rural low-density counties of Washington & particularly in Clackamas (approximately 200 persons per square mile in 2010) who have difficulty finding transportation they need. These counties have limited access to community transportation services and, in many cases, not even taxi services. Almost one third of the population resides in Washington County and somewhat less than one quarter (22.8%) of the regional population lives in Clackamas County. Conservatively, the persons requiring transportation who have low incomes or live in underserved communities are estimated to represent another 3% to 5% of total population. Based on these broad estimates, the potential primary market size for the OC/OC system could range from 9% to 13% of the total population which translates to approximately 160,000 to 230,000 persons.

Table 1: Portland Region Census Data[4]

	Portland City	Multnomah County	Washington County	Clackamas County	Portland Region
2016 Population	639,863	799,766	582,779	408,062	1,790,607
2010-2016 % change	+9.6%	+8.8%	+10.0%	+8.5%	+9.1%
Incidence of Disability					
2015 % Under 65 With a disability	**9.3%**	**9.7%**	**6.9%**	**7.8%**	8.4%
Populations aged 65+					
2016 %	10.4%	12.6%	12.6%	17.2%	13.6%
2010 %	N/A	10.5%	10.0%	13.6%	11.0%
Characteristics					
Veterans	4.9%	5.2%	5.5%	7.4%	5.8%
Language other than English spoken at home	19.5%	20.0%	23.8%	12.1%	19.4%
2015 Persons in poverty[5]	N/A	15.70%	10.50%	9.40%	N/A
Population Density					
2010 Pop. per sq. mile	4,375	1,705	731	201	592

[4] US Census Bureau: https://www.census.gov/quickfacts/fact/table/multnomahcountyoregon,washingtoncountyoregon,clackamascountyoregon,portlandcityoregon/PST045216#viewtop

[5] https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html : The Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation using the Consumer Price Index (CPI-U). The official poverty definition uses money income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps).

A variety of demographic analyses and studies forecast the aging of the population and along with increased incidence of disability among all ages. The population of older adults and persons with disabilities has an interest in remaining independent and participating in society. This requires the ability to have access to transportation for different types of trips such as medical, personal, social, grocery, etc. Agencies such as the Aging and Disability Resource Connection (ADRC) follow a philosophy that promotes independence and dignity for individuals.

The workshops and interviews conducted in the initial phases of the planning project indicated some common situations which led individuals or their caregivers to contact transportation providers and Information & Referral agencies for assistance with transportation. These are summarized in the table below.

Table 2: Characteristics Related to Requiring Transportation Assistance

Finding/Observation	Description
Limited personal vehicle ownership	In general, most customers that call TriMet, Ride Connection and the other local community transit providers are persons with disabilities, elderly and persons who do not own a personal vehicle or someone (friend/relative) who can drive them to appointments, errands or outings.
Repeat Customers	The riders on the smaller local community transit systems (Wilsonville, Canby and Sandy) tend to be repeat customers and tend to use the same systems for their transportation requirements. The individual systems have an awareness of the individual needs of their repeat customers. Agencies will receive requests from customers outside of their immediate communities in the more rural parts of the county(ies).
Need for travel training of fixed route system	There is a large segment of the population who has never used public transportation. Whenever possible, transit agencies and Ride Connection engage the customers in travel training to make use of the TriMet or local community fixed route transit systems.
Lack of housing near transit	The transportation issues in Portland are often closely tied to the housing crisis

2.2 Current State of the System –Transportation Services and Transportation Information

Current transportation resources – both as the provision of transportation and the provision of information about available transportation resources – are available in varied degrees in the Portland region. There are robust fixed route and on-demand services provided through fixed

route, Americans with Disabilities (ADA) complementary paratransit demand response, and flexible services. The main participants of this planning effort include those listed in the Table below.

Table 3: Portland Region Transportation Services and Information Resources

	Provider	Type of Transportation Service	Primary Potential Role/Influence
1	Canby Transit (CAT)	Small community transportation provider	Coordinated Transportation Provision
2	Wapato Shores	Independent private transportation provider	Coordinated Transportation Provision
3	TriMet Lift	Large metropolitan transit/paratransit provider	Coordinated Transportation Provision, integration of MOD with OC/OC system
4	Wilsonville (SMART)	Small community transportation provider	Coordinated Transportation Provision
5	Sandy Transit	Small community transportation provider	Coordinated Transportation Provision
6	Ride Connection	Private non-profit regional transportation and information provider	Coordinated Transportation Provision & Information Provision, system development and maintenance
7	211	Regional Information provider	Information Provision, database management, primary one-call center
8	Metro (MPO)	Metropolitan Planning Organization	Information Provision, system promotion
9	Multnomah County ADVSD	Transportation needs assessment, coordination and resources	Coordination of services, case management
10	Multnomah Co. ADRC	Information and Referral for Aging & Disability Services	Information Provision, database maintenance, primary one-call center
11	ODOT	State department of transportation	Information Provision, system development and maintenance, funding, system promotion

Service Gaps Analysis:

The Portland region has geographic variability between urban, suburban and rural. Public transit service availability varies within the region. TriMet also cannot provide any service beyond their service area boundaries and transfers between service providers rarely occur. Limited options in many rural communities may result in disappointment by residents in these areas as they search for transportation using the OC/OC.

There are barriers for older adults and persons with disabilities who would use the OC/OC system. For instance, not all bus stops on the fixed route systems are accessible. Further, there are limitations in cross-service connections and many people need door-to-door service. The local transportation providers do not blanket the entire region with transportation services nor are services available seven days a week, 24 hours a day. Many people cannot afford to pay for transportation, even at a discounted rate.

Tri-met has plans for bus service expansion of three new lines in 2018 in addition to the implementation of the Hop Fastpass electronic fare system.[6] These investments will continue to enhance accessibility of fixed route service for some users.

Further, clarifying eligibility requirements to customers via the OC/OC and ensuring they know which services are open for them to use is one significant obstacle the OC/OC will need to address. Language and literacy are barriers for many users.

These current transportation resources are available in the Portland Region. Service areas do not necessarily cover all parts of the Portland region and some community services limit usage to destinations outside their service area to specific destinations or for specific trip purposes (typically medical).

(See table below)

[6] http://trimet.org/budget/

Table 4: Available Transportation Resources by Type of Provider

Type of Provider	Description
Fixed Route	TriMet has fully accessible vehicles for its fixed route heavy rail, light rail and bus services. Not all bus stops are accessible. The Lift program provides ADA Paratransit Services which are provided to eligible residents who are unable to access the fixed route system. The TriMet service area does not cover all of Metropolitan Portland and Lift service is limited to three-quarters of a mile within fixed route bus and light rail routes resulting in service gaps.
Local community Transportation	These provide a variety of transit services in their communities, including ADA Paratransit Services, Community dial-a-ride curb to curb services, and special purpose community circulators such as shopping shuttles, as well as commuter routes that generally operate during morning and afternoon peak periods and connect customers to neighboring larger cities or the TriMet rail network.
On Demand	Ride Connection provides a broad variety of services and programs to augment existing services and fill the wide expanse of unmet needs in the Portland tri-county region. The services and programs include: Demand Response Services: Ride Together, RideAbout Shuttles, Rides Upon Request and Shared Vehicle Programs; Community Connectors; and mobility support.
Non-Emergent Medical Transportation	Service providers primarily have contracts with Ride Connection or the Medicaid broker (not included in the OC/OC planning effort).
Private taxi & Transportation Network Companies (TNC)	Exist in greater capacity in urban areas but offer little if any services in the smaller communities. TNCs include Uber and Lyft, smartphone app based ride sharing companies.
Other Services	Include a very limited number of senior residences or centers that offer trips to their own residents or members. These services are extremely limited.

Each of the agencies and service providers interviewed used different software for scheduling and dispatching. Due to the limited financial investment in technology across most of the partner service and information agencies there is an opportunity for the OC/OC system to evolve a common platform which will allow coordination of services and end-to-end trip planning.

Technology is a secondary goal for several of the smaller providers, creating some challenges for coordination around a common platform.

Transportation information resources are available in varied degrees in the Portland Region. TriMet and the community transportation providers can assist callers with services within their own service areas but most often refer customers to Ride Connection or the ADRC if the trip requirements fall beyond their borders. The online and call center resources are detailed in the table below.

Table 5: Transportation Information Sources

Finding	Description
State Services	**211Info:** Calls are often centered on finding housing, social services and other non-transportation services. Transportation needs arise during the conversation when callers find they do not have means to access services they need. Calls are referred to TriMet or Ride Connection. **ODOT Trip Check:** ODOT is currently considering different alternatives to update the State's transportation information and referral online system TripCheck. Many of the demand response systems are in the current TripCheck database. The current platform would likely need to be expanded to include other transportation providers and address inconsistencies in eligibility requirements. ODOT has experienced barriers to driving usage of the site.
Regional Services	**Multnomah County Aging, Disability, & Veterans Services** Conducts transportation needs assessment and distributes a finite amount of bus passes, cab vouchers, and connection to other resources via contracts with culturally-specific organizations and district senior centers as part of Older Americans Act IIIB funding. **Regional ADRCs (Multnomah, Washington and Clackamas Counties):** Provides information and assistance to older adults and persons with disabilities to local resources in the Portland region including transportation. Referrals are made as needed. The ADRC does not provide transportation. **Ride Connection:** Provides mobility support through programs such as RideWise Travel Training, Travel Options Counseling, Rider's Clubs and Fare Relief programs. **TriMet:** Includes trip planner and call center for TriMet Service. TriMet is also a recipient of Mobility On Demand (MOD) funding. The proposed use of the funding is for First Mile/Last Mile transit access to light rail stations and bus services. Long term potential for integration of other transportation destinations and purposes.

Information Gaps:

Currently, there is not an established system of coordination among providers listed in the tables above. Where transportation information is available, it typically only includes public and community services and does not include other potential options such as TNCs, or services provided by individual centers or small providers. The OC/OC platform brings these individual systems and service agencies into full integration following the philosophy of a "no wrong door" approach.

The ADRCs are already using statewide databases managed by Aging & Disability Resource Connection of Oregon and Oregon's State Unit on Aging. These databases and the database used by 211[7] follow AIRS policy that sets standards for inclusion or exclusion of providers in database creating a standard that may be required for an OC/OC system if eventually used by 211 and ADRC Helpline staff. The implementation committee may consider a vetting process and criteria with similar stringency for additional private providers and TNCs that would expand the availability of service and ensure that small private providers deliver high quality service.

3. The One-Call/One-Click Product for the Portland Region

3.1 Target Markets

The presumed target audiences for the OC/OC system, as identified by the planning committee include:
Primary Markets: Older adults, persons with disabilities, veterans, and persons living in poverty. This includes those who support and assist the above segments (family members, caregivers, social services caseworkers, etc.) including those that are mandated to find transportation and community services for their clients such as the ADRC or Oregon 211.
Secondary Markets: Organizations that provide other services not related to transportation but who have clients needing transportation such as veterans' organizations, medical facilities and employment agencies, to name a few.
Tertiary Markets: Other members of the general public, particularly, visitors to the region, and persons in rural areas; and policy, planning, and funding decision makers seeking data on transportation resource and demand distribution in the region.

3.2 Stakeholder and Workshop Input

The information gathered from the planning committee, stakeholder workshops and key transportation providers identified particular needs of an OC/OC System to overcome the current

[7] The AIRS/211 LA County Taxonomy is reproduced with permission from 211 LA County.

barriers to accessing information about transportation options in the Portland region. The survey completed by stakeholders and involved agencies at the workshops found the percentage of most useful features as finding a ride (40%) and the ability to plan a trip (35%).

The detailed priorities of desired outcomes identified in the workshops are summarized in the table below.

Table 6: Identified Desired Outcomes of the OC/OC System

Finding/Observation	Description
Single point of information	• Giving people access to rides not previously known • Simplifying the whole system • One point of entry to meet everyone's needs (transportation and other services)
Individual Choice	• Providing travel options • Creating access and choice
Trip Planning	• Origin and destination planning • When you plan a trip, you plan out everything you need to make that trip (access to electric chargers for wheelchairs)
Coordination	• Technology as a catalyst for coordination • Create more public awareness • Elevate need for transportation for older adults and persons with disabilities into the mainstream • Awareness of need for this type of system to all other transit systems
Centralized number	• For service providers the most useful took was a centralized number for clients and website most important for themselves as agents assisting clients.

There are some nuanced implications from the stated desired outcomes by workshop participants:

- Underlying the stated desire for the technology to be a catalyst for coordination is the desire for better and more transportation options in the region, particularly those not well-served by public transit and with little access to private affordable options such as Uber and Lyft. Managing expectations of the ability of the OC/OC in and of itself, to generate better options and greater coordination will be important.
- In the early stages of development of an OC/OC system, less useful options of an OC/OC system included completing a trip crossing service lines, trip booking, and trip payment. Smartphone apps were less important, but this is changing over time as the technology becomes more prevalent.

- While the expressed interest was primarily focused on information provision, this may have been because it is difficult to imagine a workable system where the OC/OC includes trip scheduling, dispatching and payment. The community transit providers struggle to meet existing demand and are reluctant to agree to a system that could further strain their resources.

The Planning Committee and workshop participants envisioned the primary tools for the OC/OC will be a website for trip planning with call center support for persons without internet access and for more complicated trips requiring additional assistance. Those who support and assist individuals, including caregivers, as well as those agencies that are mandated to find transportation and community services for their clients such as the ADRC or 211 would use the same tools to assist individuals. Smartphone applications were of lesser immediate interest largely because many persons with disabilities and older populations may not use smartphones.

The website can offer substantially more information beyond the trip finding tools. A broad variety of transportation-related information can be added to the site, often at relatively low cost.

3.3 Phasing the OC/OC System Functionality over Time

The OC/OC system can assist persons to find transportation in varying levels, each level having greater potential impact on improving options and transportation access. The three levels are described in the table below.

(See table below)

Table 7: Approaches to Improving Mobility

Level 1: Mobility through Information	• Centralized database • Trip planning/finding services via Web, smartphone and call center • Provider details • Call center capacity • Resources for additional assistance • Information saving through user profiles • Complimentary transportation information • 211 Integration • Case manager & caregiver access
Level 2: Mobility through Evaluation	• Site feedback • Trip rating • Statistical tools and heat maps to evaluate and measure demand and plan new resources • Common cross-boundary trip analysis to enhance coordination among providers
Level 3: Mobility through Service/ Mobility As a Service (MAAS)	• Web booking • Web payment • Service on Demand – TNC Rideshare models • Integration with existing systems • Requires new paradigm in funding regimes

Level 1: Mobility Through Information

The best practices research of successful OC/OC systems in other cities demonstrated that the systems typically started as websites (with or without call center support), providing trip finding capabilities. Many of the OC/OC systems also included other information such as provider information, transportation news and developments, and travel training resources. Smartphone applications with trip finding capabilities have been added by some systems, but still primarily act as Level 1: Mobility Through Information.

The Mobility Through Information approach is most successful if it includes a broad range of provider types and is widely used by all Information & Referral Centers, social services agencies case workers, and medical providers offering assistance, as well as individuals seeking information. This is a philosophy of a “no wrong door” approach. Regardless of which agency the individual contacts, the contacted agency will have access to the OC/OC system and will be able to assist the individual with the same rich information on options. This results in a seamless

system for the user and avoids their being referred to one or more other place to try to find transportation options. For this to be effective, it is important to establish the OC/OC as the definitive, best known and most reliable source for information in the Portland region. Strategies for promoting the OC/OC as the definitive source is provided in detail in the Task 7 Marketing Plan report and summarized in the final "Toolkit" section of this document.

Level 2: Mobility Through Evaluation

To achieve Level 2, the OC/OC system should incorporate a variety of data gathering and analytical tools to improve the system; inform providers of feedback on their services; make trip request information usable to providers in planning service and improving cross-boundary coordination; and provide demand/supply "heat maps" to assist planners, funders, and decision makers in determining where to allocate new transportation resources. Another significant contribution of evaluative tools is the ability to ensure that the OC/OC system is being used to meet the transportation needs of a broad range of populations. Evaluative tools gathering socio-economic data should be included to ensure the system is effectively meeting social equity goals.

The research on experiences with OC/OC systems in other cities showed that many systems did not incorporate data gathering and analytical tools in the early phases of the system development. In some cases, efforts are underway to add the evaluation tools now, but in other cases, data gathering functionality remains a lower priority. This is a potentially valuable missed opportunity.

Incorporating the evaluation tools early in the development of the OC/OC will help to ensure Level 2 "Mobility Through Evaluation" is achieved in the Portland Tri-County system. Details on the types of data collection and analysis that can be incorporated in the system are provided in the "Task 8: Performance Measures Report" and summarized in the final "Toolkit" section of this document.

Level 3: Mobility Through Service

Mobility Through Service in OC/OC systems includes functionality for booking, dispatching and, ultimately, being able to pay for trips using the system. This level requires extensive and, usually, more costly software development and extensive back office functionality. Apart from the development costs associated with OC/OC systems, transportation providers are generally reluctant to participate in this manner. Many funding streams limit the ability to share vehicles or rides for non-eligible individuals and the scarcity of funding relative to demand is daunting. Few One-Call/One-Click Systems have added this level of functionality to their systems.

Mobility as a Service (MaaS), a relatively new concept in Mobility Management, may offer a longer-term solution for services for persons with limited transportation options. The concept emerged with the entry of TNCs such as Uber and Lyft as well as car sharing and bike sharing services. The following is a brief description of the concept.

"Mobility as a Service brings every kind of transport together into a single intuitive mobile app. It seamlessly combines transport options from different providers, handling everything from travel planning to payments."[8]

The concept is being piloted in many cities through the FTA Mobility on Demand Sandbox grants. Currently, it is most frequently applied in urbanized areas where there are several transportation options. Transit authorities, including TriMet, have received MOD grants and are testing it for first mile/last mile or guaranteed ride home programs, often incorporating their smartcard payment systems. TriMet is currently participating on the OC/OC planning committee.

Dallas Area Rapid Transit is in the early phases of testing MaaS for their paratransit services with plans to expand the program in the future. Their pilot project entails an agreement with Lyft to provide transportation for a test group of ADA Paratransit customers. To date, participation is limited to ambulatory customers. The intent is partner with a wider range of providers over time and incentivize private providers to acquire accessible vehicles.

The FTA's interest in promoting MaaS and selected transit agencies pilot projects may be early indications of a potential shift in the paradigm of how transportation services are funded and accessed by persons with disabilities, older adults and other populations of need. For this reason, the Portland OC/OC system should be developed with the flexibility and adeptness to become aligned with the TriMet MOD project in the future.

4. Implementation Roadmap for the Portland Region OC/OC System

4.1 Local Partnerships and Resources

The OC/OC Planning Committee includes representation from organizations and agencies representing information and referral, transportation on-demand, mobility management, travel training, NEMT, transit and ADA complimentary para transit services. The planning committee members include Ride Connection, TriMet LIFT, Multnomah County Aging, Disability, & Veterans Services Division, Oregon 211, Oregon Metro, STFAC, Clackamas County, Elders in Action, Impact Northwest, and Disability Services Advisory Council of Clackamas County. Additional partners include SMART, Sandy Transit, Canby Transit, ODOT, GridWorks, and other interested community members. The committee membership represents the majority of key transportation influencers in the region and should be encouraged to continue as the Implementation committee as the OC/OC system project moves forward.

Each entity represented on the committee has a level of planned technology that may serve as a point of leverage for the advancement and development of the OC/OC system.

[8] http://maas.global/what-is-mobility-as-a-service-maas/ Accessed May 1, 2018

Table 8: Points of Leverage in Portland Region

Potential OC/OC Resource	Agency
Database management systems (including information on transportation providers	• Ride Connection • 211 Info • ADRCs • ODOT • Metro (Rideshare and TDM programs)
Trip Planning	• TriMet (Hot Fastpass, Open Trip Planner) • ODOT (TripCheck)
Mobility on Demand/ Mobility As A Service	• Ride Connection • ADRCs • Local community transit providers • Metro (Rideshare and TDM programs) • TriMet (enhanced Open Trip Planner, Optimized Trip Planner for planning accessible trips with persons with disabilities, Shared Use Mobility (Uber, Lyft, Biketown),
Scheduling and dispatching systems	• Ride Connection • TriMet • Wilsonville • Sandy and Canby systems (limited)
Performance measurement	• All
Person Centered Support	• ADRCs • Ride Connection • TriMet Lift
Call center number	Each entity has its own call center number • 211 Info • ADRCs • Ride Connection • TriMet • Local community transit providers

The ongoing meetings of the OC/OC planning committee and high level of engagement indicate there is strong interest to increase the level of coordination and participation in developing the OC/OC system among participating organizations. The agendas of the committee are an attempt to build support and momentum for enhanced mobility through the OC/OC system.

Over time, the committee can continue to build the foundations for a successful system and improved coordination through a number of actions shown in the table below.

Table 9: Growing Potential for the OC/OC System

Implementation Requirement	Description
Goal Alignment	• OC/OC goals with regional transportation technology goals • Coordination of existing systems including databases and call centers
Leadership	• Financial stability of potential organization • Ability to market and drive usage • Expand capacity beyond information and referral • Regional support • Ability to secure new financial resources • Driving usage and marketing • Mobility management for region • Buildout of OC/OC
Financing	• Development • Ongoing maintenance • Hosting • Technical assistance
Oversight/ Coordination	• Consultant selection • MOUs or ILAs • Contract • Engagement of partners • Driving usage and marketing • Policy • Financial support • Mobility management/regional planning process

4.2 Journey Map

A journey map was prepared in the early phases of the planning project which the Planning Committee has followed to lay the groundwork for procuring and implementing the OC/OC system. The following summarizes the phases of the journey map and the progress made to date.

Phase 1: Establish the mission of the OC/OC

Goal of phase: Improve access to transportation information and services.

Update of progress: The OC/OC Planning Committee meets on a monthly basis and established an official mission of the project.

The mission of the One-Call/One-Click (OC/OC) system is *"to create a public, easy to use, and definitive online resource for transportation options that covers the entire Portland metro region. The OC/OC system will have a website, call center access and smartphone applications when it is fully operational. The system will serve all residents, with a priority on meeting the needs of older adults, people with disabilities, and those with economic and geographic barriers to transportation."*

The OC/OC Planning Committee is leveraging its current member participation to engage with stakeholders and other high profile champions building support for the OC/OC system. The Planning Committee meets monthly. The Planning Committee has also participated in multiple events in the Portland region including representation by Ride Connection in March 2018 on the AARP Public Policy Institute's on "Age-Friendly Transportation: How is Technology Transforming the Way We Move Autonomous vehicles, sharing economy platforms, and other emerging technologies are changing transportation options in our communities." Ride Connection also represented the Planning Committee through participation in the April 2018 TriMet Mobility on Demand Sandbox Workshop II.

Key decision points: A necessary step is to achieve stakeholder commitment to goal alignment between the planning committee member organizations and the functionality and use of the OC/OC System. The Planning Committee should also develop a process for ongoing engagement of the community to address inequities and ensure inclusion.

Opportunities: Consideration should be given to the potential or reality of creating a formal role for Planning Committee in regional planning goals for mobility management, for example, the regional transportation planning process.

Phase 2: Oversight of the System

Goal of Phase: To establish decision-making entity/group.

Update on Progress: The OC/OC Planning Committee has not identified a lead agency for the implementation and management of the OC/OC system. Efforts in Phase 1 continue to build support and capacity for the identification of a lead agency. Monthly meetings and ancillary involvement of planning committee members in other transportation planning activities are an essential part of the process to eventually formalize commitments and expectations.

Key decision points: Metro is represented on the current OC/OC Planning Committee and could assist with this effort. The committee is also encouraged to develop an advocacy plan to support a community organizing effort building awareness for the OC/OC system and for increased transportation capacity in the system. Consideration should be given to whether the existing

planning committee evolves into a newly formed oversight committee or if an existing policy making committee should serve in an oversight capacity. The existing planning committee or a newly formed/existing oversight committee should be given a role in the policy making process surrounding the development and sustainability of the OC/OC system.
Opportunities: Consideration should be given to the role of the OC/OC system in the existing

> The Planning Committee is encouraged to continue meeting and working toward establishing a formal role in the regional transportation planning process.

regional planning process, and how existing policy making committees that officially participate in the regional planning process could catalyze this project.

Phase 3: Establish Operating Requirements

Goal of Phase: To determine essential functions and processes of the OC/OC System.

Update on Progress: The involvement of multiple stakeholders, transit agencies, social services agencies, and the information and referral systems in the early technical interview and the workshops provided relevant direction on the necessary features of a system.

Key decision points: All key planning committee members have a role in the process of defining the more specific features of the system when a lead agency is identified, and the system design phase is underway.

Opportunities: Stakeholders on the OC/OC Planning Committee already have the capacity to support Level 1 functionality. Key stakeholders (particularly transportation providers and Information and Referral agencies) should begin to consider how their data can be brought into a common format that supports the ease if data integration into a central database of transportation providers.

Phase 4: Establish short-term funding plan and long-term funding strategy

Goal of Phase: To increase efficiencies in business practices among transportation system providers. Develop a business plan.

Update on Progress: The findings from the cost analysis portion of this planning effort provides a general cost estimate based on expressed functional capacity of an open source system.

Key decision points: Perform cost/benefit analysis and develop a business case on the impact the OC/OC will have on the relevant transportation and social services agencies involved in providing rides or connecting clients with rides. The role of the OC/OC in the region's overall mobility

management and coordinated mobility strategy should be considered relative to the regional long-range transportation planning and funding priorities.

Opportunities: Planning Committee should consider advocating for funding, participate formally in the regional transportation planning process. Efforts should also work toward identifying a lead agency with dedicated funding source, and quantifying a cost savings for participating agencies (see initial elements of a business case below).

Phase 5: Software Development and Implementation

Goal of Phase: To develop the central repository of information

Update on Progress: None to date. This phase will occur following the planning process.

Key decision points: Making progress on this relates directly to the identification of a lead agency to manage the project development and its ongoing operations and updates. Consider to what extent private providers will be included in the database and the vetting process required or desired to ensure the safety and comfort of customers as well as mitigating risk of liability for incidents and negative experiences.

Opportunities: Ride Connection, 211 and the Multnomah County Aging, Disability, & Veterans Services all have general public website site interfaces connecting individuals with transportation information and have trained staff that can assist persons seeking transportation by telephone. Rather than creating a new OC/OC call center, there are opportunities to build on these resources to provide the one-call function through one or more of these agencies. The ADRC also already has a database that is state certified and can provide a good foundation for the resources available in the region.

Opportunities to leverage advanced levels of OC/OC functionality may exist through the TriMet MOD project or the ODOT TripCheck project. The OC/OC Planning Committee should remain engaged in the TriMet MOD project development. There are potential opportunities to integrate the OC/OC concept into the region's long-term MAAS transportation planning efforts. Additionally, the Planning Committee should remain engaged with the City of Portland's Smart City planning efforts. The OC/OC Planning Committee is encouraged to participate as a necessary step in building early and ongoing buy-in for the OC/OC system concept.

4.3 Governance

4.3.1 Key Issues for Action Plan:

Governance in the short-term and long-term is informed by decisions of where (organizationally) the system is located, the reporting relationships, the roles and responsibilities of participating

partner relationships, level of service agreements, payment of system costs, and allocation of personnel and ongoing financial support[9].

Technology protocols necessary to support the development and long-term operations and maintenance of the system will further inform the governance structure including:

- Organizational goals/goal alignment with OC/OC
- Necessary partnerships
- Target populations served
- Resources available
- Accountability structures

Consideration must also be given to process components such as:

- Standards and protocols for technology, data sharing, and system requirements
- Operations
- Software requirements
- Quality Assurance
- Resource Management

The level of structural complexity of the governance model expands as additional partners and system functionality are added into the formal implementation and operating agreements.

Coordination will vary relative to determined levels of formal agreement among partners, the coordination of available federal, state, local, and private funding sources, and the coordination relative to the level of intensity of the OC/OC system.

Starting at Information and Referral functionality creates the foundation of trust to work together. Care should be taken to create the technology that is open enough that the system can evolve to something more robust without incurring major modifications to the original system.

4.3.2 Best Practice Governance Research

The best practice research on governance included discussion on existing OC/OC governance models with implementation and long-term operations concentrated in the following organizational arrangements: independent nonprofit, transit authority, social services agency, area agency on aging, and the regional planning agency. (See Figure 2 below)

4.3.3 Key Actions to Take:

- Determine lead agency to host and manage development and long term deployment of OC/OC;
- Create Oversight Committee for OC/OC that is also integrated into the regional planning process;

[9] ICMA Report, 2017

- Determine the starting level of intensity of the OC/OC system;
- Determine the integration of OC/OC into the overall regional planning process; and
- Identify short term-funding mechanism and long-term funding strategy.

4.3.4 Decision Points:

- If OC/OC initial level of intensity is I & R (Mobility through Information) backed by a central repository of information, then it must be distinguished from existing local referral services by social services agencies that already help customers find existing transportation such as 211 and ADRC hotlines.
- An OC/OC system plan must provide an attractive vehicle to expand coordination and improved transportation options in the region.
- Consideration should be given to the lead agencies technical capacity, funding capacity and relevance in mobility management and the oversight role of an independent governing council.
- A general barrier for each of the identified lead agencies to undertake the leadership role for the project is the uncertainty over the time commitment required over a very long period and the staff capacity to undertake a project of this size.

There are additional strengths and barriers summarized in Tables 10 & 11 below.

Figure 2: Best Practice Governance Models

Table 10: Potential Lead Agencies in Portland Region: Strengths

Governance	Technology Expertise	Call Center Capacity	Provider Database	Scheduling and Dispatching	Provides Transportation	Travel Training	Goal Alignment	Geographic Coverage of entire region	Direct Recipient of Potential Funding Source	Part of Regional Planning Process	Assessment of Strength
Ride Connection	√	√	√	√	√	√	√	√	√		
Metro	√		√				√	√	√	√	
TriMet	√			√	√	√	√		√	√	
Multnomah County Aging, Disability, & Veterans Services		√	√				√		√		
211	√	√	√				√	√			
ODOT			√				√	√	√	√	

Table 11: Potential Lead Agencies in Portland Region: Barriers

Governance	Barrier
Ride Connection	- No direct connection with current organizational flow chart, - Limited policy-making authority of the current OC/OC Planning Committee
Metro	- Not currently an agenda item for any policy committee in METRO, - Project not currently listed in Regional Transportation Plan, - Provides some mobility management support (TDM)
TriMet	- Agency does not consider OC/OC a natural fit for MOD project, - Geographic service limitations, - Lack of call center capacity
Multnomah County Aging, Disability, & Veterans Services	- No direct transportation service provision - Limited coordination with transit providers; - May not have fundamental capacity to expand beyond I and R
211	- No direct transportation service provision, - No mandated role in coordinating with transit providers, - Do not have mandate to expand beyond I and R
ODOT	- Statewide focus for provision of services, - Limited call center functions

4.3.5 Opportunities for Collaboration

The potential of another council to exist independent of the lead agency with various possibilities for oversight of a lead agency. Consideration should be given to the following arrangements:

Table 11: Potential Oversight Council Alternatives

Finding	Description
New governing council of stakeholders	**Pro:** Parties have pre-determined interest of success; nimble to respond to funding opportunities **Con:** No lead agency currently identified to manage council; no mandate to participate
Transportation Policy Alternatives Committee (Metro)	**Pro:** Integrate OC/OC into the regional planning process **Con:** Many interested agencies not represented on Committee
Region 1 Special Transportation Fund Advisory Council (TriMet)	**Pro:** Responsible for providing direction on spending of FTA 5310 funds; may help to integrate with TriMet and MOD project **Con:** Not representative of all interested agencies
Multnomah County and/or Aging and Disability Resource Connection Advisory Council	**Pro:** ADRCs already have an established database and process for I and R and options counseling **Con:** Not representative of all interested agencies

Long-term collaboration with regional partners is a necessary consideration. A lead agency would want:

- A Memoranda of Understanding (MOU) or Interlocal Agreements (ILA) for contributions toward paying for that ongoing maintenance to provide ongoing financial support for maintenance and hosting;
- An agreement with providers to keep information accurate; and
- Agreements with agencies with access to consumers to continue to promote and market the OC/OC as the agreed upon hub for transportation, and provide a short-list of individuals that could beta test modifications to the software and help execute necessary beta-testing with their customers.

4.4 Cost Analysis

4.4.1 Key Issues for Action Plan

The Portland Regional Planning Committee has hosted multiple workshops and meetings expressing desired functionalities of a potential OC/OC systems and their interest in a future system being developed as an open source deployment.

From a software system development perspective, an OC/OC system is a layer of algorithms that take information from existing systems or its own database and presents it to the user in an intelligent way. The way the user interacts with the OC/OC varies from system to system. The user interface can be designed in a way that meets regional needs. The central database of provider information and resources is what is leveraged. An OC/OC system is a web-based system that connects a user interface to the existing data in the region and presents it as a trip option for the user.[10]

The following list includes elements to consider relative to software development and deployment.

1. Determination of software customization or off the shelf
2. Central repository of information and basic trip planners
3. Database Development
4. Trip Planner
5. Level of integration of systems from various transportation providers
6. Customization of functionality
7. Hosting costs
8. Mobilization costs
9. Ongoing maintenance costs

The original funding through the Federal Transit Administration's Veterans Transportation Community Living Initiative (VTCLI) are no long available as an option to develop and deploy OC/OC systems. Based on Portland's Coordinated Transportation Plan for Elderly and Persons with Disabilities, 2012[11], all available funding sources are allocated. Innovative funding mechanisms are highly recommended as potential OC/OC funding opportunities. Specifically, due to the limited public and nonprofit funding options available, it is highly recommended that discretionary funds allocated through the State's new State Transportation Improvement Fund be explored as a potential option.

[10] Information referenced from Cambridge Systematics, Lynx Orlando, OC/OC project description.
[11] https://trimet.org/pdfs/publications/elderly-and-disabled-plan.pdf

4.4.2 Best Practices

OC/OC systems were examined by their level of functionality. They were organized by level of functionality from Level 1: Most basic platforms of information and referral, trip planning and eligibility to Level 3, integrating scheduling and dispatch from multiple providers. One OC/OC system is presented below to represent each level of functionality. Each best practice also highlights the lead agency, the system components, and the estimated overall costs for implementation and ongoing operations.

Table 12 Best Practice System Functionality Models

Lead Agency	MyRide2 Washtenaw, MI	Utah RideLink	Simply Get There, Atlanta GA	Lynx Orland, FL
Level	1	2	2	3
Agency Type	AAA	Transit Agency	Regional Commission & AAA	Transit Agency
Open Source		✔	✔	✔
Eligibility Information	✔	✔	✔	✔
Provider Database	✔	✔	✔	✔
Trip Planner		✔	✔	✔
Advanced Trip Planner Capabilities		✔	✔	✔
Information and Referral	✔	✔	✔	✔
Taxi Finder/Uber/ Lyft		✔	✔	✔
Call Center Capacity	✔		✔	
Travel Training	✔	✔	✔	✔
Direct Transportation Provider		✔		✔
Provider Access to Update Information		✔		
Integration with 211				✔
Mobile App				✔
Estimated Development Costs	$7,000	$500,000	$420,000	$994,000
Ongoing Maintenance Costs	$750 annually	$30,000 annually	In-kind	$133,000 annually
Partnerships	ADRC, site built on existing ADRC web platform	Relationship with 211 for future call center	AAA, Regional Commission, MPO	Transit Authority

4.4.3 Key actions to take

- Build consensus and support for lead agency
- Standardize data to support a centralized database of transportation provider information
- Standardize process to add providers into a centralized database
- Establish geographic scope of area supported by the OC/OC system
- Streamline eligibility among transit providers
- Standardize software over time to support the growth of the system in the areas of web-booking and dispatching

4.4.4 Decision Points

- Consider the technology capacity of the selected lead agency and available funding sources internal to selected lead agency and external
- Consider the relationship between the OC/OC system and the TriMet MOD Project.
- Develop a business plan and make a business case for multiple agency and provider participation in the OC/OC
- Establish criteria identifying final product
- Determine the costs for building system and ongoing maintenance

a. Initial Elements of a Business Case for the OC/OC

The OC/OC System should increase efficiencies in business practices among transportation system providers. The following examines the relative business case for participation in the OC/OC system by each identified target group.

(See Table below)

Table 13: Business Case for OC/OC

Target Group	Business Case
General	• Provides specific focus on populations and communities that have challenges in finding transportation to meet their needs for some or all trips • Gathers and provides statistics on site visitors to provide current and practical data to policy and funding decision makers to assist in allocating resources for more services for persons and communities in need of transportation
Ride Connection and Other Information & Referral Services (ARDC; 211)	• Reduces need to manage individual databases and reduces duplication of efforts among similar agencies to maintain provider transportation information • Reduces the overall number of calls coming into each agency (in the long run) ○ Potential for longer call times in early phases but reduced number of calls once individuals know how to use the system
Transit Agencies	• Provides information & tools beyond simple trip finding/booking, such as where to find travel training, understanding eligibility rules, booking procedures for specialized services for all the available transportation resources • Promotes fixed route options and travel training services over other available options as appropriate • Aligns with shared use mobility efforts of Tri-Met MOD project
Metro	• Supports a regional goal of mobility management and coordination of available transportation services
Social Service Providers	• Identifies transportation providers beyond traditional modes, especially for services for persons with disabilities • Enhances agency ability to continue to help customers by telephone if they need further assistance or cannot use the web or smartphone technology
ODOT	• Serves as potential pilot or preliminary scope for state's interest in update the ODOT TripCheck platform
Transportation Providers	• Allows providers opportunity to market services and manage information about services in one central location

Rather than compete with other agencies that provide information to persons with disabilities such as social service agencies, Oregon 211, Multnomah County Aging, Disability, & Veterans Services or Ride Connection, the lead agency should partner with these agencies to build a regional brand for the OC/OC. Further, the OC/OC should be positioned as a tool that is

comprehensive and complete that can be used by these other agencies. The agencies should be encouraged to recommend improvements, suggestions, new providers for the database (crowd-sourcing) and site elements that will make the site and data of increasing value to populations with difficult to fulfill transportation needs.

Further, there are parallels between the TriMet MOD and OC/OC but the programs have different goals. OC/OC is about serving persons with disabilities. OC/OC should start with a clearinghouse of information. The OC/OC likely has different requirements and different eligibilities. The MOD result would also fill the needs of customers that have disabilities but not be eligible for other services. There is a potential issue of conflicting brands to the user if OC/OC and MOD are branded as separate products. It will be important to create clarity of the differences between the brands. An important difference is that OC/OC would be on demand or scheduled whereas MOD will not. As more options become available and there is more on demand options available TriMet may consider different opportunities for collaboration. An important overlap for consideration is that TriMet MOD does want to keep fixed route transit present as a central option for all users who can feasibly use it. For OC/OC, this includes people who are eligible, but in some cases could take fixed route transit but the OC/OC can also make travel training a priority option.

b. Establish Criteria for the OC/OC System

Level 1: Mobility through Information

Phase 1 includes all the Level 1 functionalities as listed in the wish list table above in addition to the functionalities of information saving, customer research, general information for customers and caregivers, provider access, and integration of 211. The final column, Portland Stakeholder Priority, reflects the initial list of OC/OC components derived from feedback at OC/OC workshops, the technical interviews with stakeholders, and ongoing discussions with the OC/OC project managers and planning committee. The total estimated cost for Phase 1 build out is approximately **$50-75K.**[12] Most functional components are available as open source API, but as noted some elements will require customization. Several functional components are currently under development through the Lynx Orlando OC/OC project which will then be available as open source likely reducing the cost. Assuming the ability to leverage the Lynx APIs, App development will likely cost an additional **$10-15K.**[13]

(See tables below)

[12] Costs developed in consultation with a software engineer with Cambridge Systematics.
[13] Costs developed in consultation with a software engineer with Cambridge Systematics.

Table 14: Level 1 OC/OC Functionality in 1-Click Open Source Platform

Functional Component	Included in Platform?	Requires Customization?	Portland Stakeholder Priority
Database of transportation all providers: Public/community/non-profit/vetted private	Y	N	1
Provider details: Service area, eligibility, fares, accessibility, service hours/days, contact info etc.	Y	N	2
Trip finding website tools	Y	N	3
Trip finding smartphone apps	Y	N	4
Call Center trip planning services	Y	N	5
Referrals to agencies for additional help	Y	N	6
Ability to register on site: Save origin & accessibility needs, etc. (pending investigation of FIPA & security needs)	Y	N	10
Market Research: Brief surveys	Y	N	12
Pages for specific users: e.g. Veterans, Workforce transportation, Dialysis patients, etc.	Y	N	13
Provider access:			
General Information. E.g.:			13
o **Eligibility**: Requirements, How to apply	Y	N	
o **Personal Attendant (PA):** What is a PA, when to consider	Y	N	
o **How to use public transit:** ticket purchasing, transferring, knowing where to get off bus, safety & accessibility features	Y	N	
o **Features of accessible vehicles:** Lifts & related safety, how tie downs work, bus accessibility features, etiquette on transit towards persons with disabilities, etc.	Y	N	
Ability for providers to update service info	Y	N	14
211 Integration: INCONTACT call center software & Refernet for database management. Database is statewide & follows AIRs protocol	Y	N	

Level 2: Mobility through Evaluation

This mostly includes features to capture more advanced performance metrics including enhanced feedback, ratings, alerts, statistical analysis functions, and reports. Estimated costs for Phase 2, functionality development and deployment, are approximately **$30K-$50K.**[14]

Table 15: Level 2 OC/OC Functionality in 1-Click Open Source Platform

Functional Component	Included in Platform?	Requires Customization?	Portland Stakeholder Priority
Site Feedback: Customer & Caregiver comments	N	Y	7
Trip Rating	N	Y	11
Notifications to registered caregivers: Arrival/ departure confirmation by text/email	N	Y	15
News & developments: New providers in region, major service changes, winter tips: e.g. dressing warmly if having to wait, informing providers if waiting inside	Y	N	16
Set of statistical tools and heat maps: that show where demand exists vs. service area coverage, summary of statistics on web page usage and features used.	N	N	18

Level 3: Mobility through Service

This includes higher levels of system functionality and at this point is too large to scope an estimated cost.

Table 16: Level 3 OC/OC Functionality in 1-Click Open Source Platform

Functional Component	Included in Platform?	Requires Customization?	Portland Stakeholder Priority
Web-booking: depending on agreements & capabilities of providers.	N	Y	8
Web-payment: depending on agreements & capabilities of providers.	N	Y	9

[14] Costs developed in consultation with a software engineer with Cambridge Systematics.

Table 16: Level 3 OC/OC Functionality in 1-Click Open Source Platform (cont.)

Functional Component	Included in Platform?	Requires Customization?	Portland Stakeholder Priority
Integration of Existing Systems into OC/OC:			
Canby CAT: Seeking new simple & inexpensive system. Prefer app-based technology to allow on-line booking. Considering Spare Labs. Currently uses paper manifests & two-way radio communications with drivers.	N	Y	
Wapato Shores: Medi-routes, cloud-based scheduling/dispatching. Dispatching via company provided mobile phones	N	Y	
SMART: EnGraph ParaPlan Scheduling, dispatch & AVL, cloud-based. All trips must be booked by 6 PM previous day. Dispatchers manually reconcile trips in pm.	N	Y	
TriMet has extensive technology, updated frequently. E.g.:			
o Trapeze for scheduling/dispatching			
o Server for Trapeze/vehicle communication			
o Trapeze Trip-booker under consideration for automatic booking and payment			
o Software and bus dispatch system by INIT			
o First Transit for central dispatch functions	N	Y	
o New platform for IVR underway to auto-call customers with trip reminders and vehicle on way information	N	Y	
o Electronic farecard under development: Will enable partnerships, integrated fare systems & coordinated services. Lift Paratransit & subcontracted not in first iteration of fare card	N	Y	
Ride Connection: Primarily RouteMatch but other software depending on the service.	N	Y	
Sandy Transit – Software unknown	N	Y	
Provider forums on Website: To discuss concerns, coordinate services, seek assistance to fulfill trip requests, evolve new transfer points, improve service standards, etc.	N	Y	17

c. Costs for the OC/OC System

From a cost perspective, the total development of the OC/OC will be based on both the determined level of functionality and any level of customization. Most of the functionality needed to support the development of the Portland OC/OC system is considered an "off the shelf" product through the open source environment. The detailed estimation of costs by level of functionality as depicted in the following tables. Additional costs that are also considered below include upfront and ongoing costs for translation and interpretation services, hosting, maintenance, performance metrics, marketing, and the potential need for additional call center support.

Table 17: Estimated Portland Region OC/OC Development Costs

Level/Elements	Minimum	Maximum	Comments
Level 1: Mobility through Information	$50,000	$75,000	All functional components are considered off the shelf APIs. (Costs could be higher if decision is made to use TriMet MOD Trip Planner)
Level 1 App	$10,000	$15,000	Mobilized App development
Level 2: Mobility through Evaluation	$30,000	$50,000	Additional features including enhanced feedback, ratings, alerts, and reports will require customization
Subtotal Level 1-2	**$90,000**	**$140,000**	
Level 3: Mobility through Service		Over $1 Million (Lynx estimates)	Functional elements too large to scope and will require customization.[15]

Table 18: Estimated Portland Region OC/OC Project Management Costs (Levels 1&2)

Level/Elements	Minimum	Maximum	Comments
Third-party Consultant Project Management	$10,0800	$16,800	Approximately 12% of total project cost.[16]
In-house Project Management	$10,800	$16,800	Reflects an additional estimated at 12% of total project costs to cover portion of employee's time.
Total Estimated Cost for Levels 1-2	**$111,600**	**$173,600**	

[15] Includes integration of transit systems, web-based booking and dispatching.
[16] Based on average for industry standard (and as reflected in proposals used for Best Practice research).

Table 19: Estimated Portland Region OC/OC Upfront and Ongoing Costs:

Element	Minimum	Maximum	Comments
Option 1: Ongoing Third-Party Hosting, Maintenance & Support for Web & Mobile Applications (annual)	$100,000	$133,000[17]	Price variation due to the presence or absence of mobile apps.
Option 2: Ongoing In-House Hosting, Maintenance & Support for Web and Mobile Applications (annual)	$20,000	$30,000 (based on Utah Ride Link)	Price variation based on lead agency capacity. Price variation due to the presence or absence of mobile apps.
In-house support for performance metric analysis (Task 8 report)	$62,040	$148,040	Assumes 1 full time Mobility Manager Salary costs may be closer to the maximum relative to data science and IT needs. Costs based on salary range for an Urban Planner[18]
Marketing and Outreach (Task 7)	$15,000	$30,000	Costs reflect upfront in the first 1-3 years including videos, print, events, collateral, and articles. Ongoing costs and staff support will vary relative to lead agency capacity.
Call Center Support (Task 9)	$85,000	$170,000	Ongoing call center support based on 2 (min) and 4(max) full-time staff (if need determined).
Translation and Interpretation Services (Task 9)	TBD	TBD	Costs will vary relative to extent of services desired and the available allocation of resources.
Total Estimated Costs	$262,040	$384, 040	Total based on Option 1 Third Party Outsourcing for hosting, etc.

The minimum and maximum cost ranges for translation and interpretation services is based on the following assumptions:

- The cost per word of commonly used languages runs approximately $0.20-0.24.[19] This price can vary considerably for less common languages and is higher than $0.24 per word. A lower cost solution includes ready-made key information translated with high public availability.

[17] Price represents an estimated range based on information from the Lynx, Orland Best Practice research.
[18] Adjusted by reflect .41 for benefits and tax.
[19] Immigrant & Refugee Community Organization (IRCO)

- The cost for interpretation is approximately $0.91 per minute. Pre-recorded information based on the prioritized needs (i.e. languages and content) of the community is a lower cost solution.

d. Consideration of Funding Opportunities

The total estimated project costs and total potential revenues do not equal each other because there currently is not an identified funding mechanism to support the development and implementation of the OC/OC system. Based on Portland's Coordinated Transportation Plan for Elderly and Persons with Disabilities, 2012[20], all available funding sources are allocated. The plan also suggests the need to identify additional funding in the region. Specifically, the regional plan states:

"An additional $2 million a year for innovative services could help curb the growth of paratransit services and provide a cost-effective foundation for the future as the region's elderly population increases."

The potential funding sources listed below are already allocated to agencies and projects except for the Oregon Statewide Transportation Improvement Funding**.** An OC/OC system is likely an eligible project for each of these funding mechanisms. Coordination of services and mobility management strategies may allow for a redistribution of funds to support aspects of the OC/OC system.

(See table below)

[20] https://trimet.org/pdfs/publications/elderly-and-disabled-plan.pdf

Table 20: Potential funding sources allocated to the Portland Region -- (Existing Funding)

Source	Total Currently Allocated to Region
State of Oregon Special Transportation Funds (STF)	• STF Formula award of $8,441,117 based on 2018-2019 funding levels. All funds allocated on a population-based formula to counties, transit districts, and Indian tribal governments.
FTA Section 5310 Funds	• Section 5310 Award of $7,442,981 based on 2018-2019 funding levels. TriMet oversees identification and selection of projects. [21]
Metro, Regional Transportation Plan, Transportation Improvement Program	• Based on the adopted Regional Transportation Plan 2014 Highway Trust Fund Source definitions, OC/OC project may be eligible for Regional Surface Transportation Funds, Congestion Mitigation/Air Quality Funds, and Transportation Alternative Funds (see Sect 3-8).[22]
City of Portland, Bureau of Transportation, General Transportation Revenue (GTR)	• The 2017-2018 Portland Bureau of Transportation budget reflects $807,410 in general fund discretionary resources.
County and Older Americans Act Title IIIB Funds for Transportation	• The total state allocation of Title IIIB to the Portland region among the three counties is roughly $148,000. Total County provided funds to support these services is approximately $875,000.[23]

Table 21: Potential funding sources allocated to the Portland Region -- (New Funding)

Oregon Statewide Transportation Improvement Funding	• Estimated revenue for distribution in the Tri County Metropolitan Transportation District[24] **2019**- $18,793,000; **2020** -$42,670,000; **2021**- $48,261,000

4.4.5 Opportunities for Collaboration/Partnership

The OC/OC Planning Committee should consider how the OC/OC supports the region's mobility management goals and planning efforts to support coordinated services. Potential partnerships highlighted in the Early Wins report are still recommended for consideration.

Transportation planning discussions are currently very active in Oregon. The following are the major activities by the state, regionally and locally:

[21] FY 2018-2019 Biennium Special Transportation Fund and Section 5310 Grant Recipient Funding Levels.
[22] https://www.oregonmetro.gov/sites/default/files/2015/05/29/RTP-2014-final.PDF
[23] OAA funds are direct pass-through from the state to the county; General county funds used to leverage (match) IIIB; General fund mostly funds transportation in support of OAA program transportation needs - i.e. getting to a meal site or exercise class
[24] http://www.oregon.gov/ODOT/RPTD/RPTD%20Committee%20Meeting%20Documents/STIF-Formula-Fund-Allocation-Estimates-04-2018.pdf

Table 22: Opportunities for Collaboration and Partnership

Opportunity	Proposed Action Steps
Metro	• Inclusion of OC/OC into Regional Transportation Planning process to establish project's eligibility for future federal and state transportation funding • Align with regional goals for mobility management including Transportation Demand Management • Coordinate with TPAC committee efforts to prioritize transportation investments in region
TriMet	• Coordinate with Special Transportation Fund Advisory Committee (STFAC), appointed by the TriMet Board to recommend distribution of grants from Oregon's Special Transportation Fund (STF) and the Federal Transit Administration's 5310 grants. • Coordinate with TriMet MOD project; the same or compatible software could potentially be used for the OC/OC system with an eye to integrate with the MOD system in the future.
Oregon State Legislature	• Lobby for the allocation of discretionary funds from the Statewide Transportation Improvement Fund as long-term funding strategy
ODOT	• Leverage an opportunity for an OC/OC partnership with ODOT's interest to update TripCheck software

Per the Early Wins Report recommendation, collaboration efforts should continue to:

- Find a "Champion": Look for a political leader or influential community member to champion the project and communicate the need for the benefits that the OC/OC system can deliver.
- Seek agency representation on one or more of the Advisory Committees related to the funding where possible. (In some cases, agencies represented on the Planning Committee are already participating in the regional and state planning activities).
- Where representation on the committees is not possible, contact and speak to representatives on the advisory or planning committees.
- Ensure funding for technology that could be used for an OC/OC system is included in the policies and funding allocations.
- Maintain contact with ODOT officials and TripCheck project managers for opportunities to partner and assist in improving their database and system.
- Potentially offer to have the Portland tri-county region as a pilot for the "new" improved TripCheck system that has all the desired OC/OC features and can ultimately be rolled out to other regions of Oregon.
- Track progress on TriMet MOD software development and maintain dialogue on the potential for future integration of the OC/OC system.
- Leverage RC Planning Committee representation on the STFAC and TPAC to bring the OC/OC project to the agendas of these committees.

Design and Decision Making Toolkit

- **Accessibility Requirements**
- **Outreach and Marketing**
- **Performance Measures**

A. Accessibility

1. Key Issues for Action Plan

Members of the Portland OC/OC Planning Committee have stated that social equity and easy access to the OC/OC system are fundamentally important in developing the system. Ensuring the information from the system is available in a broad variety of formats, languages and includes accessibility features to enable usage by persons with disabilities is also fundamentally important. Many accessibility features and opportunities can readily be built into the OC/OC system from the beginning.

2. Importance of Call Center Access

According to a 2016 Pew research study, usage of all technology is lower among older adults and persons with disabilities than among the general population. This highlights the importance of ensuring that call center support is launched at the same time as the OC/OC system website.

Table 23: Technology Access by Population Segment[25]

	Age 65+			Age 18-64		
	Any Disability	No Disability	Difference	Any Disability	No Disability	Difference
Computer	50%	66%	-16%	67%	84%	-17%
Smartphone	32%	45%	-13%	70%	87%	-17%
Home Broadband	36%	57%	-21%	66%	80%	-14%
Tablet	21%	36%	-15%	44%	57%	-13%

3. Accessibility Features on the Website

Leading mobility management and transportation associations consistently reference the global standards set out by the World Wide Web Consortium (W3C) in their Web Content Accessibility Guide (WCAG) as the definitive direction for ensuring web site accessibility. Designed for web developers, the guidelines provide detailed programming requirements, advice, alternative methods of meeting each requirement, success criteria and testing guidance. The standards contemplate access for a comprehensive range of needs including:

- Blindness & low vision
- Deafness & low hearing
- Learning disabilities
- Limited movement, dexterity issues
- Cognitive limitations
- Photosensitivity
- Speech disabilities.

[25] http://www.pewresearch.org/fact-tank/2017/04/07/disabled-americans-are-less-likely-to-use-technology/

The WCAG standards are categorized under four major categories of accessibility: (POUR)

- **Perceivable:** The website information and features are available in a manner in which individuals can perceive it, that is via sight, hearing or touch;
- **Operable:** The website features and elements can be accessed by both keyboard and mouse;
- **Understandable:** The website uses user-friendly, easy to understand language and features; and
- **Robust:** The website works across a multitude of browsers and is operable and compatible with assistive technologies and mobile devices[26].

4. Best Practices/Recommended Guidelines and Timing of Implementation

Table 24: WCAG Standards & Timing for Implementation

Standard/Guideline	Timing/Comments
Provide appropriate alternative text ● Avoid words like "picture of," "image of," or "link to." ● Use the fewest number of words necessary.	**After Initial Design:** Once content has been tested and approved
Provide text alternative (alt text) for images. ● Text that presents the content & function of the image. ● Use empty alternative text value (alt="") if image has no relevant function or alternative text is in nearby text. ● If image is a link, the alt text must describe the link's function.	**Midterm:** Limit pictures for initial phases unless essential for web use understanding.
Content is well structured and clearly written ● Use the simplest language appropriate for your content. ● Organize your content using true headings (e.g., <h1>) and lists. Use empty (white) space to improve readability. ● Use illustrations, icons, etc. to supplement text. ● Check spelling, grammar, and readability.	**Initial Design**
Help users navigate to relevant content ● Provide a link that allows the user to skip over navigation to the main content in the page. ● Use true headings to organize content.	**Initial Design**
Provide headers for data tables ● Identify all data table headers using the <th> element. ● Provide an appropriate scope attribute: <th scope= col"> for column headers, <th scope="row"> for row headers. If appropriate, add a table <caption> for the data table.	**Midterm:** Avoid data tables for user end if possible. Add concurrently, if tables are need for essential information
Color ● Do not use color alone to convey information. ● Be cautious of red/green color combinations. Ensure color contrast is strong between text & background	**Initial Design**

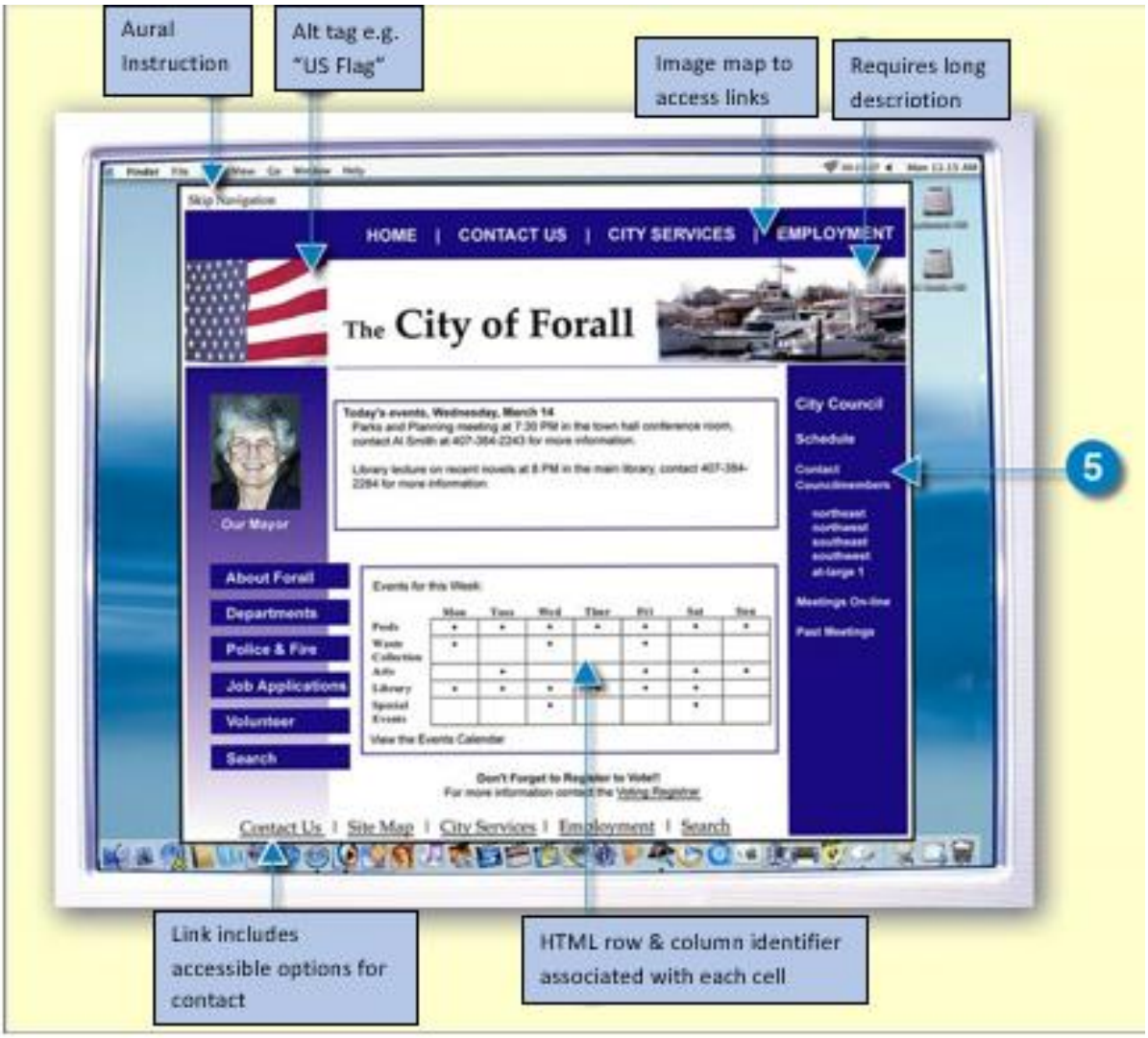
[26] https://www.w3.org/WAI/WCAG20/quickref/

Table 24: WCAG Standards & Timing for Implementation (cont.)

Standard/Guideline	Timing/Comments
Ensure users can complete and submit all forms ● Arrange form labels near their controls, for easy visual association. ● Use the <label> element to associate labels and controls. ● Group similar elements together using <fieldset>. ● Clearly identify required form elements. Only use 'required' for necessary fields. ● Ensure all directions and cues are readily accessible. ● Ensure error alerts are accessible especially for screen reader users. ● Make it easy to fix errors and resubmit the form.	**Initial Design**
Ensure links make sense out of context ● Avoid phrases like "Click here", "Here", "More", "More information", "Read more", & "Continue." ● Avoid URLs as link text unless the URL is relevant content.	**Initial Design**
Caption and/or provide transcripts for media ● Videos and live audio must have captions and a transcript. A transcript is sufficient for archived audio. ● Captions should be synchronized, equivalent, and accessible.	**Longer Term:** Only needed if video is essential to website use
Ensure accessibility of non-HTML content ● HTML content will almost always be more accessible than content in any other format. ● PDF, Microsoft Word and PowerPoint files, OpenOffice.org, and Adobe Flash provide basic accessibility features. ● Provide accessible alternatives when non-HTML content cannot be made fully accessible. ● Test the accessibility of non-HTML content in assistive technologies.	**Midterm:** Avoid non-HTML content that cannot be made fully accessible. Test content in assistive technologies during initial design
General and Miscellaneous ● Ensure pages are readable & usable when fonts are enlarged 150-200%. ● Provide a descriptive page <title>. ● When using scripting, ensure events are available with both mouse and keyboard. Make all scripted content and page updates/changes available to screen readers. ● Limit pop-up windows & notify users when pop-ups are used. ● Provide a descriptive title for all frames (e.g., <frame title="navigation">). ● Follow HTML and CSS coding standards.	**Initial Design**

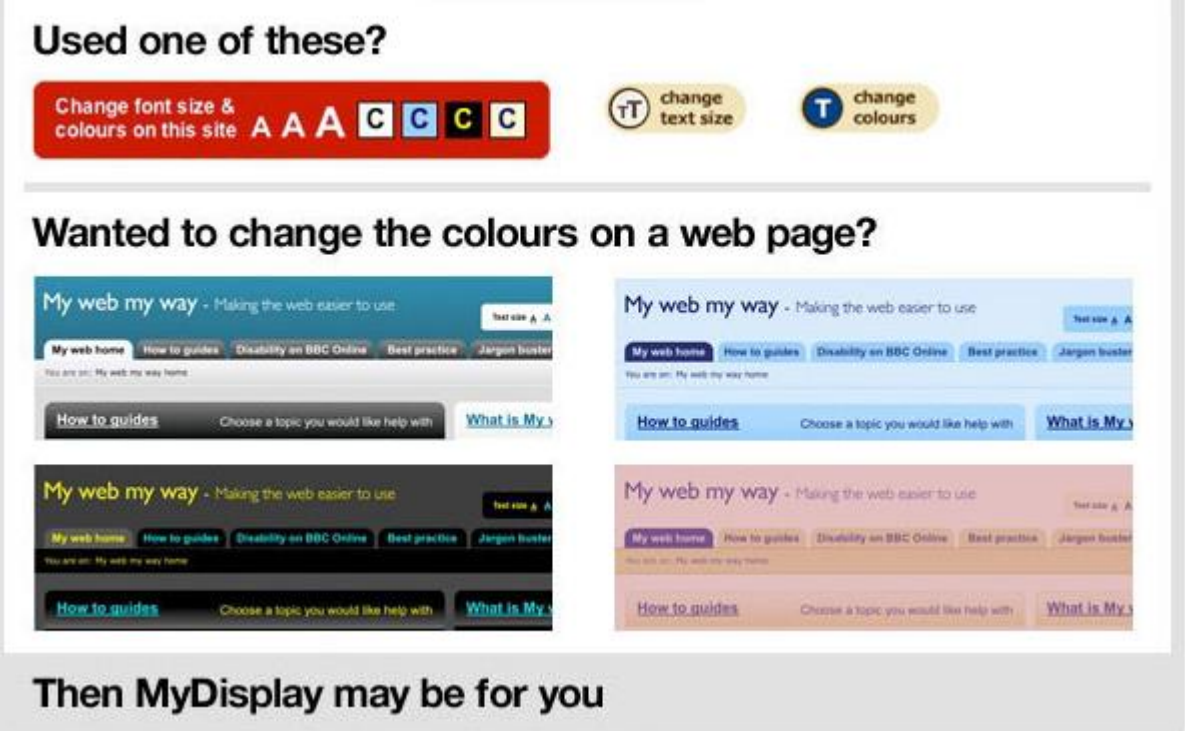
Examples of Best Practices

i. Accessibility for Blind – Screen Readers



https://www.ada.gov/websites2.htm

ii. Make options for text size and color/contrast of background and text easy to find



http://www.bbc.co.uk/accessibility/mydisplay/

i. Additional Tips:

- Use periods in acronyms for clarity for readers. E.g. A.D.A. instead of ADA
- Keep copy simple

5. Key actions to take

- Select testers from partner or other local/regional agencies as well as individuals not affiliated with agencies (if possible).
- Include at least two to three testers with each of the following disabilities: visual impairment, blind, dexterity issues, mild cognitive, hearing impairment or deaf (if sound or voice communication is included).
- Recruit testers early to participate in site development community engagement group.

6. Decision Points

- Number of languages for translation: Translation costs can be high. The lead agency and its advisory committee must consider the balance between social equity and costs associated with translation.

B. Outreach and marketing

The following summarizes the key elements of the Outreach and Marketing Plan

1. Key Issues for Action Plan

i. Unique Selling Proposition for the Portland OC/OC:

- The only site with a specific focus on populations and communities that have challenges in finding transportation to meet their needs for some or all trips;
- The only place to find transportation providers beyond the traditional modes and companies especially for services that meet the needs of persons with disabilities;
- The one transportation site in the Portland region that also provides information and tools beyond simple trip finding and booking, such as where to find travel training, understanding eligibility rules, booking procedures for specialized services for all the available transportation resources;
- The only system that partners with agencies that serve the needs of persons with disabilities and other communities of need to ensure the provider list is up-to-date, includes a broad range of providers and only includes safe and reliable services;
- The one system that works with transportation providers to expand and coordinate the options in the Portland region;
- The one place that gathers and provides statistics on site visitors to provide current and practical data to policy and funding decision makers to assist in allocating resources for more services for persons and communities in need of transportation; and
- The one set of trip-finding technology tools in the Portland region that also partners with agencies that can help customers by telephone if they need further assistance or cannot use the web or smartphone technology.

Rather than compete with other agencies that provide information to persons with disabilities such as social service agencies, Oregon 211, ADRC or Ride Connection, the lead agency should partner with these agencies to build a regional brand for the OC/OC. Further, the OC/OC should be positioned as a tool that is comprehensive and complete that can be used by these other agencies. The agencies should be encouraged to recommend improvements, suggestions, new providers for the database (crowd-sourcing) and site elements that will make the site and data of increasing value to populations with difficult to fulfill transportation needs.

ii. Summary Strengths, Weaknesses, Opportunities and Threats

Strengths

- Users have single port of entry for transportation information specifically oriented to people with disabilities;
- Complete database of transportation options potentially including non-profit, NEMT, faith-based, volunteer, community center providers is major advantage over other trip-finding tools;

- More complete and comprehensive source for transportation information beyond trip finding, such as travel training contacts, how to use public transit, understanding eligibility, etc. strengthens OC/OC position as authoritative and informative site above other trip finders.
- Users have an ability to personalize searches, save searches, and refine searchers based on eligibility determinations.

Weaknesses –

- New market entry in crowded market of trip finders;
- Challenge to distinguish its functionality as being more than a general trip finding app/website;
- Challenge to forecast market penetration based on user cohorts;
- Not positioned as a for profit venture to ensure ongoing operation and development funds;
- Limited funding for advertising & communications;
- Limited if any ability to offer consumers discounts or incentives to encourage site usage.

Opportunities

- Existing positive relationship with the ADRC, Oregon 211, TriMet, Ride Connection and others that currently help individuals in target market find transportation for call center support;
- Existing ADRC and Ride Connection Resources as start for comprehensive database of vetted providers;
- Access to high potential consumer groups through project partners and community entities.

Threats

- Brand confusion with TriMet trip finder if viewed as transit trip finder only;
- ODOT TripCheck reboot and TriMet MOD project may be launched in same time frame as OC/OC, diluting impact of launch;
- Vetting process requirements may discourage private providers' participation;
- Fear of excessive demand may discourage non-profit and community providers' participation.

iii. Marketing Implications from SWOT

- One-stop shop for all information on transportation options for persons with disabilities;
- More than a trip-finder, able to find other information on transportation in the region;

Engaging and consulting with agency and individual stakeholders is already planned to ensure the OC/OC meets community needs. This engagement is also a major marketing tool to create early support for the product and enable word-of-mouth advertising for the new resource.

2. Best Practices to Promote OC/OC Website

i. Search Engine Optimization (SEO) [27]

- **Keyword & Keyword Phrase research**: Input from community and partner organization to identify most common and most likely keywords and phrases to find transportation resources
- **Title Tags & Meta Description:** Descriptive phrase (subtitle) for website that describes the purpose for website and what it delivers.
- **Optimise the content** within each web page: Balance between content and avoiding clutter; Clearly delineated purpose of each page; Ease of navigation from page to page.
- **Local citation site and ride finding app presence**: E.g. Craigslist Portland Rideshare, Migo
- **Use SEO plugins and tools:** Assistive age to improve SEO. Examples: Yoast, Google Keyword Planner, Keyword Tool, Ubersuggest
- **Set up Google Search Console:** "A free service offered by Google that helps you monitor and maintain your site's presence in Google Search results. You don't have to sign up for Search Console for your site to be included in Google's search result but doing so can help you understand how Google views your site and optimize its performance in search results.[28]

3. Determine Overall Budget to Support Marketing Plan

i. **Low Cost:** This may entail building a market position through existing stakeholder platforms. The benefit for the OC/OC lead agency in identifying and reaching customers is the existing partnerships and relationships with several key social services agencies in the region. Each of these agencies have existing contact and engagement with the primary market segments – persons who have disabilities, older adults and persons living in poverty, for example. The OC/OC can leverage the customer base of existing social service and other "helping agencies." This process should engage the train the trainer concept to reach the diverse set of agency customers quickly. Ongoing marketing is an important phase of the learning process and supports flexible messaging with limited investment. This level of effort (low cost/known high potential customers) may provide the opportunity to establish a solid customer base but will not serve as a long-term growth strategy for further market reach.

[27] https://www.thenet.ie/examples-of-good-seo/ Accessed May 5, 2018
[28] https://support.google.com/webmasters/answer/4559176?hl=en Accessed May 6, 2018

ii. **Medium Cost:** This level of effort should focus on increasing brand awareness and market share by expanding to new partners, expanding the geographic scope of the initial marketing effort, and building towards being a known and reliable source of transportation information in the tri-county region. Efforts will need to expand beyond leveraging partner social media and websites to purchasing targeted Facebook advertising and Google advertising.

iii. **High Cost –** This level of effort should focus on ambitious growth and capture of the market share. Target advertising is used to increase market penetration at a higher rate. Consideration may be given to print collateral and larger scale media buys.

4. Allocation of Marketing Budget to Marketing Strategy

i. Videos:

Videos can be a powerful tool to create interest in the OC/OC as well as providing potential users demonstrations on how to use the site and smartphone applications. According to a recent report on use of videos for business, investing a good amount of time into video is a strong and impactful method for raising awareness and market share. Facebook's feature "Watch Video" is reported as a top feature for over 24% of all marketers on Facebook. This feature is now a priority Call To Actions (CTAs) on Facebook. It may be advantageous to engage a group of people or stakeholders associated with the OC/OC project who have used the web tools to create live-post Facebook Live Videos. Facebook finds that individuals spend more than 3x watching a FB Live video compared to video no longer live.[29]

Estimated cost of 1 to 3 minute videos, shot and edited: $200+/video x 10 videos=$2,000+.

ii. Social Media:

A Facebook or other social media page requires constant adding of content, promotion of the page, and inviting others to join. The key will be in finding the right people on FB to engage with the OC/OC concept. A low-cost approach is to work with stakeholders and partners to promote site with their current FB users. It is also not expensive to pay to boost posts on FB.

Potential content for the Facebook page could include:

- Video on how to use the OC/OC
- Testimonials from customers
- Featuring transportation providers
- Demonstrating travel training
- Highlighting transportation issues and inviting discussion on potential solutions

Estimated cost: 3-5 hours a week, $225/week, $900/month

[29] https://newsroom.fb.com/news/2016/03/news-feed-fyi-taking-into-account-live-video-when-ranking-feed/

iii. Print Collateral:

Lead agency will want to develop OC/OC branding and logo so there is consistent look to all marketing, the website and the smartphone application. Ideally, the logo should have no more than one or two colors and works well in black & white should be considered to avoid excessive printing costs.

Logo development: $4,000

Business cards with the website address and designated call center phone number, letterhead (printed and online), thank you cards would be the things you would need at minimum $1,000 depending on the quantities ordered.

Print Advertisements: Brochures that can be placed in public libraries, community centers, medical center waiting rooms, in senior centers and a variety of social service agencies.

Promotional items with logo/web address: These can be inexpensive items such as pens, key chains, glass cleaning cloths and other items that customers carry with them and use frequently

iv. Events:

Host planned social events to engage new users. These could be out in the community at community centers, senior centers or local libraries. The estimated costs consider the time to plan an event at roughly $50/hour. There may also be inexpensive or free opportunities to distribute information at events staged by others that have attendees with diverse needs. These can include: public information centers, local fairs, workshops, or customer appreciation days at transit centers, to name a few.

Estimated cost: Assuming 10 hours planning and coordinating each event, $500/event x 5 events
per year, $2,500 at most for special events specifically designed by and for the OC/OC system.

v. Articles

A consultant may be required to write articles on the OC/OC and work on both subject matter and placement to connect with the target audiences. Opportunities should be sought to encourage community journalists to feature the OC/OC in community interest articles.

Estimated cost for a consultant to develop an article: 500-750 word article for $250 each x 5 =$1,250.

Summary of above items:

Videos:	$2,000/10 videos
Collateral:	$1,000/bus. cards, letterhead, thank you cards, logo $4,000, print advertisement $5,000-10,000
Events:	$2,500/10 events
Articles:	$1,250/5 articles of 500-750 words each

e. Best Practices

Examples of Printed Marketing Collateral:
Poster:

https://www.connectingcommuters.org/program-resources/general-program-materials-information/

Tri fold Brochure Design Model

https://www.freepik.com/free-vector/business-tri-fold-brochure-template-design-with-turquoise-color-scheme-in-a4-size-layout-with-bleeds_1274714.htm

5. Potential Funding Sources for Marketing

- Government and Nonprofit Grants
- MPO Funding Allocations
- Targeted digital advertising and direct placement on site
- Finders' fees for private transportation providers
- Contributions from Public and community transportation providers
- Donations

6. Key Decision Points

- Marketing budget
- Ability to request partners to provide financial or in-kind marketing support. In-kind support includes partners providing links on site to OC/OC, advertising on property or in vehicles, inclusion of ads or articles in newsletters or social media
- Whether to include advertising on website: e.g. Providers or agencies advertise on website.

7. Marketing and Outreach Timeline

Table 25: Marketing and Outreach Timeline

Timeline Relative to Software Development	Software Status	Marketing/Outreach Activities
Pre-Procurement	None developed	On-going monthly meetings of Planning Committee Early outreach to potential funders Seek political or prominent champion
Early Software Development Basic trip finding Database Development	Preliminary Inputs	Establish lead agency Recruit steering committee members Engage social service agencies Outreach to transportation providers
Mid-Software Development	Basic Software in place Refining software Additional information/ features being added Adding Providers	Early stakeholder and consumer focus groups on name, logo, features and needs Internal testing of trip finding accuracy
	Preliminary trip finding features in place Internal Testing complete	Recruit consumer and caseworker beta testers, Focus groups on needs
4 to 6 months pre-launch	Refine trip finding features Accessibility Features in place Additional Features in place	Beta testing among consumers, caseworkers, transportation providers for 3 to 6-month period
		Beta testing among consumers, caseworkers, transportation providers for 3 to 6-month period

Table 25: Marketing and Outreach Timeline (cont.)

Timeline Relative to Software Development	Software Status	Marketing/Outreach Activities
4 to 6 months pre-launch	Refine trip finding features Accessibility Features in place Additional Features in place	
2 months pre-launch	Software refinements based on beta-testing	
1 to 2 months pre-launch		Train-the-Trainer, prepare print materials, secure distribution plan for marketing materials, email lists
Launch (One to two weeks prior to launch)		Email blast, print collateral display, press release, launch public events in each county
Early Post Launch		Public Radio and TV program, public events, conferences
Ongoing	Software and database updates based on arising issues, provider additions and customer feedback	Replenish print materials, social media updates, articles for agency newsletters
Quarterly		Quarterly report on performance
Semi-annually		Review and update print collateral
Annually		General Market Research on awareness and market penetration levels

C. Performance Measures

1. Key Issues for Action Plan

Possibly the single most commonly neglected element in developing an OC/OC system is planning and implementing robust data collection and performance measurement as an integral part of the platform. As will be described in this section, including performance measurements early in the development of the OC/OC ensures fact-based information is available to measure the success of the system and address issues that arise.

Performance measures can:

1. Ensure the OC/OC remains on track in fulfilling the vision and mission of the project and meeting the intended goals and objectives;
2. Measures and tools: Online pop up questionnaires/questions at end of call: Reason for site visit, able to find needed information, periodic focus groups, follow-up email/call: Did you take the trip recommended? If not, how did you make the trip?
3. Provide a means to assess the accuracy and functionality of the system;
4. Measures and tools: Track customer feedback and contacts regarding problems with the website, periodically testing the site for accuracy by entering origins and destinations and viewing results (10 to 20 per month)
5. Identify ease-of-use challenges for user groups;
6. Measures and tools: Engage consumers to pretest site and report issues and challenges in one-on-one interview or focus group
7. Measure the effectiveness of marketing and outreach efforts;
8. Measures and tools: Survey before and after the marketing campaign to measure change, annual survey: How did you hear about the site/call center?
9. Demonstrate the value of the project to funders, stakeholders, partners, and transportation providers;
10. Determine the effectiveness of the OC/OC in assisting persons in finding transportation solutions in the region;
11. Measures and tools: Number of site visits, calls, success in finding transportation, survey among providers on new riders or riders transferred to alternative, increase in ridership, reduced average cost per trip
12. Inform funders, transportation providers, decision makers, and others of challenges and gaps in transportation in the region;
13. Measures and tools: Origin/destination data, heat maps, data on trips that could not be fulfilled due to lack of resources, customer feedback
14. Assess customer satisfaction;
15. Measures and tools: Annual email or end of site visit survey
16. Determine improvements and timing of additional functionality for the site.
17. Measures and tools: Focus groups, workshops with providers and stakeholders

Performance measures can also be used to measure the impact of the OC/OC on quality of life and social equity. The ability to find transportation allows individuals to participate in society (work, social relationships and services) and access resources such as medical facilities, social services and educational opportunities. Gathering performance data can contribute to the logic models/performance measurement frameworks the Multnomah ADRC and others use for Transportation Coordination and Information & Referral in their systems.

2. Decision Points

- Identify purpose and objectives for each type of performance measures. Consider questions such as: Why do we want this performance information? How will we use this information? What decisions will this performance measure help to answer?
- Developing performance measures requires considerable time allocation for questionnaire development, focus group preparation and moderating, and analysis by skilled research personnel. A FTE will be required at least for one year until the formats and performance measures are fully developed.

3. Opportunities for Collaboration/Partnership

- Consider asking partner transportation providers to gather and share basic data from callers when they call for trips. E.g. demographic data, origin/destination (may be by zip code to protect privacy), new or returning customer etc.

4. Summary of Performance Measures and Related Staff Time Required

Performance measurement does require considerable time and effort for preparation, data gathering and analysis. The lead agencies and their partners will be responsible to identify the what factors should be measured and the objectives for each performance measurement project. A staff member skilled in market research methods and analytical capabilities is required to ensure the performance measurement tools are well designed and yield results that can inform decision making. The tables below summarize the timing by type of measurement and related staff support required.

Table 26: Measuring OC/OC Effectiveness

Feedback Measurement & Success in Finding Transportation Solutions Among Users		
Performance Measures	**Frequency/Timing**	**Related Staff Time**
Formal/Informal Feedback	Ongoing Measures. Analysis and reporting of complaints and feedback	2 to 3 days per month in early months Ongoing period: ½ to 1 day per month
Number of Complaints		
Number of Compliments/Positive		
Focus Groups/Interviews	- Assume three focus groups twice a year maximum to add functionality, review effectiveness and/or monitor customer response to site - Develop moderator outline, find venues, find and invite respondents - Conduct focus groups (possibly contracted moderator plus observation by one staff member - Debrief of moderator - Report preparation	5 days preparation two times per year 1 day two times per year for focus group attendance 1 day two times per year for moderator debriefing and notes from focus groups 5 days two times per year for report preparation
Trip Finding Success	Ongoing monitoring for accuracy measurement & site refinement. Annual or ad hoc reporting for informing decision-making & funding Updating provider list in database	Trip finding Statistics: 1-2 days per month
Avg. number of results per request		
Number/percentage with no results		
Click-through to provider from results		

Table 27: Annual Customer Satisfaction Research

Performance Measure	**Frequency/Timing**
Customer Satisfaction – Overall	Annual online and/or self-completed survey distributed by email or paper copy via social service/medical partner agencies Annual Reports Survey to provide data for customer satisfaction (website modification), Reason for visiting (to inform supply of services vs. demand analysis), Brand Image (for marketing) and demographics (for input on social equity modelling)
Can find what I need	
Easy to navigate, read, understand (multiple questions to rate)	
Meets my needs	
Reason for Site Visit	
Trip finding for a particular trip/general information	
Learn about travel training	
Learn about public (fixed route) transit	
Learn about travel navigators	
Check fares/cost of trip,	
Learn about eligibility	

Table 28: Annual Brand Image Research

Brand Image	
Trusted (accurate, reliable, recommend safe providers)	
First choice for information	
Would recommend to friend	
Socio-demographic Data	
Gender (personal identification)	
Age group	
Disability/disabilities (Categories)and Mobility Devices	
Geography (home zip code)	
Income (category); Race/Ethnicity	
Organizational affiliation (self, friend/family, social services, medical, transportation or Information provider (211, ADRC)	

Table 29: Administration Costs for Performance Tracking

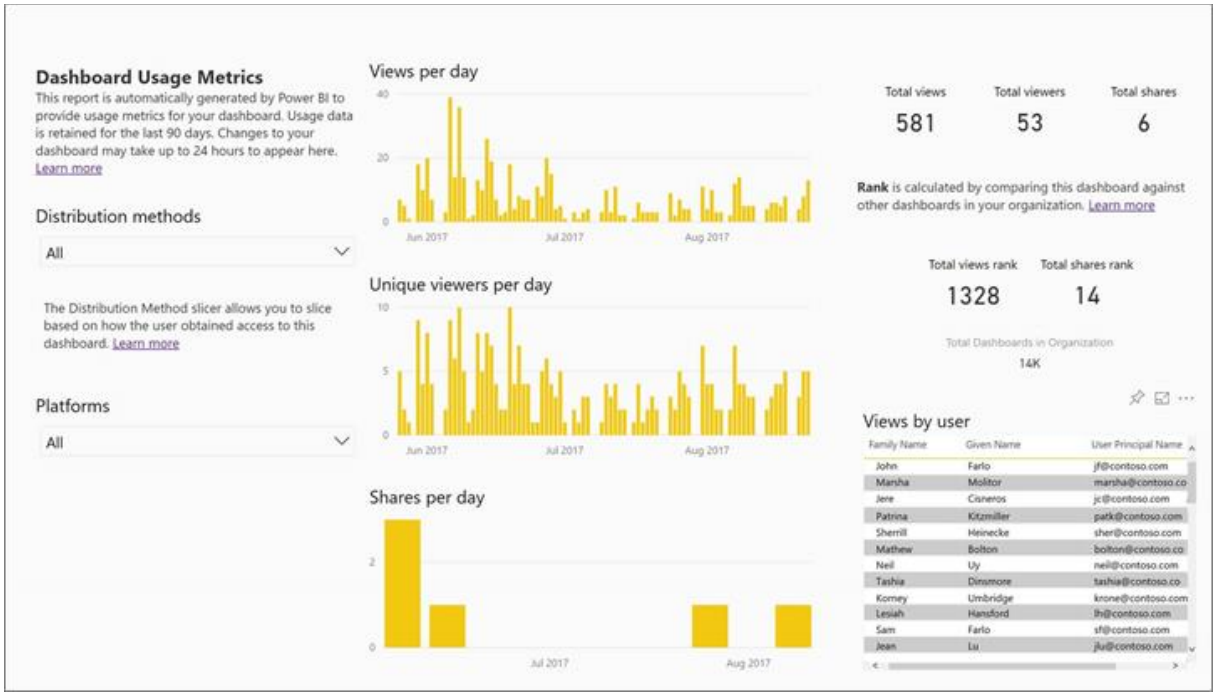
	Person Days		
Task	**Initial Period**	**Monthly - Established System**	**Annual Days for non-regular tasks**
Website Metrics	5-7	1-2	
Search Results and Feedback	12-15	2-3	
Focus Groups 2 times per year			24
Customer Satisfaction and Ad hoc Surveys	10	2	10-15
Total	23-32	5-7	34-39
Monthly average days if initial period and annual days spread evenly over 12 months	2-3		4 -5
Grand Total Number of Days per month	11-15 days		

The following pages present sample questionnaires and reporting tools.

Sample Questionnaires and Performance Measurement Reporting Instruments:

i. **Customer Satisfaction Onsite Survey Example Using Foresee[30] (USDOT Customized)[31] (See Task 8 Performance Measures Report for full survey.)**
ii. **Customer Usage and Purpose Survey (See Task 8 Performance Measures Report for full survey.)**
iii. **Example End of Call Survey: Eldercare Locator Sample Customer Satisfaction Study[32] (See Task 8 Performance Measures Report for full survey.)**
iv. **Follow-up mail-out/email survey (one week post call) Alzheimer's Association 24/7 Helpline Survey[33] (See Task 8 Performance Measures Report for full survey.)**

v. **Website Usage Dashboard Examples:**



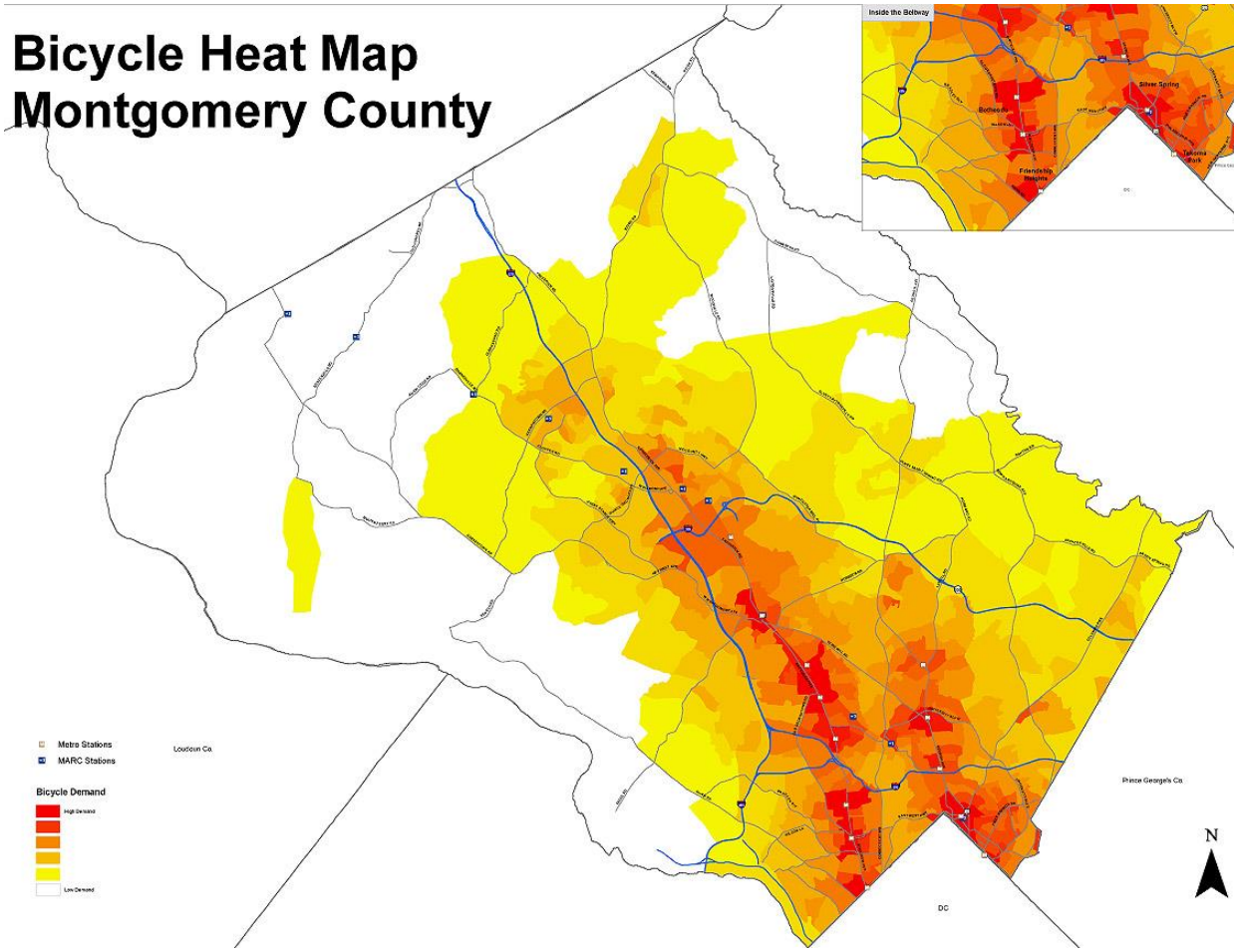
https://docs.microsoft.com/en-us/power-bi/service-usage-metrics

[30] https://www.transportation.gov/
[31] Note: A. B.C. subheadings added by Keyes Consulting for clarity
[32] Federal Transit Administration by the National Association of Area Agencies on Aging (n4a), under contract to the Community Transportation Association of America, *One Call One Click Operations Guide*, March 2014, pp. 49
[33] IBID, p. 50-51

http://www.dros4u.com/2017/10/admin-dashboard-templates.html

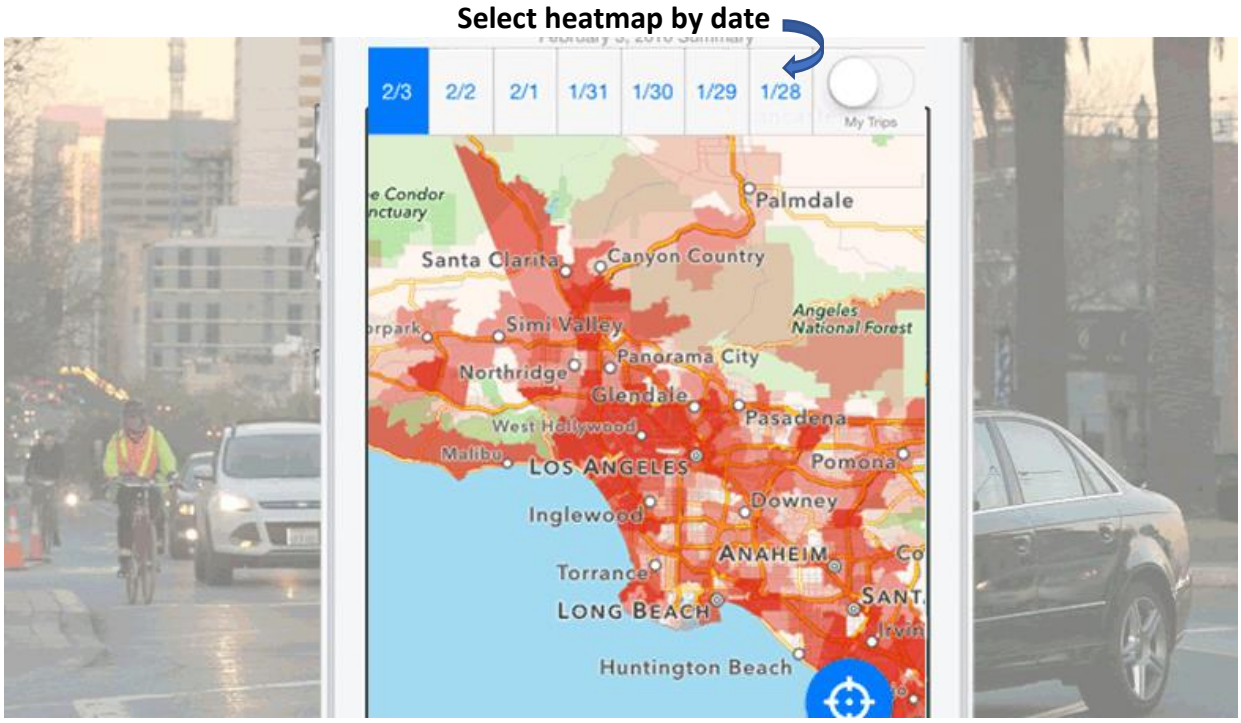
vi. Heat Map Examples:

Simple Demand Mapping



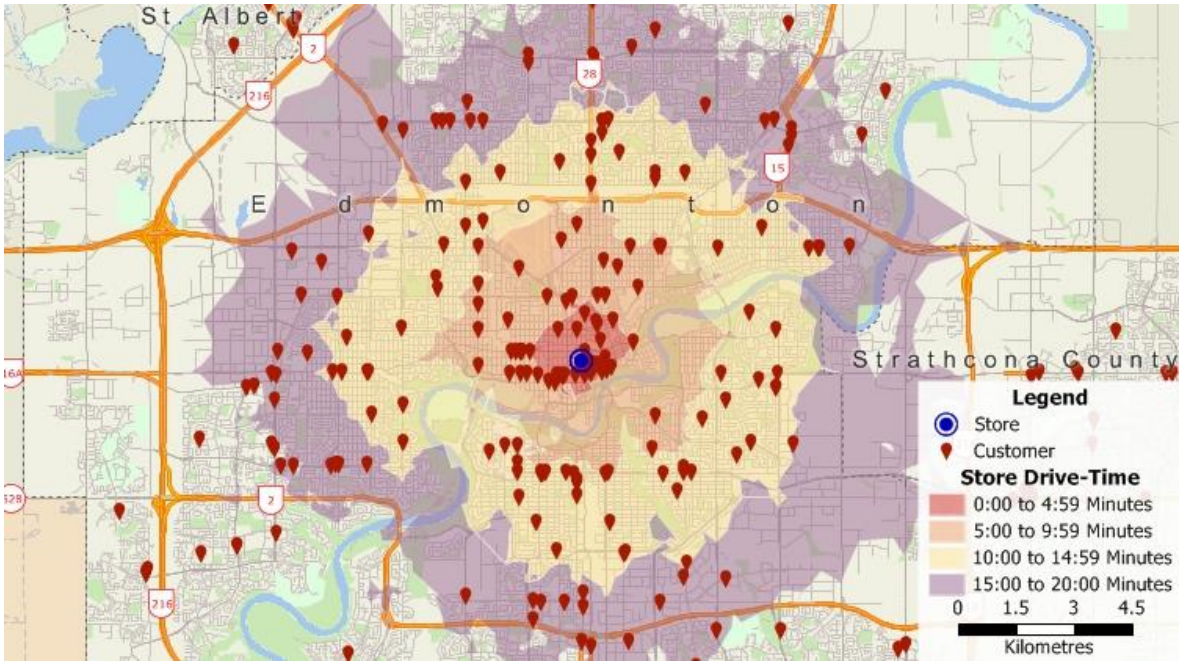
http://montgomeryplanning.org/planning/transportation/bicycle-planning/bicycle-demand-map/

Interactive Heat Map: By date



http://www.sherpashareblog.com/la/

Heatmap Showing Points of Origin



https://www.caliper.com/maptitude/worldmapping/default.htm

Materials following this page were distributed at the meeting.

Oregon Department of Environmental Quality

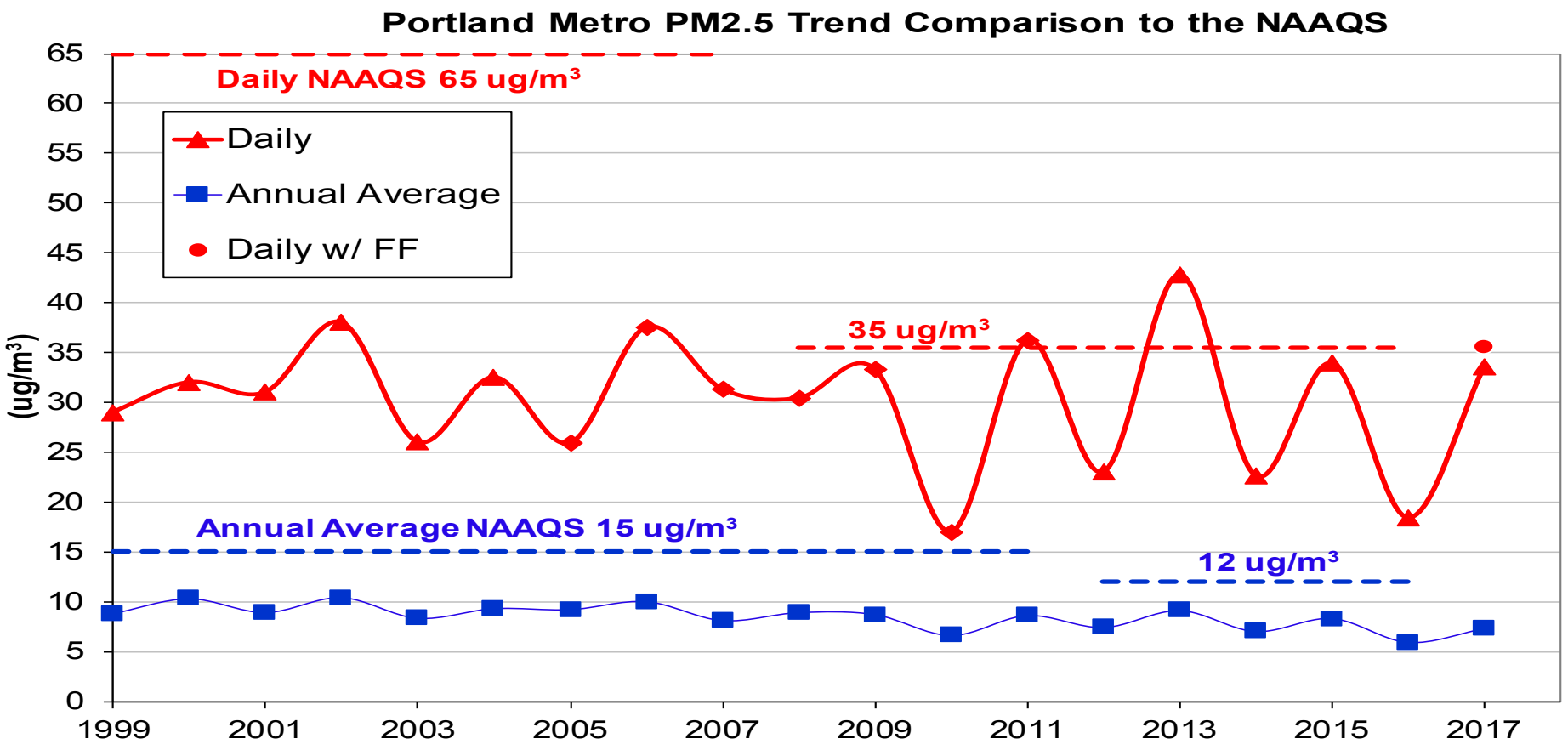
Oregon DEQ 2018 Air Quality Update
MTAC - TPAC Workshop
December 5, 2018

Cory-Ann Wind, wind.cory@deq.state.or.us, 503-229-5388

DEQ State of Oregon Department of Environmental Quality

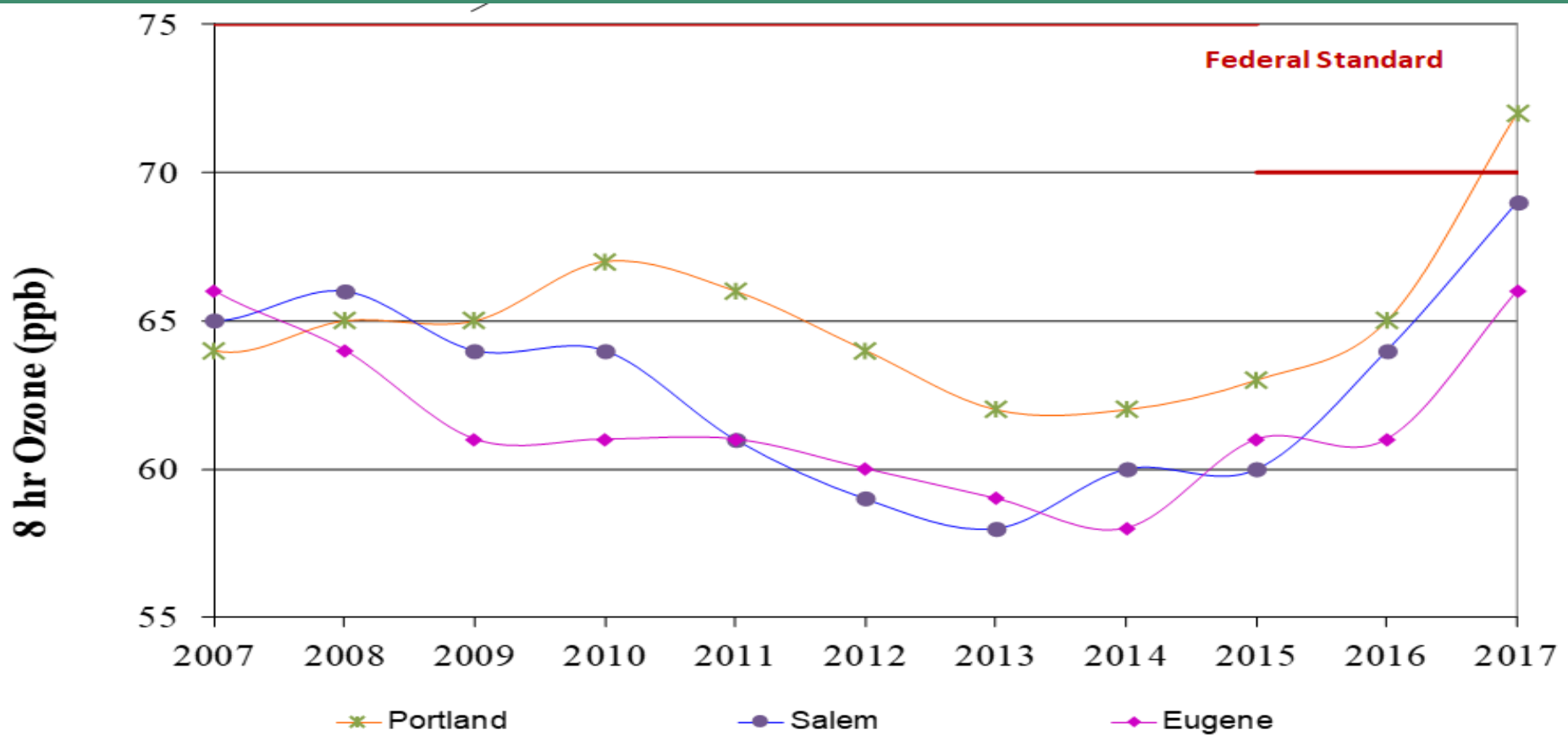
2017 Air Quality Monitoring Data

Oregon PM2.5 Trends



DEQ
State of Oregon
Department of
Environmental
Quality

Oregon Ozone Trends



Three year average of the 4th highest daily maximum 8 hour average

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Department of
Environmental
Quality

DEQ Transportation-Related Programs

Clean Air Construction Standards

Agreement amongst City of Portland; Clackamas, Multnomah, & Washington Counties; Port of Portland; Metro

<u>Major program elements:</u>

- Idle Reduction (eff. 1/1/2020) - shutdown after 5 minutes of inactivity
- Diesel Engine Requirements (eff. 1/1/2021)
  - 7 year phase-in schedule
  - Non-road construction equipment >25 hp
  - On-road dump trucks & cement mixers
- Compliance Options Protocol - demonstration, verification, decals
- Exemptions

VW Mitigation Fund

- $78 million for Oregon
- 2017 Legislature (SB 1008)
  - Replacement/upgrade of 450 school buses
  - 2 – 4 years
  - Cost around $18-19 million
- 42 currently under contract ($565k)
- Potential for up to 15% to be used towards EV infrastructure, to support:
  - Underserved communities
  - West Coast Electric Highway
- Use of the balance will depend upon further legislative authorization.

Electrify America

- $2 billion in investments for EV infrastructure - $800 million in California and $1.2 billion in the remaining states.
- 4 cycles of $500 million per cycle over 10 years or approximately 2.5 year cycles.
- For Cycle 1, Oregon commitments includes:
  - I5/I84 corridors – Grants Pass, Sutherlin, Springfield, Albany, Salem, Sherwood, Tigard, Hermiston, La Grande, Huntington
  - Metro Portland – 6 community depots & 3 retail sites
  - 16 workplaces
  - 4 multi-unit dwellings

ZEV Executive Order

- 50,000 EVs by end of 2020 (18,901 registered at the end of June 2018)
- Convening of the ZEV Interagency Working Group (DAS, ODOE, PUC, ODOT, DEQ) to coordinate on:
  - Regulations
  - Charging Infrastructure
  - Fleet Conversion
  - Outreach
  - Incentives
  - Private Sector Partnerships
- New webpage: goelectricoregon.gov

Clean Cars Programs – LEV/ZEV

- Possible change to EPA/NHTSA rules to freeze the MY2021 standards through 2025
- Automakers were deemed to comply with CA rules by complying with the EPA/NHTSA rules
- CA removed that provision in September, thus potentially creating 2 standards for automakers
- OR clean car rules are now identical to CA

Oregon Clean Vehicle Rebate

- Funded by a Privilege Tax on the sale of new vehicles up to $12 million per year
- Begins in 2018 and sunsets in 2023
- DEQ to begin issuing rebates
- DEQ to issue RFP for an external party to administer the rebates

Criteria:

- purchase or lease of a new EV
- base MSRP of $50,000 or less
- $2,500 for BEVs - $1,500 for PHEVs
- Beginning in 2019, motorcycles and neighborhood electric vehicles qualify for a $750 rebate

Charge Ahead Rebate

Criteria:

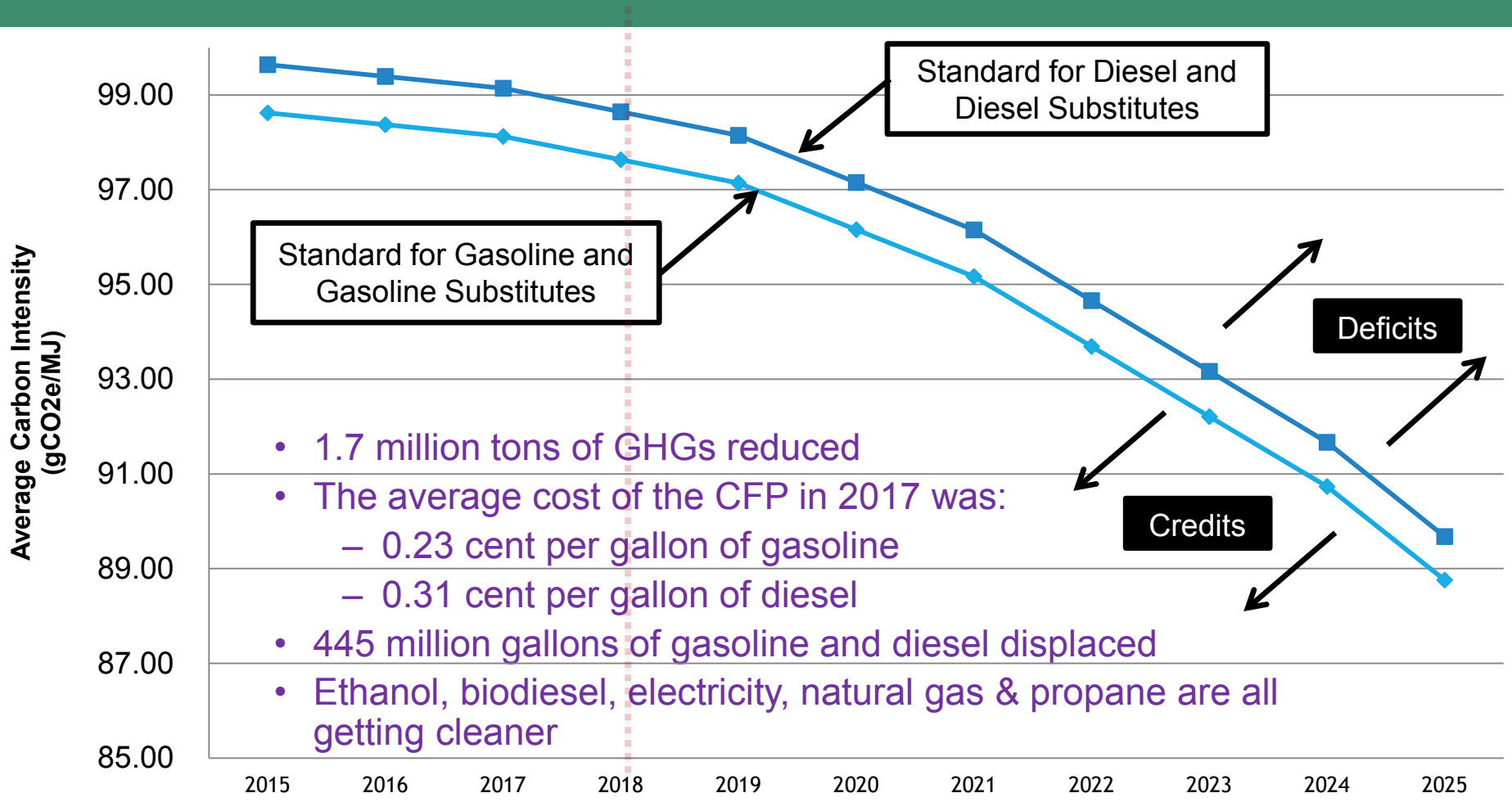
- purchase or lease of a new or used BEV, not PHEV
- Must meet low- and moderate-income household criteria (details still to be determined)
- At least 10% of funds must be for Charge Ahead rebates

Utility Engagement

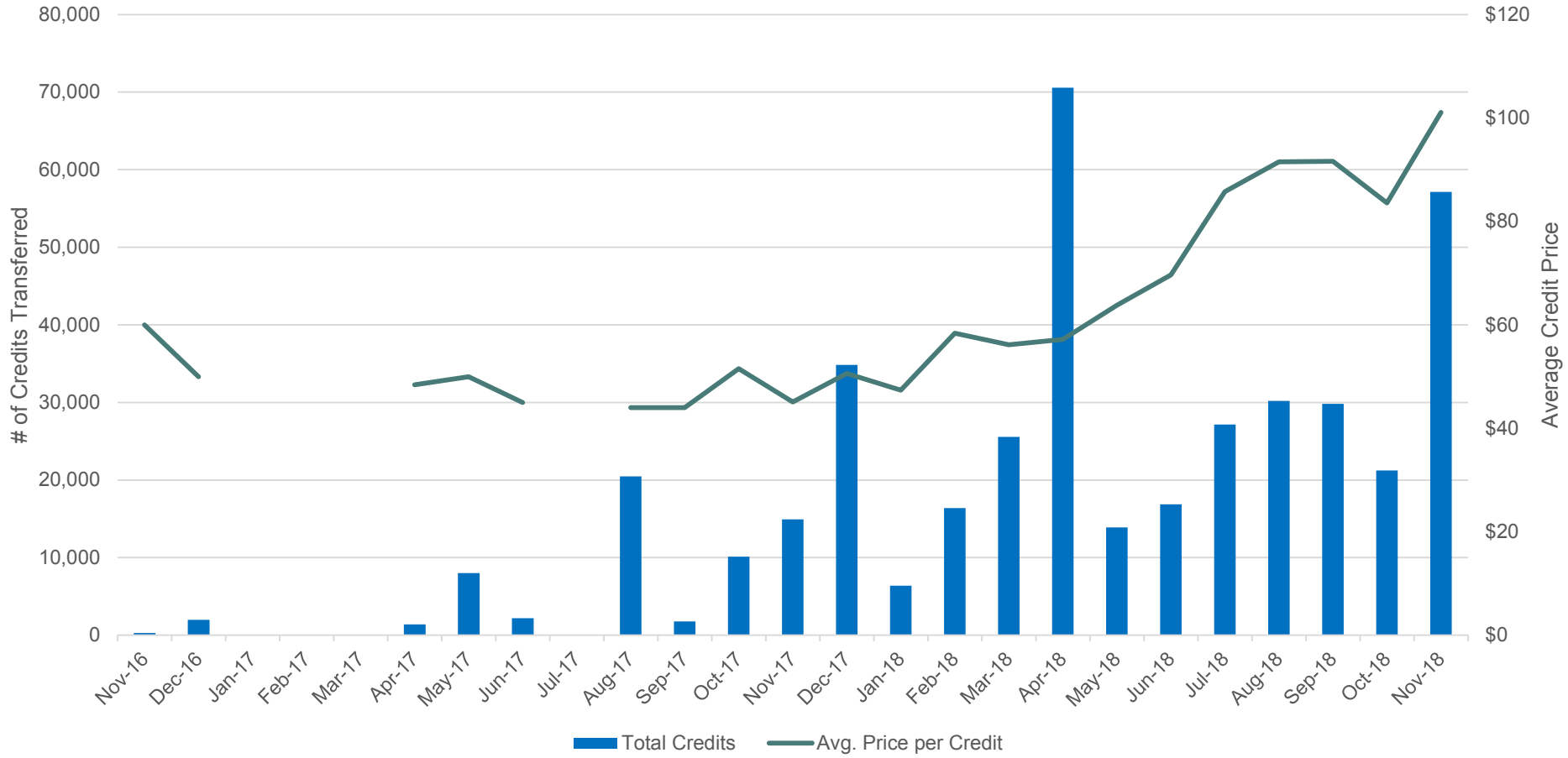
Transportation Electrification plans – pilot projects:

- Portland General Electric
  - Partner w/ TriMet for new electric buses, $800,000
  - Education and outreach, $400,000
  - "Electric Avenue" project to re-create 6 multi-charger public charging 'pods', $2.6 million
- PacifiCorp
  - Public charging (up to 7 charging sites), $1.85 million
  - Outreach and education, $1.105 million
  - Non-residential charger grants, $1.685 million

Clean Fuels Program



Clean Fuels Credit Market



*Based on information submitted to the CFP Online System.

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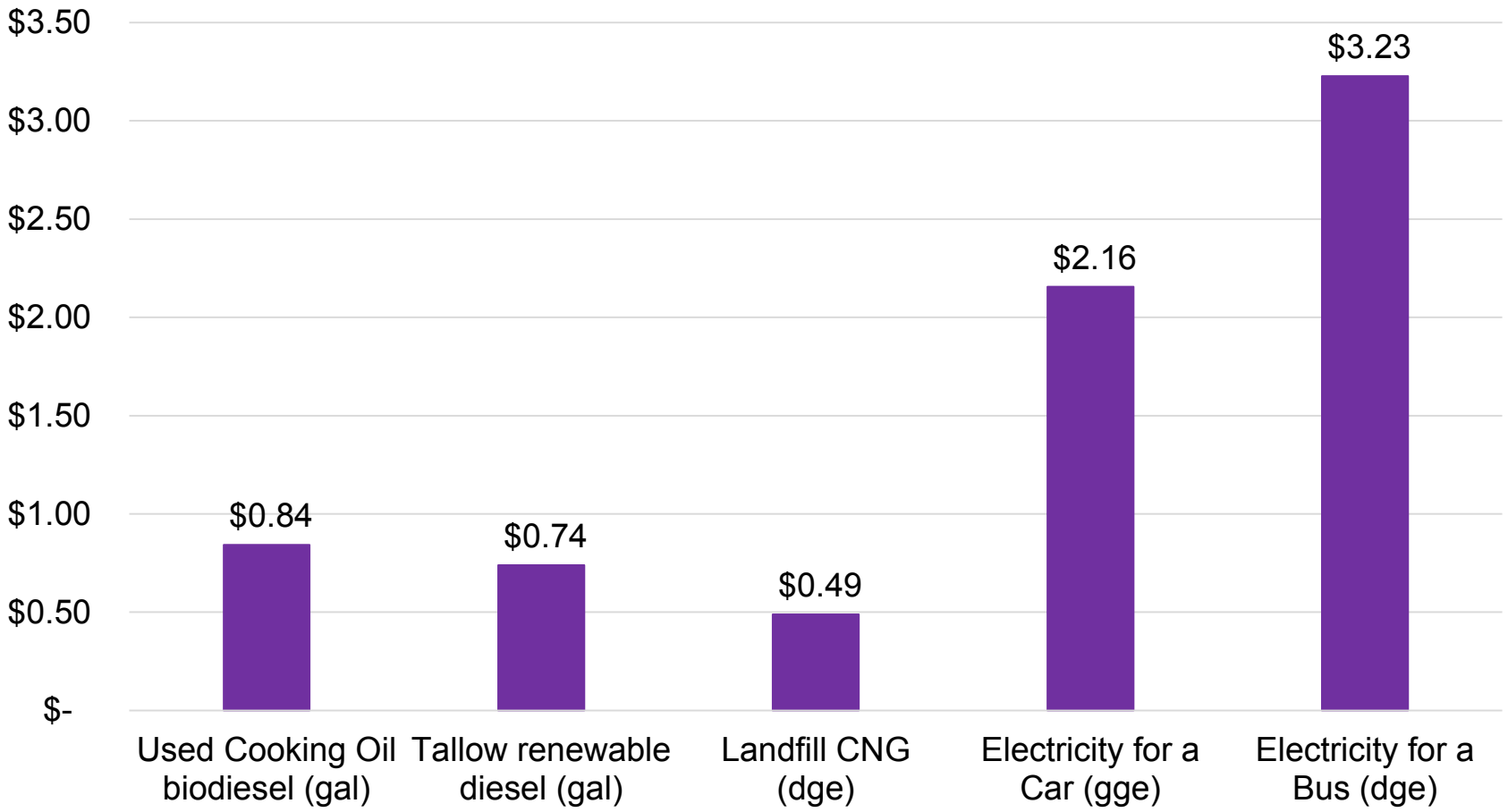
Department of
Environmental
Quality

The Benefit to Clean Fuels



*Based on October 2018 average credit price of $83/ton

DEQ State of Oregon Department of Environmental Quality

Portland Regional One Call/One Click System

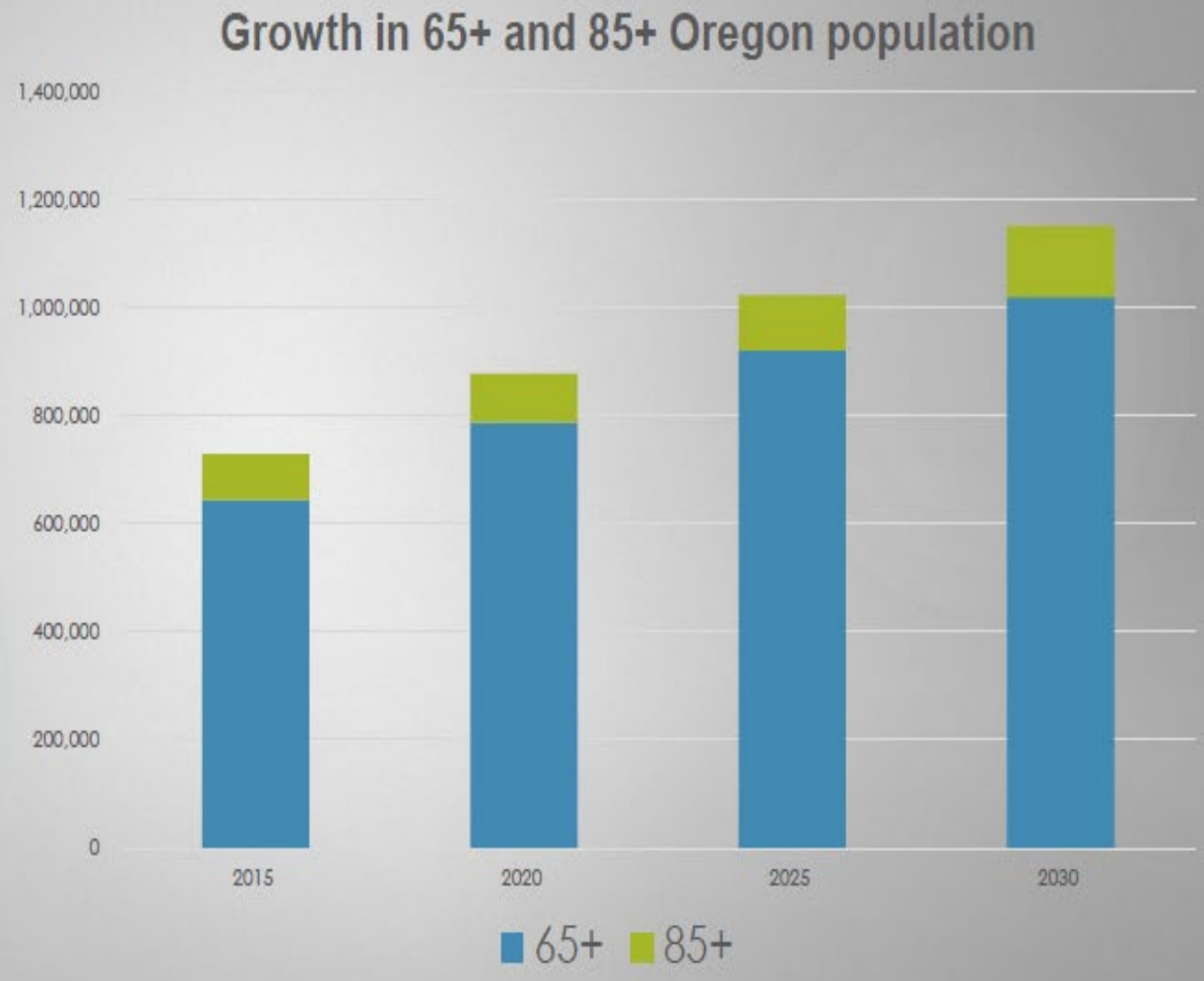
TPAC/MTAC Workshop
Oregon Metro

Rebecca Miller, Multnomah County
Kevin Chambers, Full Path Transit Technology
Julie Wilcke, Ride Connection
Caleb Winter, Oregon Metro

December 5, 2018

Rapid Growth of Aging Population

- Dramatic increase as baby-boomers retire
- By 2030 the percentage of Oregon's population that is 65+ will increase to 20% of the total population



Source: Oregon Office of Economic Analysis

Slide Credit: Oregon Aging & People with Disabilities

WHAT'S IMPORTANT TO OUR CONSUMERS OVERALL?

When asked what was important to participants regarding ADVSD services, transportation coordination and support for transportation services were the most mentioned.

Source: www.multco.us/ads

FOCUS AREA HIGHLIGHTS

The topic of transportation coordination and resources drew 26% of all comments when asked "what's important to you?"

People with limited English proficiency were nearly twice as likely to indicate transportation coordination and resources as important when compared to people fluent in English.

Language barriers not only impact awareness and access to available services, but also seem to increase confusion and fear when using public transportation. Transportation was mentioned by people with limited English proficiency as a need for safety and abuse prevention.

All groups indicated that more transportation resources are needed.

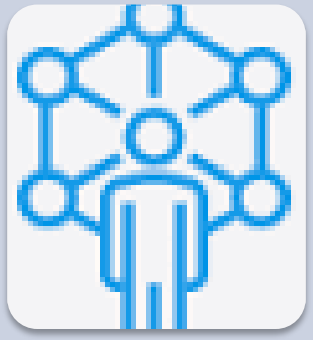
Many people rely on alternative transportation provided by friends or family members, but this option was not available to every person, every time, it was needed.

Source: www.multco.us/ads

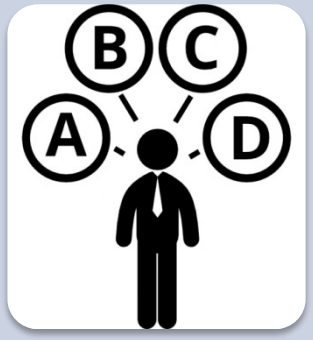
One-Call/ One Click Project Mission

"To create a public, easy to use, and definitive online resource for transportation options that covers the entire Portland metro region. The OC/OC system will have a website, call center access and smartphone applications when it is fully operational. The system will serve all residents, with a priority on meeting the needs of older adults, people with disabilities, and those with economic and geographic barriers to transportation."

Desired Outcomes for System



Single Point of Contact



Personal Choice/ Options

Trip Planning

Coordi-nated Services

Central System for Providers

Target Markets for System

Primary	Secondary	Tertiary
• Older adults • Persons with disabilities • Veterans • Persons in rural areas • Persons living in poverty	• Caregivers • Organizations that provide other services not related to transportation but who have clients needing transportation.	• Other members of the general public • Policy, planning, and funding decision makers.

Levels of Mobility Support

Mobility through Information

- Centralized database
- Trip planning/finding service
- Web/call center/smartphone
- Resources for additional assistance

Mobility through Evaluation

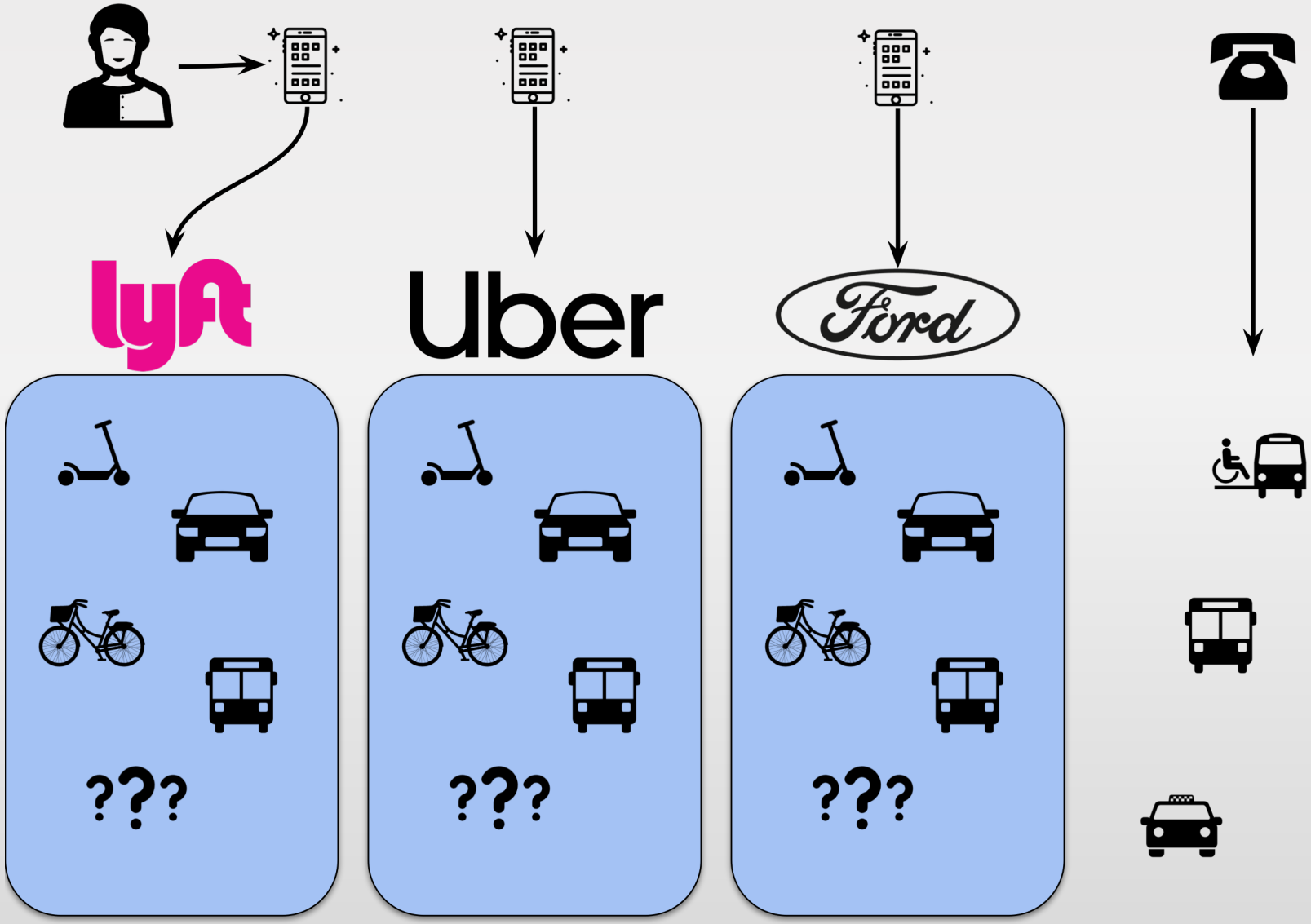
- Site feedback
- Trip rating
- Pricing
- Statistical tools and heat maps

Mobility as a Service (MaaS)

- Digital booking
- Electronic payment
- Mobility Account
- Service on Demand – TNC model

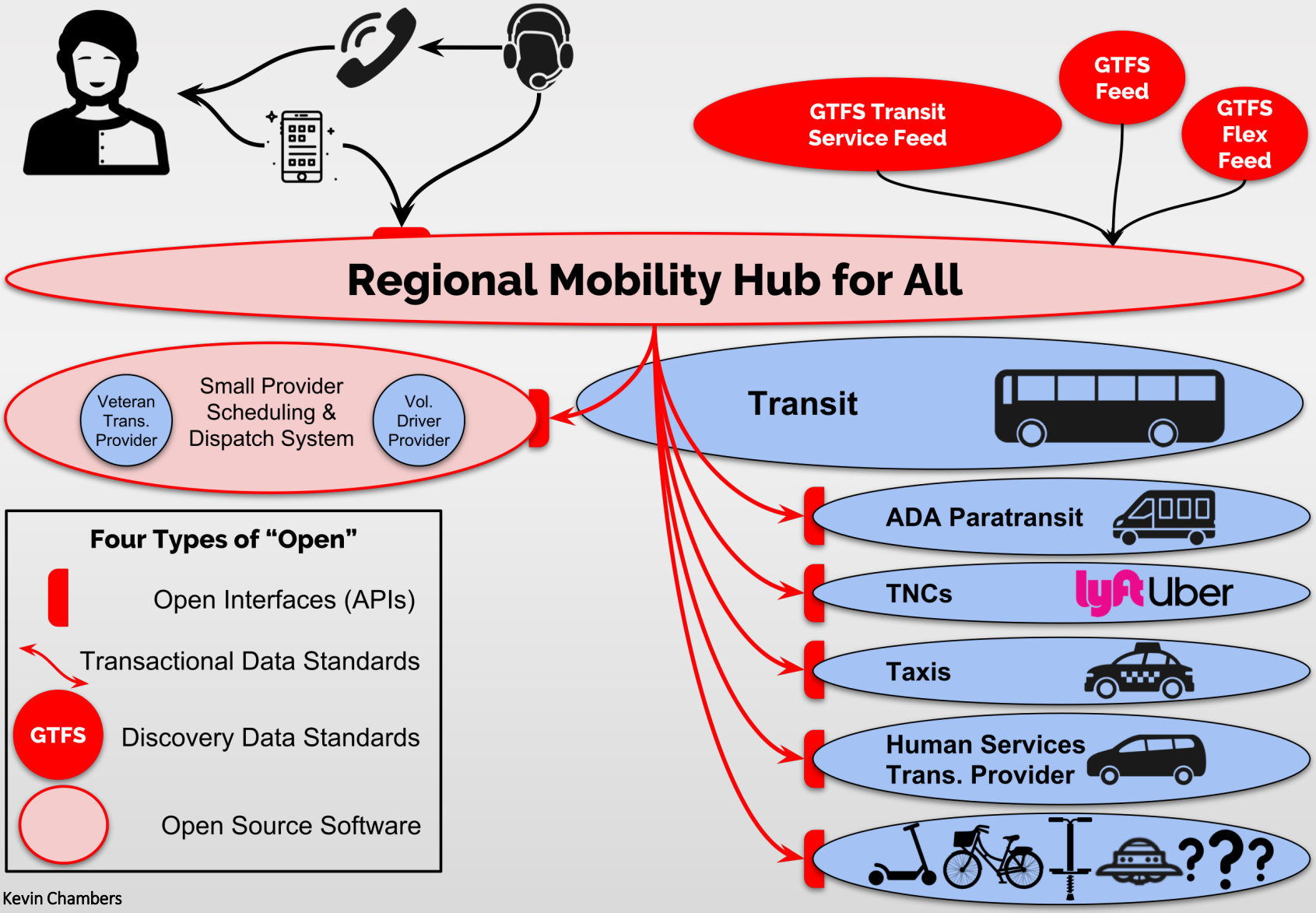
Two Example MaaS Futures

A "Walled Garden" Future



Two Example MaaS Futures

An "Open Systems" Future



Implementation Road Map for the Portland Region

Building the Foundations for OC/OC Potential

Goal Alignment	• Regional transportation technology goals • Coordinate with existing systems
Financing	• Development • Ongoing maintenance
Leadership	· Regional support · Ability to secure new financial resources · Financial stability of potential organization · Ability to market and drive usage
Oversight	· Consultant selection · MOUs or ILAs · Contract · Engagement of partners

Stakeholders & Domains for Integration

	Options Database	Trip Planner	Travel Training	MoD/ MaaS	Curb-to-Curb Services	Person Centered Support	Call Center
ADRC	✓					✓	✓
Gridworks/ Medicaid					✓		✓
Metro	✓			✓			
ODOT	✓	✓					
211	✓					✓	✓
Ride Connection	✓		✓		✓	✓	✓
SMART, Sandy, Canby					✓	✓	✓
TriMet		✓	✓	✓	✓	✓	✓
New Mobility Apps & Services		✓		✓			
Community Transit Providers					✓	✓	✓

Best Practice Governance Models

Trip Resource Center
Social Services Model

- Oversight by Human Services Council
- Not in regional planning process
- No dedicated funding source

Utah Ride Link
Transit Authority Model

- Regional planning Process
- Mobility management goal
- Partners with 211
- Uses Sec 5310 but no dedicated source

My Ride 2
AAA Model

- Regional planning process
- Partnership with transit Built on I & R platform
- Integrated into AAA workplan
- Uses Sec 5310 funds
- Adding neighboring AAAs

FACTS SD
Nonprofit Model

- Independent Board of Directors
- Maintains all aspects of system
- Coordinates with regional planning process
- Coordinates with 211
- Dedicated funding source

Simply Get There
Regional Planning Model

- Regional planning process
- Partnership between Regional Commission and AAA
- Regional Commission provides maintenance and hosting
- Integrated in AAA workplan
- No dedicated fund source other than AAA in-kind

Considerations for a Lead Agency

- Financial stability of potential organization
- Ability to market and drive usage
- Can expand capacity beyond information and referral
- Regional support
- Ability to secure new financial resources
- Can undertake mobility management for region
- Initiator & ongoing operator can be different

Leadership Assessment for the Portland Region

Governance	Technology Expertise	Call Center Capacity	Provider Database	Scheduling and Dispatching	Provides Transportation	Travel Training	Goal Alignment	Geographic Coverage of entire region	Direct Recipient of Potential Funding Source	Part of Regional Planning Process	Assessment of Strength
Ride Connection	√	√	√	√	√	√	√	√	√		
Metro	√		√				√	√	√	√	
TriMet	√			√	√	√	√		√	√	
Multnomah County Aging, Disability, & Veterans Services		√	√				√		√		
211	√	√	√				√	√			
ODOT			√				√	√	√	√	

Where We Stand Now

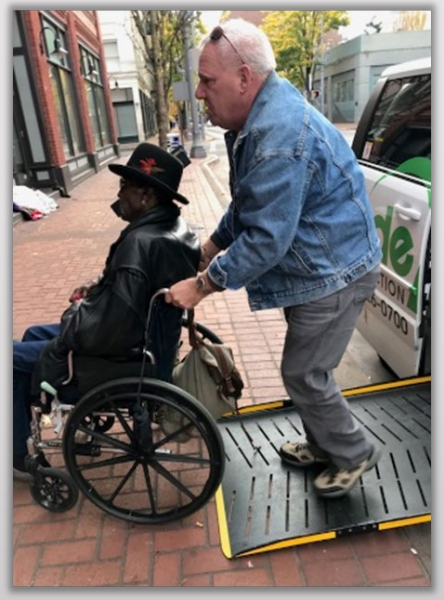
- Planning and analysis is complete, many stakeholders engaged
- Community workshop in June 2018
- Broad agreement of value
- Technology tools are available now and improving
- No lead agency or governance structure yet
- Success depends on strong regional champions

Transportation options are needed for people of all ages and abilities.

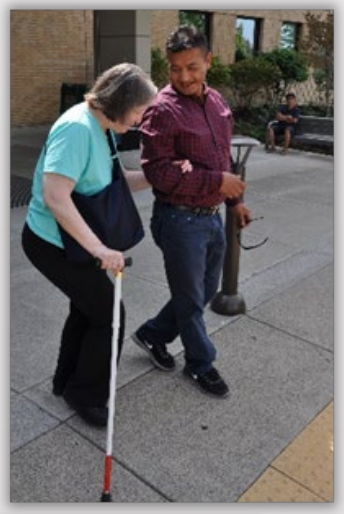
By 2045: 24% of the tri-county population will be over the age of 60

12% of people have a disability that significantly impacts major life activities

35% of people with disabilities have incomes below 150% of the Federal Poverty Level



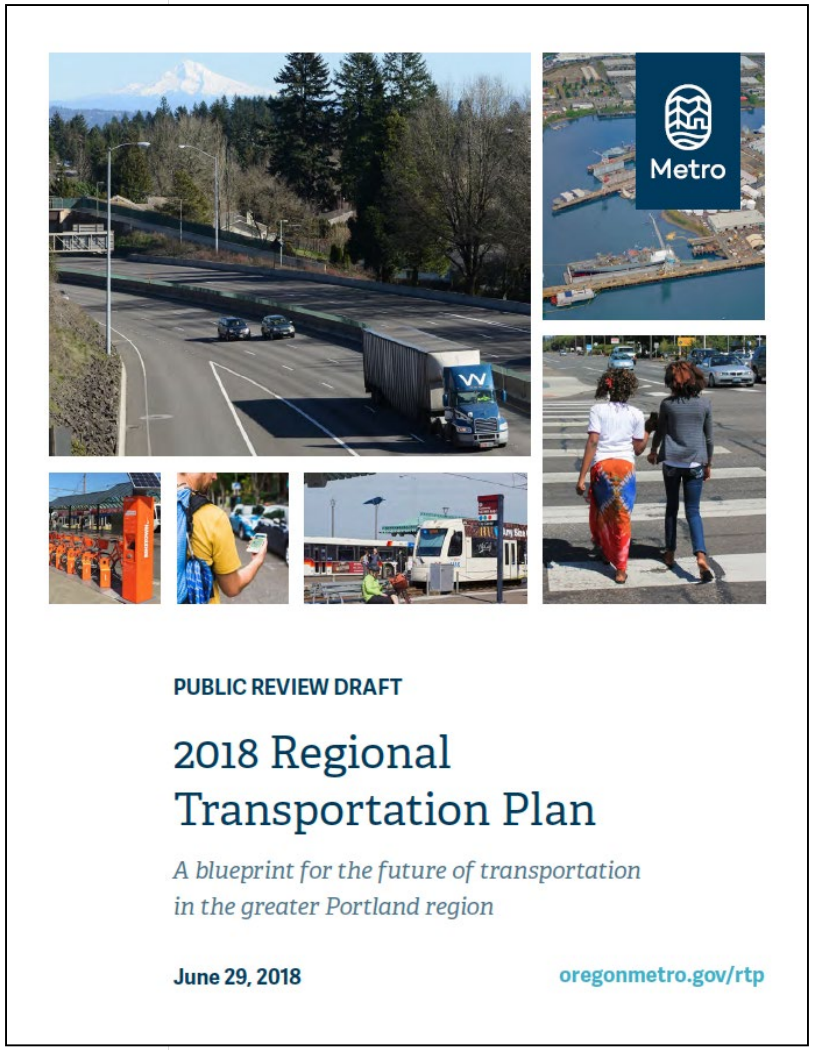
Access = Equity



2018 RTP Policy and Goals

OC/OC aligns with:

- Equitable Transportation
- Transportation Choices
- Healthy People
- Vibrant Communities
- Shared Prosperity



Regional Strategies

- Make it easy to plan and book transit and shared mobility trips. (Regional Transit Strategy)
- Provide comprehensive, integrated, universally accessible real-time travel information to people and businesses. (Transportation System Management and Operations)
- Make emerging technology accessible, available and affordable to all, and use technology to create more equitable communities. (Emerging Technology Strategy)
- Encourage innovation and new technology to increase access to travel options. (Regional Travel Options Strategy)

Metro's Role

- Participated in the OC/OC TAC
- Heard stakeholder needs
- Ready to work with other partners

TPAC/MTAC Workshop Questions

Question 1: What components should go into building equity into modern mobility tools for our aging community and persons with disabilities?

Question 2: Who should take charge?

Two Example MaaS Futures

An "Open Systems" Future