

**USDOT MOD Webinar #3**  
**Planning & Implementation**  
January 22, 2020

# **TriMet Mobility on Demand Initiatives**

Bibiana McHugh, TriMet  
Manager Mobility and  
Location-Based Services  
[mchughb@trimet.org](mailto:mchughb@trimet.org)

# Advancements in MOD

Mobility as a Service  
(MaaS) Platform

Moving MOD Forward



# Evolving Vision for Transit

Role of integrator and leverager for lifestyles, services, technology, driverless vehicles...



# How can transit stay relevant?

Provide marketability to retain and attract customers with:

- ❑ Brand Trust, Loyalty
- ❑ Safer, Faster and More Reliable Service
- ❑ More Affordable and Equitable Service
- ❑ Integration of Services and Connections to Transit
- ❑ Personalized Customer Information
- ❑ Public Private Partnerships
- ❑ Technology, Data, Innovation
- ❑ Lifestyle and Livability



# TriMet's Vision-Mission-Values

## Vision

TriMet will be the leader in delivering safe, convenient, sustainable and integrated mobility options necessary for our region to be recognized as one of the world's most livable places.

## Mission

Connect people with valued mobility options that are safe, convenient, reliable, accessible and welcoming for all.

## Values

Safety · Inclusivity · Equity · Community · Teamwork



# VMV Incorporated into Business Plan

## 1. PRESERVE the Core

Take Care Of  
What We Have

- Maintain and repair transit assets
- Ensure safety and reliability of our assets and service
- Preserve certainty of service

## 2. ENHANCE Service

Make What We  
Have Even Better

- Provide more service
- Make our current service faster and more reliable
- Improve right-of-way
- Improve our vehicle fleet
- Improve sustainability
- Use AV technologies

## 3. EXPAND Access

Leverage Mobility  
Options To Expand  
Reach Of Transit

- Expand modal options to increase access to transit
- Coordinate with other mobility providers
- Complement personal and shared micro mobility modes
- Revise transit parking options for all modes

## 4. BUILD the Future

Shape Communities  
Throughout  
Our Region

- Grow intensity of development at transit stations
- Strengthen corridors with better bus investments
- Deliver crucial capital projects for our region

## 5. INTEGRATE Mobility

Provide Seamless  
Mobility Options For  
Our Customers

- Enhance customer experience & information
- Provide seamless transfers with all modes
- Create mobility hubs
- Provide regional mobility management
- Optimize transportation operating systems

- Introduce laws to require local jurisdictions to maintain ADA accessibility on all main streets and corridors

- Expand laws and policies that provide transit priority and protect transit right-of-ways
- Create AV regulations that support transit

- Strengthen accessibility requirements in all jurisdictions
- Broaden laws and policies that require other mobility providers to coordinate with transit

- Encourage regional and local governments to increase density
- Support ODOT and others to implement congestion pricing

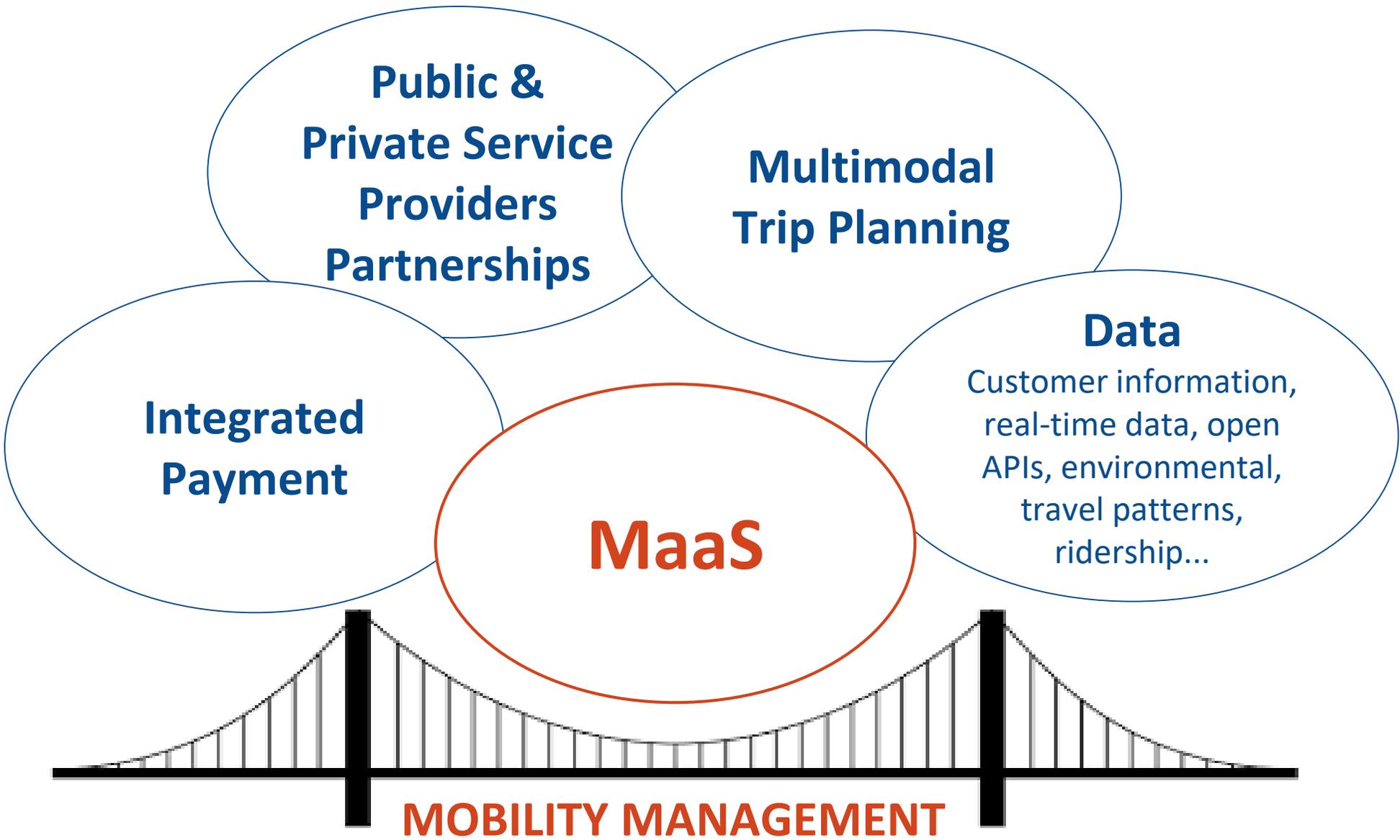
- Introduce laws and regulations to require data sharing for trip planning
- Regulate curb space for transit benefit
- Push for TDM policies that support integrated mobility

Advancements in MOD

**Mobility as a Service  
(MaaS) Platform**

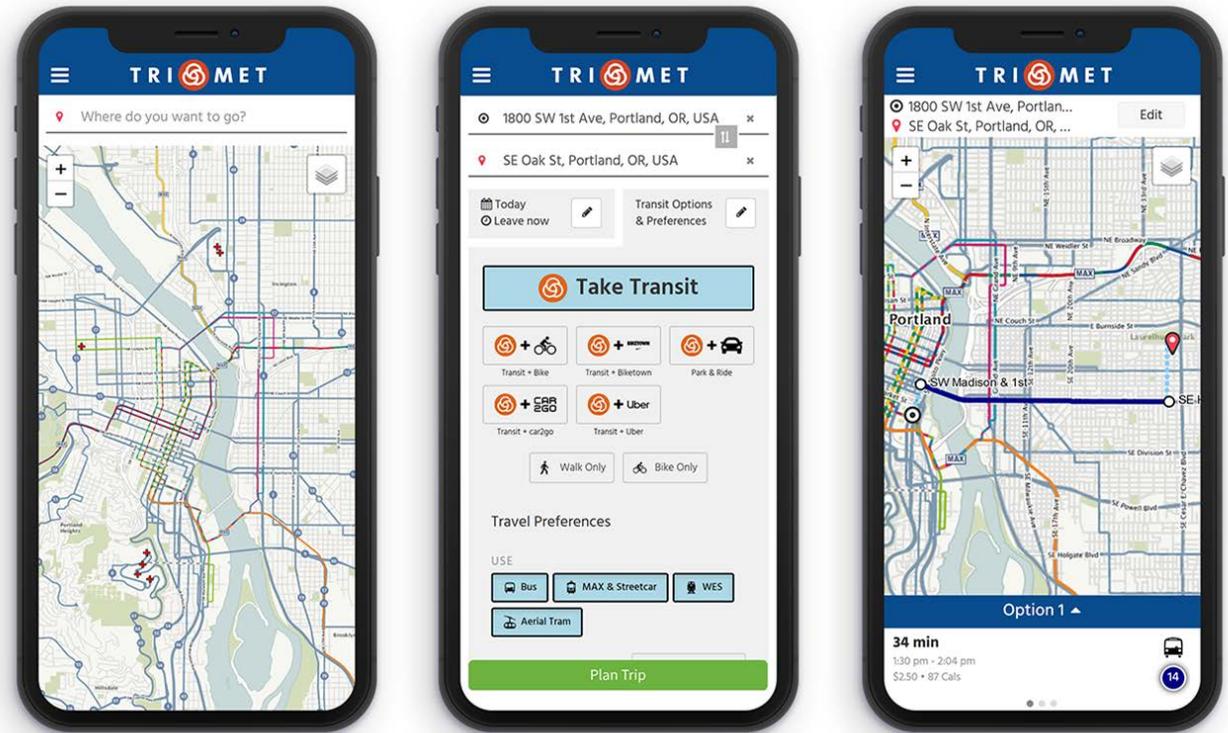
Moving MOD Forward





# FTA MOD Sandbox Grant

- Multimodal Trip Planner and Geocoder (Address Locator)
- Full Integration of All Mobility Service Providers in Real-Time
- Open Source and Data Facilitates Shared Resources
- Replicable White Label App



# Transit Trip

## Real-time Information and Rerouting

**Take Transit**

Transit + Bike    Transit + Biketown    Park & Ride  
 Transit + car2go    Transit + Uber    Transit + Lyft

Walk Only     Bike Only

**Travel Preferences**

USE

Bus     MAX & Streetcar     WES  
 Aerial Tram

MAXIMUM WALK: 3/4 mile  
 WALK SPEED: 3 MPH  
 OPTIMIZE FOR: Speed

Option 1	Option 2	Option 3
1 hr, 8 min	1 hr, 26 min	1 hr, 24 min
9:07 pm - 10:15 pm	9:22 pm - 10:49 pm	9:37 pm - 11:02 pm
\$2.50 • 29 Cal	\$2.50 • 39 Cal	\$2.50 • 21 Cal
1 transfer	1 transfer	1 transfer

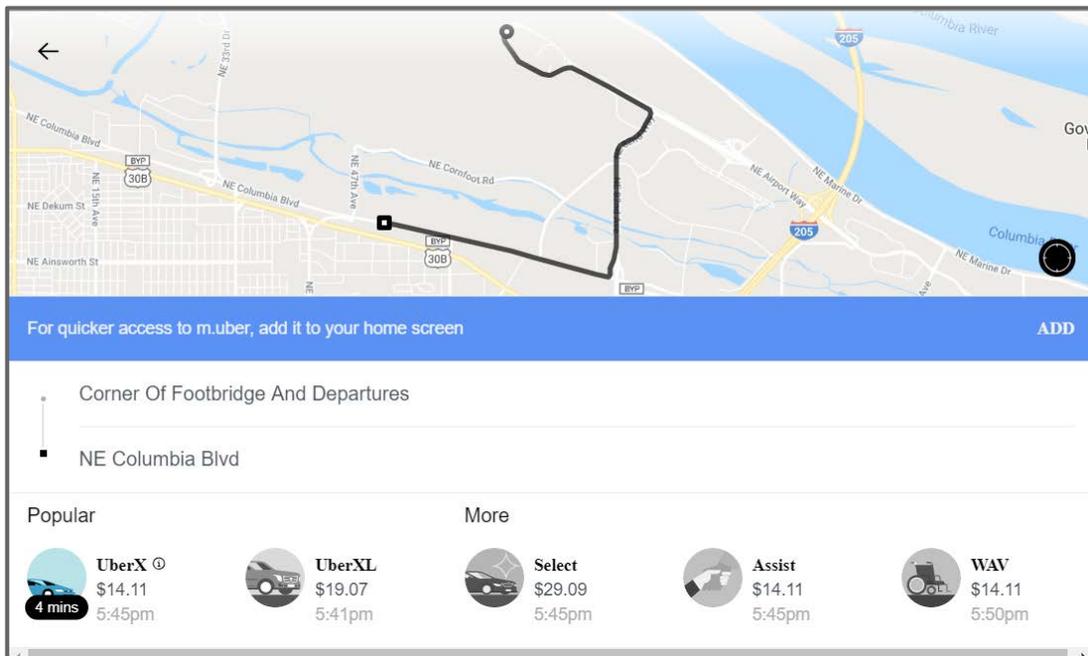
# Transit + Uber Trip Faster than Transit Alone

The screenshot shows the TriMet website interface for a trip from PDX, Portland to Vancouver. The 'Take Transit' section is active, showing various options like Transit + Bike, Transit + Biketown, Park & Ride, Transit + car2go, Transit + Uber (selected), and Transit + Lyft. Travel Preferences include 'USE' (Bus, MAX & Streetcar, WES, Aerial Tram) and 'OPTIMIZE FOR' (Speed). Three options are listed:

Option 1	Option 2	Option 3
45 min	45 min	1 hr, 8 min
9:10 pm - 9:55 pm	9:28 pm - 10:13 pm	9:07 pm - 10:15 pm
\$15.50+ • 13 Cal	\$15.50+ • 13 Cal	\$25.50 • 30 Cal 1 transfer

At 9:10 pm, the starting point is PDX, Portland. The map shows a route starting with a walk to the corner of footbridge and Departures (141 feet, 0 min), then taking a bus to NE Columbia Blvd & 47th, and finally taking MAX to Vancouver.

# Transit + Uber trip Cheaper than Uber Alone



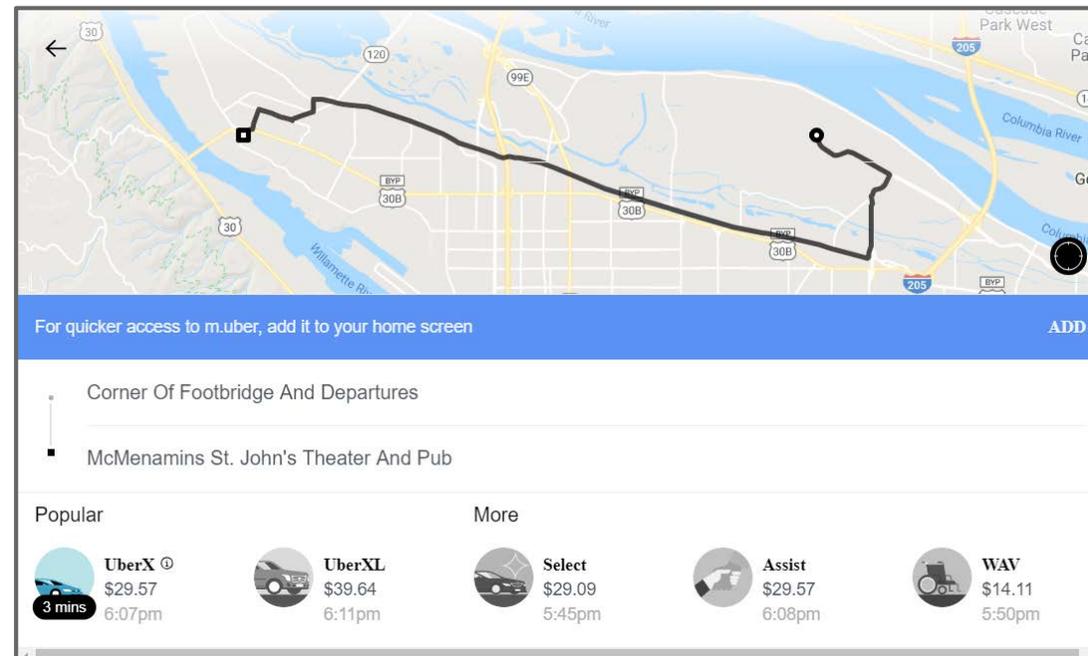
For quicker access to m.uber, add it to your home screen **ADD**

Corner Of Footbridge And Departures

NE Columbia Blvd

Popular

Service	Price	ETA
UberX	\$14.11	4 mins
UberXL	\$19.07	5:41pm
Select	\$29.09	5:45pm
Assist	\$14.11	5:45pm
WAV	\$14.11	5:50pm



For quicker access to m.uber, add it to your home screen **ADD**

Corner Of Footbridge And Departures

McMenamins St. John's Theater And Pub

Popular

Service	Price	ETA
UberX	\$29.57	3 mins
UberXL	\$39.64	6:11pm
Select	\$29.09	5:45pm
Assist	\$29.57	6:08pm
WAV	\$14.11	5:50pm



# Deep Link Payment Implementation (2-Click)

Book Ride feature  
opens Uber app and  
auto-populates trip  
information to quickly  
confirm, book and pay

○ NE Fremont & 57th  
Stop ID 1890 | [TransitTracker](#)  
Wait for UberX pickup

Uber Ride 2.9 miles to Portland Air Base, Portland, OR, USA

Book Ride *Wait until 2:31 pm to book*

Estimated travel time: 11 min (does not account for traffic)  
Estimated cost: \$10.00 - \$12.00

# Fully Integrated Payment Exploration (1-Click)

<b>Advantage</b>	<b>Challenge</b>
Seamless Application Experience	Customer Service Experience
Detailed Reporting on Mobility Services Usage	Data Policy Restrictions
Payment Options	Financial Liability and Regulatory Implications
Pricing Incentives	Complexities



# BIKETOWN

## Real-time Information, Bike Preferences

The screenshot displays the TriMet mobile application interface. On the left, the 'Take Transit' section offers various mode combinations: Transit + Bike, Transit + Biketown, Park & Ride, Transit + car2go, Transit + Uber, and Transit + Lyft. Below this, users can select 'Walk Only' or 'Bike Only'. The 'Travel Preferences' section includes 'USE' (Own Bike or Biketown), 'BICYCLE SPEED' (8 MPH), and 'OPTIMIZE FOR' (Bike-Friendly Trip, Speed, or Flat Trip). A selected 'Flat Trip' option shows a 25-minute duration, a 5:20 pm - 5:45 pm time window, and 123 calories. The starting point is 'Essential Forces Fountain, Portland, OR, USA', with a 2-minute walk to 'NE Wheeler at Multnomah'. The main map area shows a street grid with a highlighted route from the fountain to NE Wheeler at Multnomah. A pop-up window for 'NE Wheeler at Multnomah' indicates 7 available bikes and 10 available docks. The TriMet logo is visible in the top left corner of the app interface.

# E-Scooters

## Comprehensive List of Providers

The screenshot displays the TriMet mobile application interface. At the top, the TriMet logo is visible. Below it, there are navigation options for 'Today' and 'Leave now', and a link to 'Transit Options & Preferences'. The main section is titled 'Take Transit' and offers several multimodal options: 'Transit + Personal bike', 'Transit + Biketown', 'Transit + eScooter rental' (highlighted), 'Park & Ride', 'Transit + car2go', and 'Transit + Uber'. There are also buttons for 'Walk Only' and 'Bike Only'. Under 'Travel Preferences', users can select 'USE COMPANIES' (Bird, Bolt, Lime, Razor, SPIN SPIN) and 'USE' (Bus, MAX & Streetcar, WES, Aerial Tram). An 'OPTIMIZE FOR' dropdown is set to 'Speed'. A 'Plan Trip' button is at the bottom of the sidebar.

The main map area shows a street grid with numerous black location pins representing e-scooter stations. A blue line indicates a transit route, with a callout for 'Line 15 11 seconds ago'. A detailed elevation profile for 'SW Morrison St' is shown at the bottom, with a vertical axis from 0 to 200 and a horizontal axis with markers at 118', 152', 110', 133', and 123'. The profile shows a peak of approximately 175 feet. At the bottom right, there is a small text attribution: 'Leatlet | Map tiles: CC BY 3.0. Data by OpenStreetMap, under ODBL.'

# Data Platform

## OpenStreetMap, Pelias Geocoder

The screenshot displays the TriMet website interface. On the left, there is a sidebar with the TriMet logo and navigation options. The main area features a map of a city grid with a 'Zipcar Location' popup at 201 SW 5th Ave - US Bancorp Plaza Garage, showing 1 vehicle available. The interface includes search fields for start and destination locations, a 'Take Transit' button, and various transit mode combinations like 'Transit + Bike', 'Transit + Biketown', 'Park & Ride', 'Transit + car2go', 'Transit + Uber', and 'Transit + Lyft'. There are also options for 'Walk Only' and 'Bike Only', and a 'Travel Preferences' section with buttons for 'Bus', 'MAX & Streetcar', 'WES', and 'Aerial Tram'. The 'OPTIMIZE FOR' dropdown is set to 'Speed'. A legend on the right side of the map lists various location types: Streets, Aerials, Biketown Locations, car2go Locations, Park & Ride Locations, Transit Stops, and Zipcar Locations.

# OpenTripPlanner (OTP)

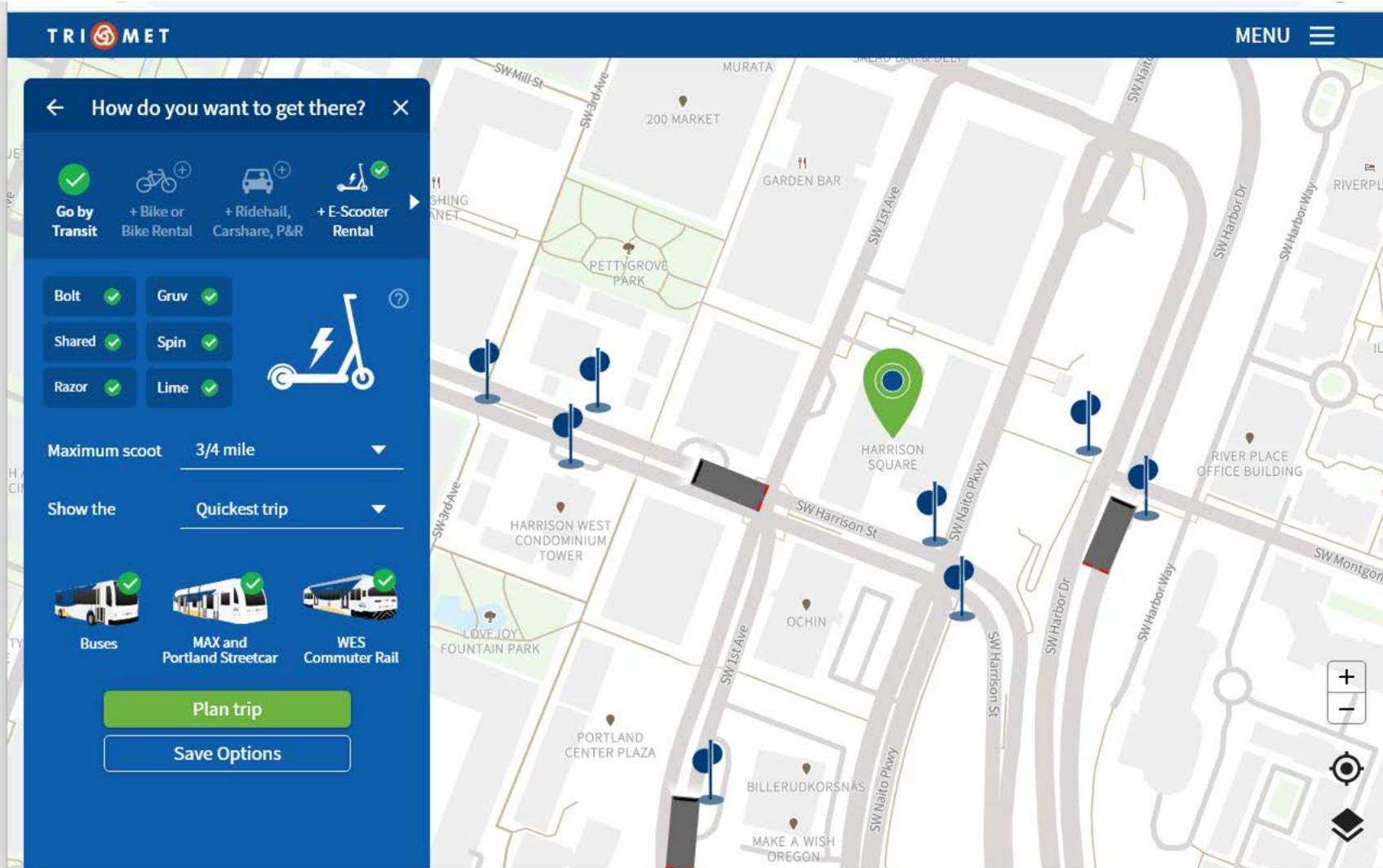
## Worldwide Deployments, Collaboration, Shared Resources



<b>New York State Department of Transportation</b> Albany, NY 12202 <a href="https://www.511ny.org/">https://www.511ny.org/</a>	<b>Arlington County Commuter Services</b> Arlington, VA 22209 <a href="http://www.carfreestoz.com/">http://www.carfreestoz.com/</a>	<b>TriMet</b> Portland, OR 97207 <a href="http://ride.trimet.org/">http://ride.trimet.org/</a>	<b>Helsinki Regional Transport Authority</b> Helsinki, Finland <a href="https://digitransit.fi/en/">https://digitransit.fi/en/</a>	<b>Municipal Transport Company of Valencia S.A.U</b> Valencia, Spain <a href="http://www.emtvalencia.es/">http://www.emtvalencia.es/</a>	<b>SMTC, Grenoble Alpes métropole, Île-de-France</b> Grenoble, France <a href="http://www.metromobile.fr/">http://www.metromobile.fr/</a>			
<b>Service des Transports en Commun de l'Agglomération Rennaise (STAR)</b> Rennes, France <a href="https://itunes.apple.com/us...">https://itunes.apple.com/us...</a>	<b>Urban Transport Authority of Poznań (ZTM Poznań)</b> Poznań, Poland <a href="http://poznan.iplaner.pl/">http://poznan.iplaner.pl/</a>	<b>ZTM Lublin</b> Lublin, Poland <a href="https://www.ztm.lublin.eu/">https://www.ztm.lublin.eu/</a>	<b>Adelaide Metro</b> Adelaide, Australia <a href="http://fp.adelaidemetro.com...">http://fp.adelaidemetro.com...</a>	<b>ViaBigli Trento and ViaBigliVerona</b> Trento Province, Italy <a href="https://play.google.com/sta...">https://play.google.com/sta...</a>	<b>Smart Campus Project</b> Trento, Italy <a href="http://www.smartcampus.it/">http://www.smartcampus.it/</a>			
<b>Ruter</b> Oslo, Norway <a href="http://ruter.no/reiseplanleg...">http://ruter.no/reiseplanleg...</a>	<b>USF Maps</b> Tampa, FL <a href="https://maps.usf.edu/">https://maps.usf.edu/</a>	<b>Valley Transit Authority</b> Santa Clara, CA <a href="http://www.vta.org/">http://www.vta.org/</a>	<b>Regional Transportation District</b> Denver, CO <a href="http://www.rtd-denver.com/">http://www.rtd-denver.com/</a>	<b>Cherriots, Salem-Katze Transit</b> Salem, OR <a href="http://cherriots.org/">http://cherriots.org/</a>	<b>SMRT</b> Singapore <a href="http://journey.smrt.com.sg/">http://journey.smrt.com.sg/</a>	<b>SoundTransit</b> Seattle, WA <a href="http://www.soundtransit.or...">http://www.soundtransit.or...</a>		
<b>Vivibus Bologna</b> Bologna, Italy <a href="http://bologna.vivibus.it/">http://bologna.vivibus.it/</a>	<b>Singapore NextBike</b> Singapore <a href="https://itunes.apple.com/us...">https://itunes.apple.com/us...</a>	<b>BJCTA</b> Birmingham, Alabama <a href="https://www.bjcta.org/">https://www.bjcta.org/</a>	<b>TransMate</b> Tel Aviv, Israel <a href="http://www.transmate.co.il/">http://www.transmate.co.il/</a>	<b>Netherlands (Deltamobiliteit)</b>	<b>A Coruña, Spain</b>	<b>Athens, Greece</b>	<b>Budapest, Hungary</b>	<b>Canberra, Australia</b>
<b>Wrocław, Poland</b>	<b>London, UK</b>	<b>Grenoble Métropole</b>	<b>Portugal</b>	<b>South Africa</b>	<b>Tampa, Florida</b>			



# Full Integration with trimet.org



Advancements in MOD

Mobility as a Service  
(MaaS) Platform

**Moving MOD Forward**



# Vision

Complete Trips for All  
Transit Operations  
Technology



# Initiatives

## Improving Traveler Connectivity and Reliability

- ❑ Transit Signal Priority
- ❑ On-Time Performance Improvement Program
- ❑ Faster and More Reliable Bus Service

## Incorporating Mobility into Short & Long-Term Plans

- ❑ Transit Planning and Development Projects
- ❑ Local and Regional Strategic Plans

## Influencing Traveler Pattern/Behavior

## Analyzing Data and Performance Metrics

## Developing Policy and Data Standards



# Challenges



**January 2019**  
MOD Sandbox Project  
Demonstration & Testing



**January 2020**  
Addition of E-Scooters,  
Removal of Lyft



**USDOT MOD Webinar #3**  
**Planning & Implementation**  
January 22, 2020

**Thank you!**

Bibiana McHugh, TriMet  
Manager Mobility and  
Location-Based Services  
[mchughb@trimet.org](mailto:mchughb@trimet.org)