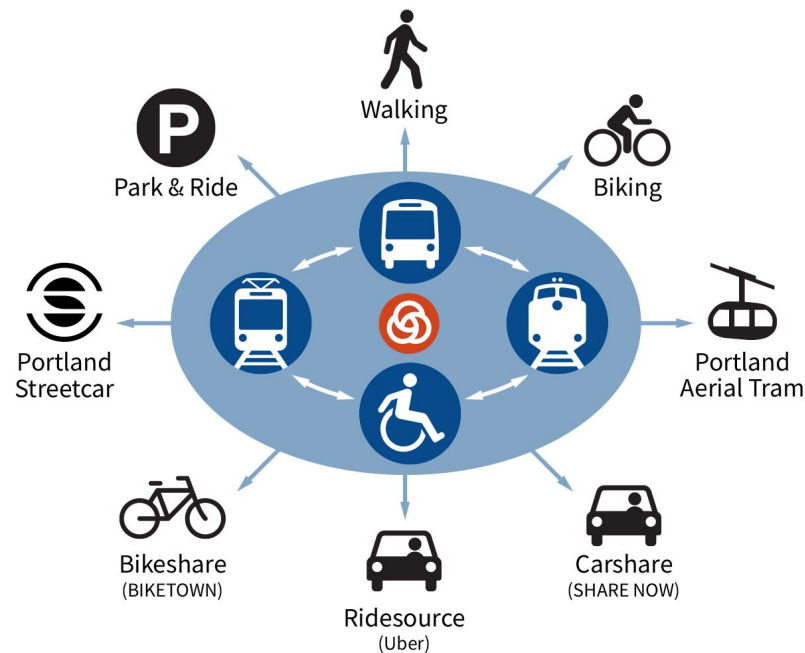
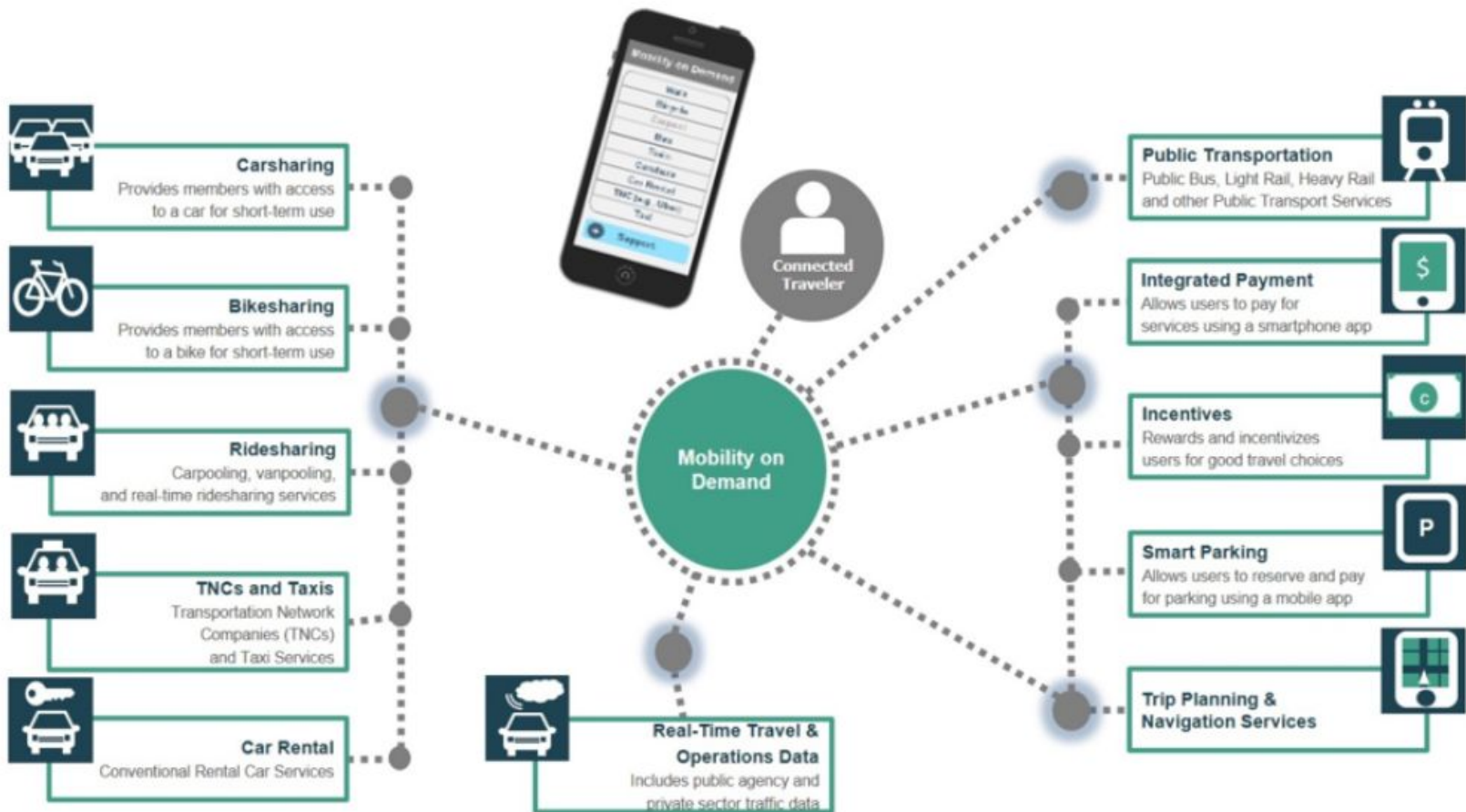


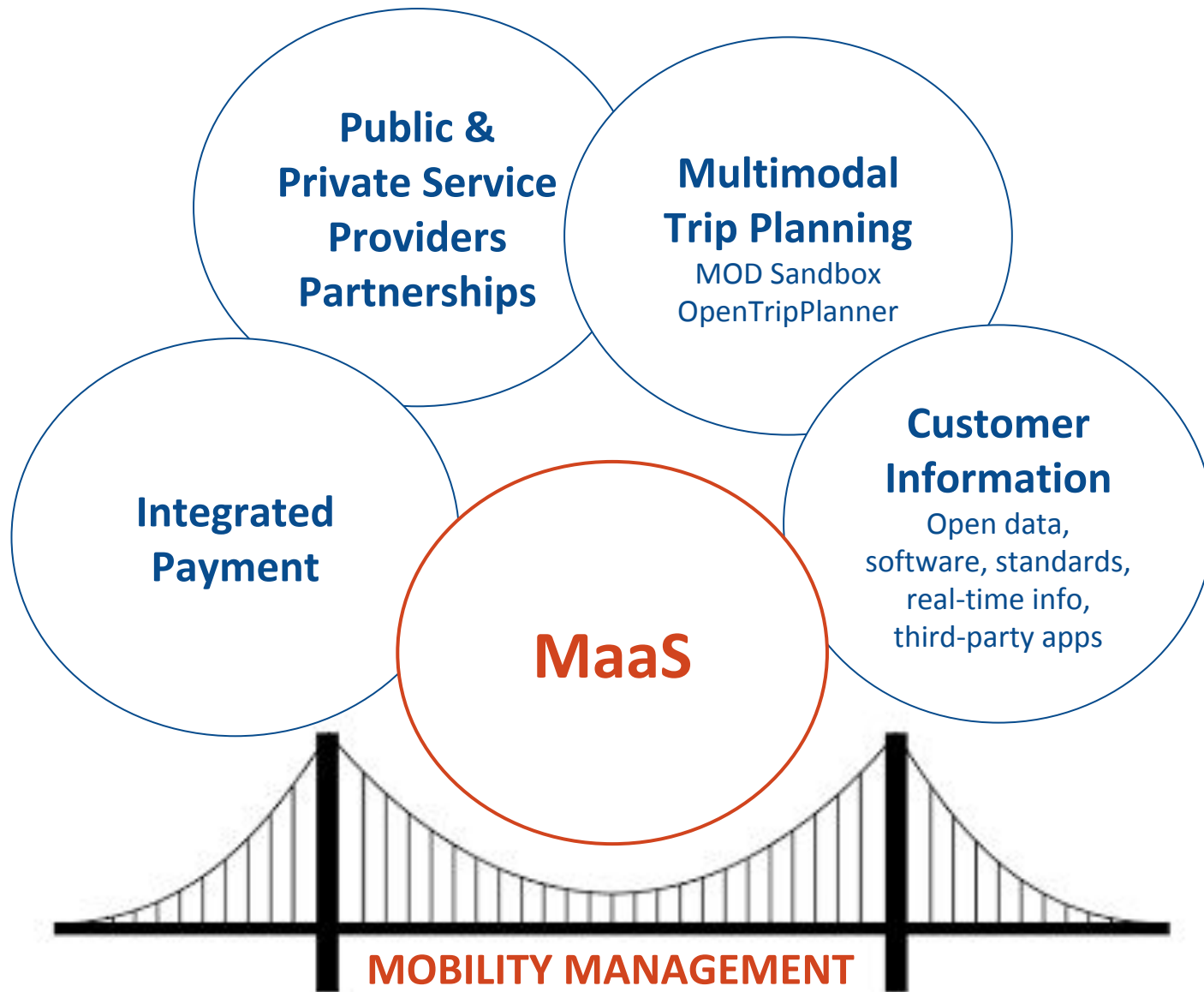
A COLLABORATIVE STRATEGY FOR FRICTIONLESS REGIONAL MOBILITY

Urbanism Next, May 8, 2019



Bibiana McHugh, Manager, Mobility & Location-Based Services



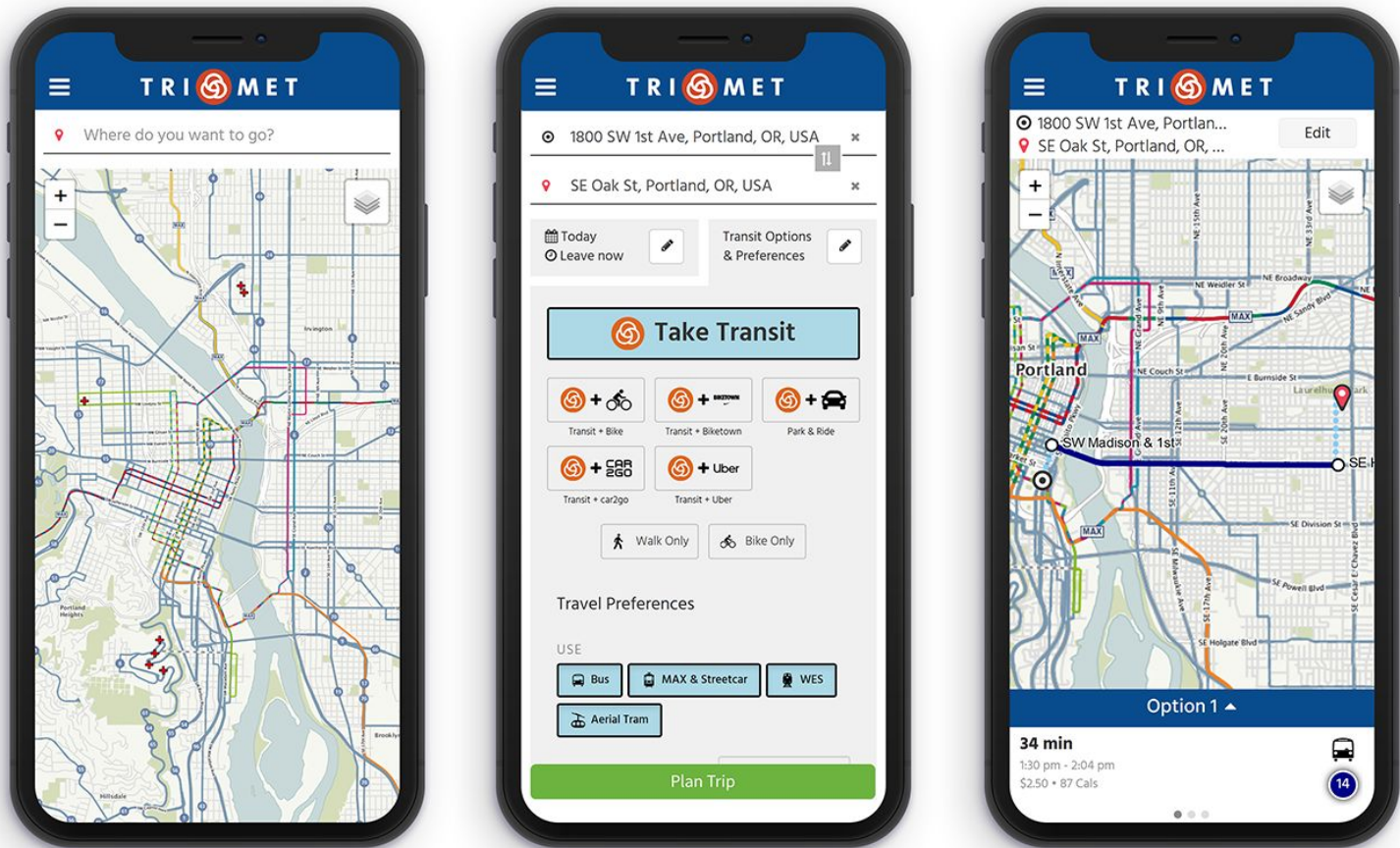




- POLICY & REGULATIONS
- EQUITY & ACCESSIBILITY
- INCENTIVES & INFLUENCE
- FACILITIES & ON-STREET INFRASTRUCTURE
- DISPATCH, OPERATIONS, TRAFFIC MANAGEMENT
- LAND-USE PLANNING
- MODE MANAGEMENT AND INTEGRATION

Multimodal Trip Planner

BetaPlanner.trimet.org



Transit Trip Real-time Information

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

Hide Settings

Option 1

1 hr, 8 min
9:07 pm - 10:15 pm
\$2.50 + 29 Cal
1 transfer

Option 2

1 hr, 26 min
9:22 pm - 10:49 pm
\$2.50 + 39 Cal
1 transfer

Option 3

1 hr, 24 min
9:37 pm - 11:02 pm
\$2.50 + 21 Cal
1 transfer

Transit + Uber Trip Faster than Transit Alone

The screenshot displays the TriMet website interface for planning a trip from PDX, Portland to Vancouver. The left sidebar contains navigation and settings, while the main area shows a map with the transit route and a summary table.

Take Transit

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

Travel Preferences

USE: ☒ Bus ☒ MAX & Streetcar ☒ WES ☐ Aerial Tram

OPTIMIZE FOR: Speed

Option 1
45 min
9:10 pm - 9:55 pm
\$15.50+ • 13 Cal

Option 2
45 min
9:28 pm - 10:13 pm
\$15.50+ • 13 Cal

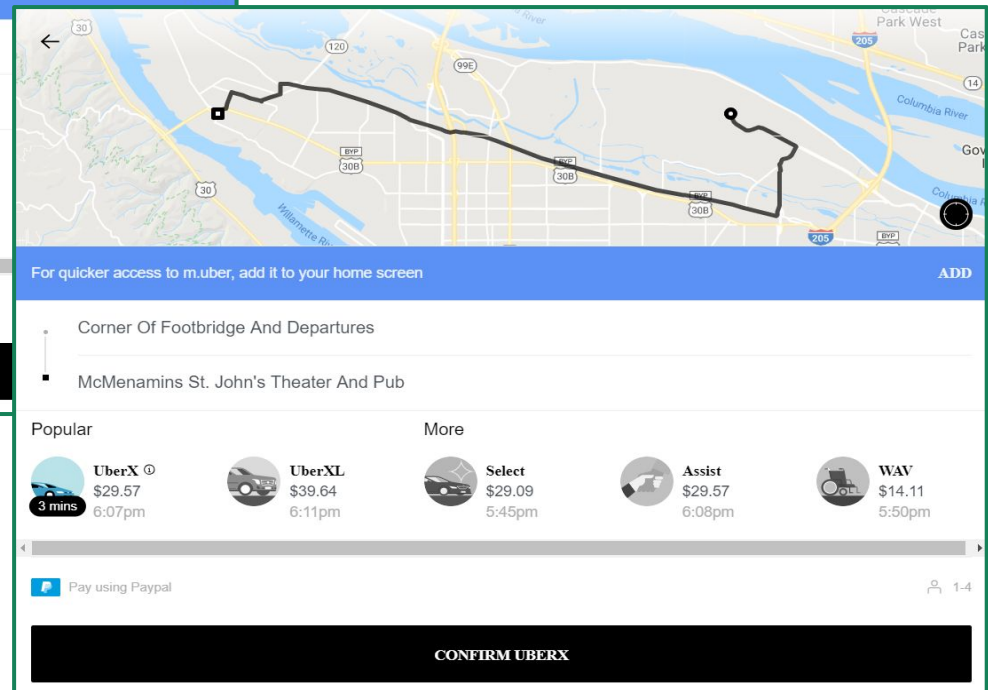
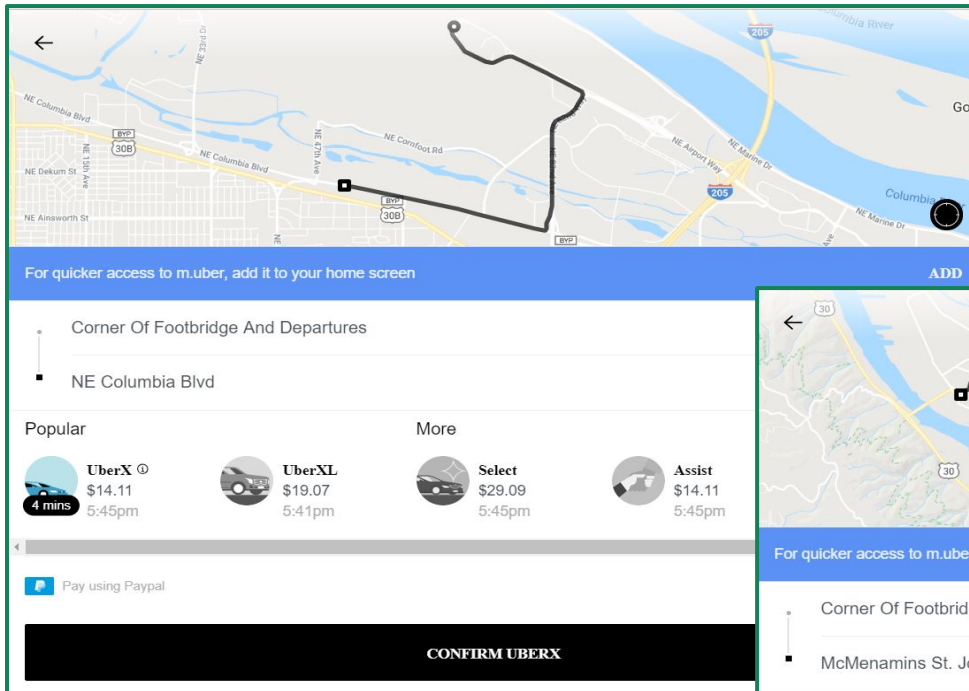
Option 3
1 hr, 8 min
9:07 pm - 10:15 pm
\$2.50 • 30 Cal
1 transfer

9:10 pm **PDX, Portland**

Walk 141 feet to corner of footbridge and Departures
0 min

The map shows the transit route from PDX, Portland to Vancouver, with a red line indicating the Uber segment. The route includes stops at NE Columbia Blvd & 47th, NE Sandy Blvd, and NE 102nd Ave. The map also shows the Columbia River and various landmarks like Sand Island and the Columbia Children's Arboretum.

Transit + Uber Trip Cheaper than Uber Alone



Book Ride

Book Ride feature opens
Uber & Lyft apps to
confirm, book and pay

Transit + Park & Ride Trip Home to Transit

TRI MET

City Hall/SW 5th & Jefferson MAX Station, Portl

Today
Arrive 8:00 am

Transit Options & Preferences

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

OPTIMIZE FOR
Speed

Hide Settings

Option 1	Option 2	Option 3
55 min	55 min	55 min
7:02 am - 7:57 am	6:59 am - 7:54 am	6:53 am - 7:48 am
\$250 + 36 Cal	\$250 + 36 Cal	\$250 + 36 Cal

Quatama

Plan a trip: From here To here

Quatama MAX Station

Leaflet | Map tiles: CC BY 3.0. Data by OpenStreetMap, under ODbL

BIKETOWN

Real-time Information, Biking Preferences

The screenshot displays the TriMet BIKETOWN app interface. On the left, the 'Take Transit' section shows various transit and bike-sharing options: Transit + Bike, Transit + BIKETOWN, Park & Ride, Transit + car2go, Transit + Uber, and Transit + Lyft. Below this, the 'Travel Preferences' section includes a 'USE' dropdown set to 'Own Bike' and a 'BIKETOWN' button. The 'BICYCLE SPEED' is set to '8 MPH'. The 'OPTIMIZE FOR' dropdown is set to 'Bike-Friendly Trip', with a sub-menu showing 'Speed', 'Bike-Friendly Trip', and 'Flat Trip'. A 'Hide Settings' link is also present. The 'Option 1' section shows a route starting at '5:20 pm Essential Forces Fountain, Portland, OR, USA', walking 396 feet to 'NE Wheeler at Multnomah' (2 min), and then picking up a shared bike at '5:22 pm NE Wheeler at Multnomah'. The map on the right shows the area around NE Wheeler at Multnomah, with a pop-up window indicating 'Available bikes: 7' and 'Available docks: 10'. The map also shows various streets and landmarks, including the Oregon Convention Center Plaza.

Take Transit

Transit + Bike, Transit + BIKETOWN, Park & Ride, Transit + car2go, Transit + Uber, Transit + Lyft

Travel Preferences

USE: Own Bike, BIKETOWN

BICYCLE SPEED: 8 MPH

OPTIMIZE FOR: Bike-Friendly Trip (Speed, Bike-Friendly Trip, Flat Trip)

Option 1

5:20 pm Essential Forces Fountain, Portland, OR, USA

Walk 396 feet to NE Wheeler at Multnomah (2 min)

5:22 pm NE Wheeler at Multnomah (Pick up shared bike)

NE Wheeler at Multnomah

Available bikes: 7
Available docks: 10
Plan a trip: From here | To here

Leaflet | Map tiles: CC BY 3.0. Data by OpenStreetMap, under ODbL

Mapping Layers and Information

The screenshot displays the TriMet website interface, which is divided into a left sidebar and a main map area.

Left Sidebar:

- Header:** TRI MET logo.
- Search:** Two input fields for "Enter start location or click on map..." and "Enter destination or click on map...".
- Options:** "Today" (selected) and "Leave now".
- Transit Options & Preferences:** A section with a pencil icon for editing.
- Take Transit:** A section with icons for various transit modes:
 - Transit + Bike
 - Transit + Biketown
 - Park & Ride
 - Transit + car2go (highlighted)
 - Transit + Uber
 - Transit + Lyft
- Walk Only / Bike Only:** Two buttons for selecting travel mode.
- Travel Preferences:** A section with "USE" and "OPTIMIZE FOR" options.
 - USE:** Bus, MAX & Streetcar, WES, Aerial Tram.
 - OPTIMIZE FOR:** Speed (selected).
- Hide Settings:** A small triangle icon.

Main Map Area:

- Map:** An aerial view of a city street grid with various street names labeled.
- Map Controls:** A vertical toolbar on the left with a "+" (zoom in) and "-" (zoom out) button.
- Legend:** A panel on the right side of the map listing map layers:
 - Streets
 - Aerials
 - Biketown Locations
 - car2go Locations
 - Park & Ride Locations
 - Transit Stops
 - Zipcar Locations
- Zipcar Location Pop-up:** A white box with a green "Z" icon, displaying:
 - Zipcar Location**
 - 201 SW 5th Ave - US Bancorp Plaza Garage**
 - 1 Vehicles**
 - Plan a trip:** From here | To here

Footer: Leaflet | Map tiles: CC BY 3.0. Data by OpenStreetMap, under ODbL.

OpenTripPlanner is Multilingual



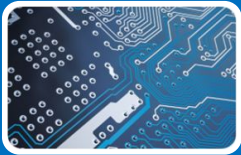
☒ **Official OTP Deployment** ☒ **Unofficial OTP Deployment** ☒ **OTP Prototype, Technical Previews, Demos**

New York State Department of Transportation Albany, NY	Arlington County Commuter Services Arlington, VA	TriMet Portland, OR	Helsinki Regional Transport Authority Helsinki, Finland	Municipal Transport Company of Valencia S.A.U Valencia, Spain	SMTC, Grenoble Alpes métropole, Île de France Grenoble, France
Service des Transports en Commun de l'Agglomération Rennaise (STAR) Rennes, France	Urban Transport Authority of Poznań (ZTM Poznań) Poznań, Poland	ZTM Lublin Lublin, Poland	Adelaide Metro Adelaide, Australia	ViaggiaTrento and ViaggiaRovereto Trento Province, Italy	Smart Campus Project TrentoRise, UNITN, and FBK, Italy
Regional Transportation District Denver, CO	Cherriots, Salem-Keizer Transit Salem, OR	SMRT Singapore	SoundTransit Seattle, WA	Vermont Agency of Transportation (V-Trans) Montpelier, VT	Singapore Nextride Singapore
Budapest, Hungary	Canberra, Australia	London, UK	Marseille Métropole	Portugal	South Africa
Tampa, Florida	Central Ohio Transit Authority (COTA) Columbus, OH	Estonia	Sweden	A Coruña, Spain	Athens, Greece

MaaS Platform for Plan-Book-Pay



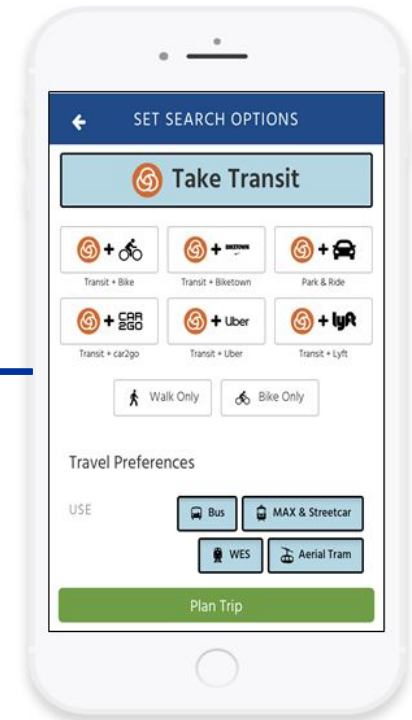
**MOBILITY
MANAGEMENT**



TECHNOLOGY



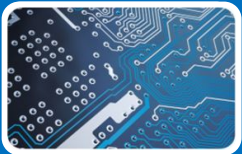
DATA





MOBILITY MANAGEMENT

- Frictionless Travel
- Subset of Smart City Initiative
- Policy and Regulations
- Mode Integration and Management
- Equity & Accessibility
- Paratransit
- Safety & Security
- Incentives and Influences
- Facilities and On-Street Infrastructure
- Dispatch, Operations, Traffic Management
- Landuse and Service Planning
- Private-Public Partnerships



TECHNOLOGY

- Integrated Trip Planning, Booking, Integrated Payments
- Integrated Demand Management
- Rail Operations Optimization Technology
 - Internet of Things (IoT) and Edge Computing Technology for more efficient, effective, and reliable service. Pilot underway with Siemens.
- Nextgen TSP, budget requested for next FY
- Connected Vehicle Technology, Streetcar Pilot

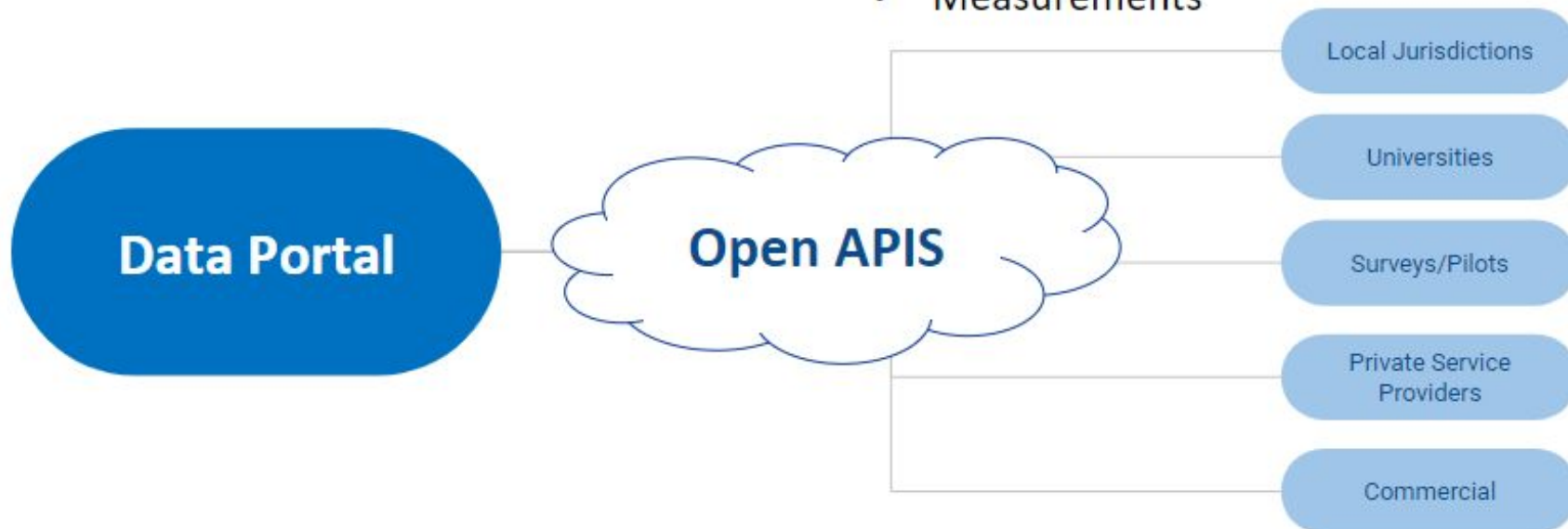


DATA

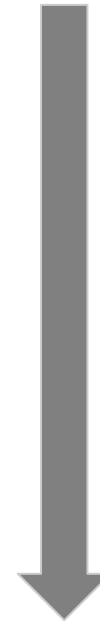
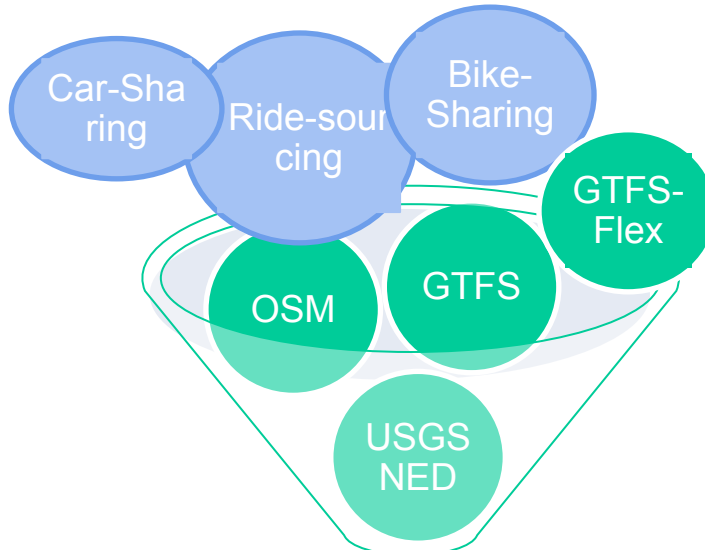
Requires: Data Standards, Policy, Open Data Licenses



- Big Data & Big Analysis
- True Travel Pattern Modeling
- Third Party Data Aggregators
- Real-Time Integration
- Customer Data
- Measurements



Open APIs Service Providers



Mobility as a Service Objectives

1. Ease pressure on the transportation network
2. Improve customer experience by presenting transportation network as integrated system
3. Limit congestion, esp. during peak travel periods
4. Reduce car ownership, usage and vehicles on roads
5. Enable better traffic and capacity management
6. Use existing infrastructure more effectively
7. Cater to all travelers (age, disadvantaged, low-income)
8. Create model that supports funding of infrastructure
9. Lessen overall environmental impact of transportation
10. Work in driver-controlled & autonomous environment