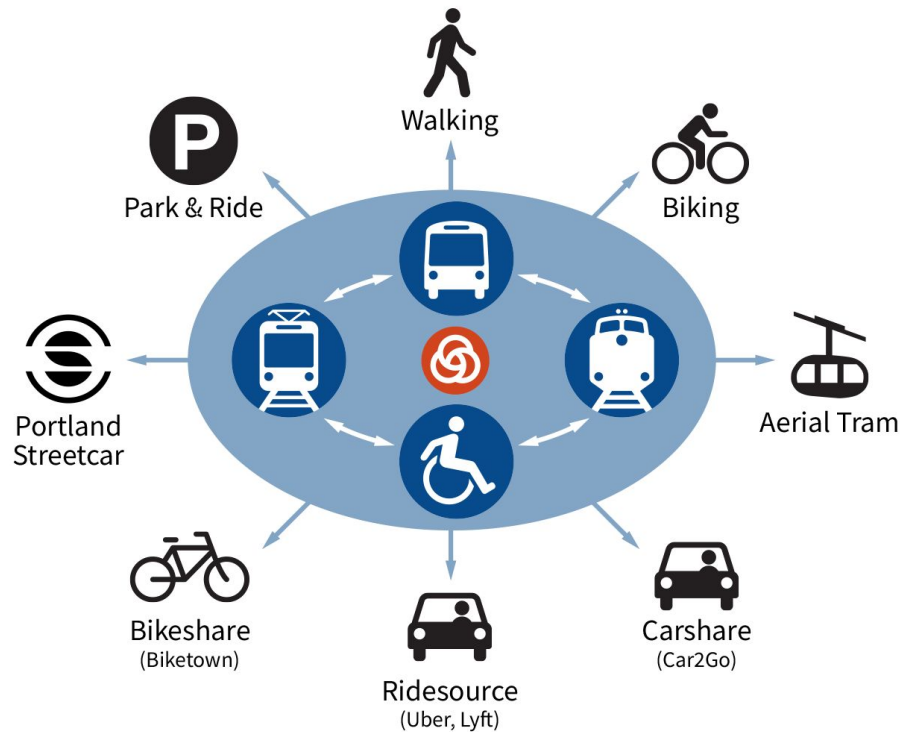


FTA MOD Sandbox Grant Multimodal Trip Planner



TriMet Board of Directors Briefing, 2/27/2019

Bibiana McHugh, Manager, Mobility & Location-Based Services

FTA Mobility on Demand (MOD) Sandbox Grant Jan 2017 - Jan 2019



- TriMet was one of eleven grant recipients selected out of 78 applicants
- Project Proposal: Add shared-use mobility options (like Uber, Lyft, and BIKETOWN) to our existing multimodal trip planner
- Awarded \$678,000 in funding, supported by \$324,000 of in-kind contributions
- Collaborated with 38 public and private partners
- Project successfully completed **on time and in budget**

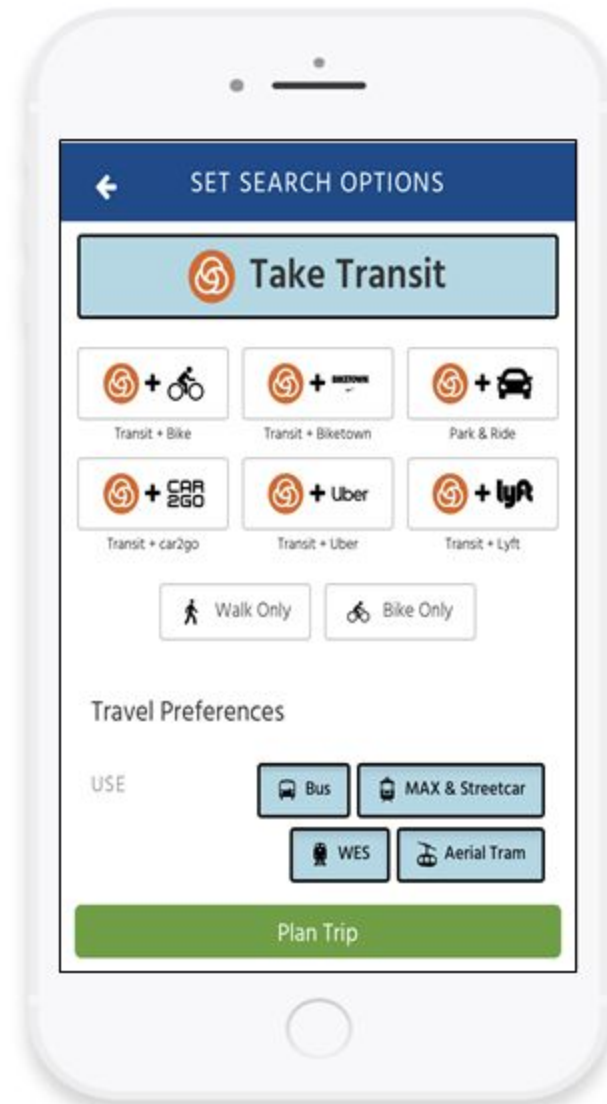
TriMet MOD Sandbox Project Results

- Leading-edge, multimodal trip planner
- Key component of Mobility as a Service (MaaS)
- Addresses first and last mile problem by improving customers ability to travel door-to-door
- Open source software, open data, and open standards facilitate widespread adoption and leverage shared resources
- Builds on the OpenTripPlanner, which TriMet initiated in 2009, and is used in many places across the US and in other countries

TriMet MOD Sandbox Project Results

TriMet is the first US transit agency to release a multimodal trip planner that incorporates a comprehensive list of shared-use mobility service providers, such as BIKETOWN, car2go, Lyft, Uber and Zipcar.

Application Demonstration



Transit Trip

Real-time Information

TRI MET

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	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

Map showing route from Beaverton to Portland and back to Beaverton via Rose Quarter TC MAX Station and Gateway/NE 99th Ave TC MAX Station.

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

Transit + Uber Trip Faster than Transit Alone

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

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	\$2.50 • 30 Cal
		1 transfer

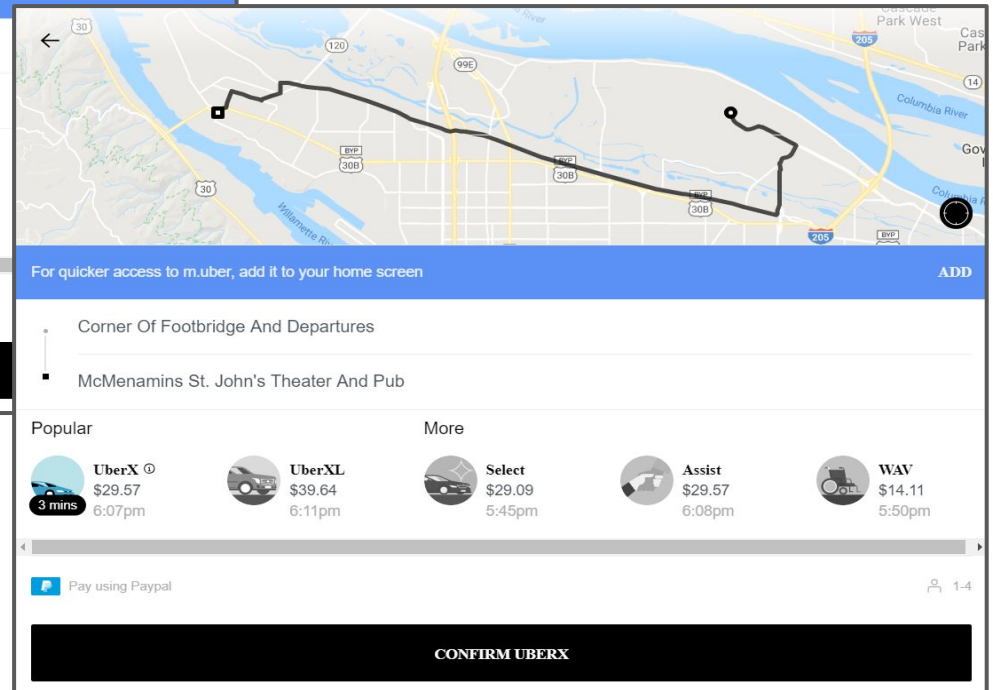
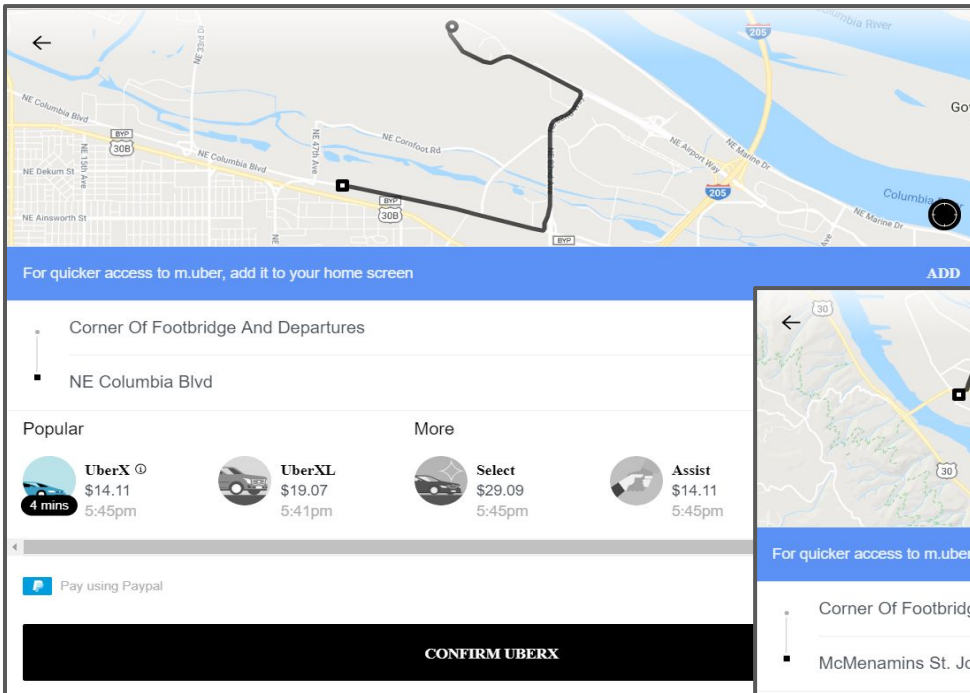
9:10 pm PDX, Portland

Walk 141 feet to corner of footbridge and Departures

0 min

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

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

Walk Only | Bike Only

Travel Preferences

USE

- Bus
- MAX & Streetcar**
- WES
- Aerial Tram

OPTIMIZE FOR: Speed

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 mobile application interface. At the top left, the TriMet logo is visible. Below it, a 'Take Transit' section offers various options: 'Transit + Bike', 'Transit + Biketown', 'Park & Ride', 'Transit + car2go', 'Transit + Uber', and 'Transit + Lyft'. A 'Walk Only' button is selected, and a 'Bike Only' button is also present. The 'Travel Preferences' section includes 'USE' (Own Bike, Biketown), 'BICYCLE SPEED' (8 MPH), and 'OPTIMIZE FOR' (Bike-Friendly Trip, Speed, Bike-Friendly Trip, Flat Trip). A route summary for 'Option 1' shows a 25-minute trip from 5:20 pm at 'Essential Forces Fountain, Portland, OR, USA' to 5:22 pm at 'NE Wheeler at Multnomah', involving a 396-foot walk and a 2-minute bike ride. The main map shows the Biketown area with a red dashed line indicating the route and a pop-up window for 'NE Wheeler at Multnomah' showing 7 available bikes and 10 available docks. The map includes street names like N Ramsay Way, NE Wheeler Ave, NE Multnomah St, and NE Holladay St.

Mapping Layers and Information

The screenshot displays the TRIMET website interface, which is used for planning transit trips. The interface is divided into several sections:

- Header:** The TRIMET logo is prominently displayed at the top left.
- Search and Settings:** Below the header, there are input fields for "Enter start location or click on map..." and "Enter destination or click on map...". To the right of these fields are icons for "Today" and "Leave now", and a "Transit Options & Preferences" section with a pencil icon.
- Take Transit:** A large button labeled "Take Transit" is centered in the left sidebar.
- Mode Selection:** Below the "Take Transit" button, there are six icons representing different transit modes: "Transit + Bike", "Transit + Biketown", "Park & Ride", "Transit + car2go", "Transit + Uber", and "Transit + Lyft". The "Transit + car2go" option is currently selected and highlighted in blue.
- Travel Preferences:** Below the mode selection, there are two buttons for "Walk Only" and "Bike Only".
- Travel Preferences (Usage):** A section labeled "USE" contains four buttons: "Bus", "MAX & Streetcar", "WES", and "Aerial Tram".
- Optimize For:** A section labeled "OPTIMIZE FOR" has a dropdown menu currently set to "Speed". Below it is a "Hide Settings" link.
- Map:** The main area of the interface is a satellite map of a city grid. A white information popup is overlaid on the map, titled "Zipcar Location". The popup text reads: "201 SW 5th Ave - US Bancorp Plaza Garage", "1 Vehicles", and "Plan a trip: From here | To here".
- Map Layers:** On the right side of the map, there is a vertical menu for "Mapping Layers and Information". It includes a legend with the following items: "Streets", "Aerials", "Biketown Locations", "car2go Locations", "Park & Ride Locations", "Transit Stops", and "Zipcar Locations". Each item has a corresponding icon and a checkbox, with "car2go Locations" and "Zipcar Locations" checked.
- Map Controls:** On the left side of the map, there are zoom in (+) and zoom out (-) buttons, and a full-screen icon.
- Footer:** At the bottom right of the map, there is a small text credit: "Leaflet | Map tiles: CC BY 3.0. Data by OpenStreetMap, under ODbL."

Next Steps

- New trip planner public beta release March 2019
- Engage with customers and continue to refine and add features through feedback
- Build on Mobility as a Service (MaaS) platform
- Fully integrate trip planner into trimet.org