

**International Mobility Data Summit**  
Data and Business Models  
June 7, 2022

# TriMet's Smart Mobility Platform (SMP) - Use Cases and ROI



Bibiana McHugh, Mobility Manager

# Background

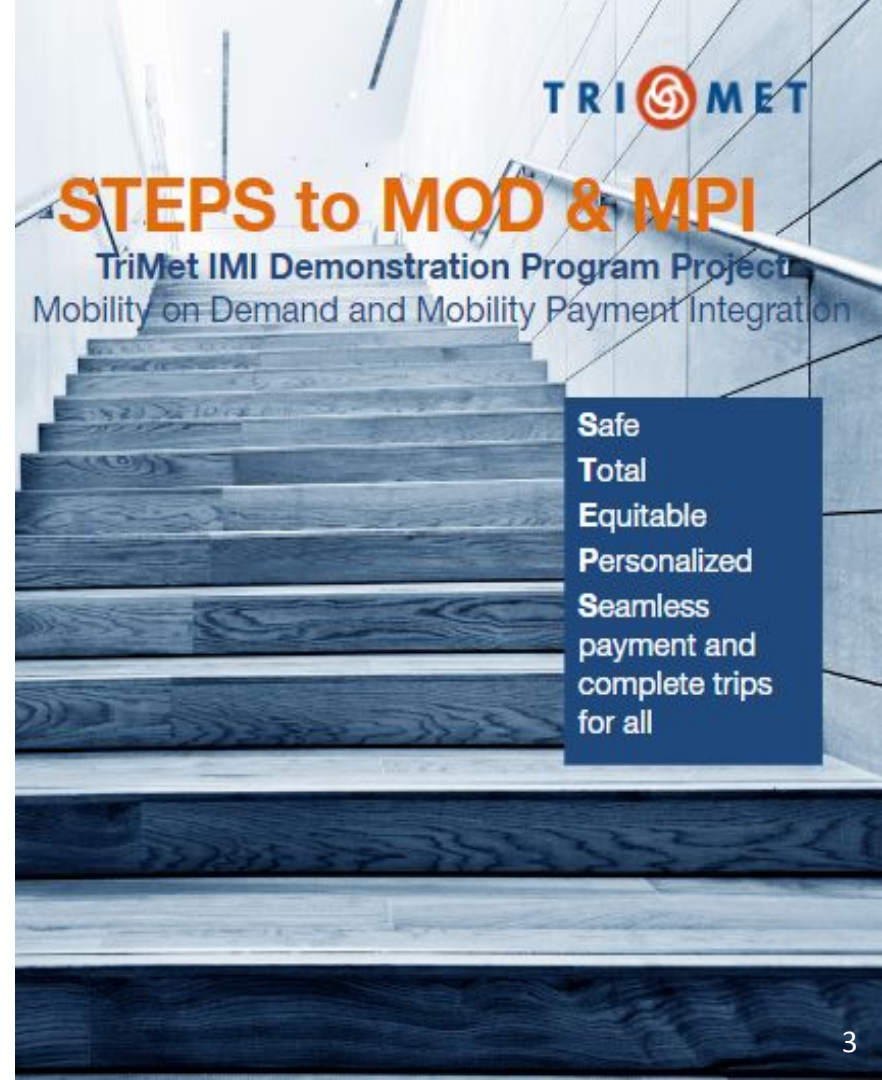


## FTA IMI Grant

TriMet received an FTA IMI Grant totaling \$2.7M

Focus Area 3:

*Using mobility data to better assess and improve mobility management performance.*



# Key Project Partners

## Focus Area 3

FEHR PEERS

IBI IBI GROUP

URBAN LOGIQ

Uber

Lime



## Process

### Phase 1 - Exploration

Fehr & Peers developed Mobility Performance Metrics and Use Cases. UrbanLogiq was selected partner (RFP).

### Phase 2 - Demonstration

Development of data pipelines, data management, dashboards, and use case interfaces for data drill-down

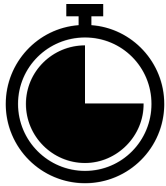


#### Primary Metric Categories:

1. Accessibility
2. Availability
3. Cost
4. Customer Satisfaction
5. Demand for MOD
6. Knowledge Transfer
7. Reliability
8. Time



# Primary Metrics



## Time

- Total Journey Time (by mode)
- Dwell Times
- Accuracy of Predicted Wait Times



## Customer Satisfaction

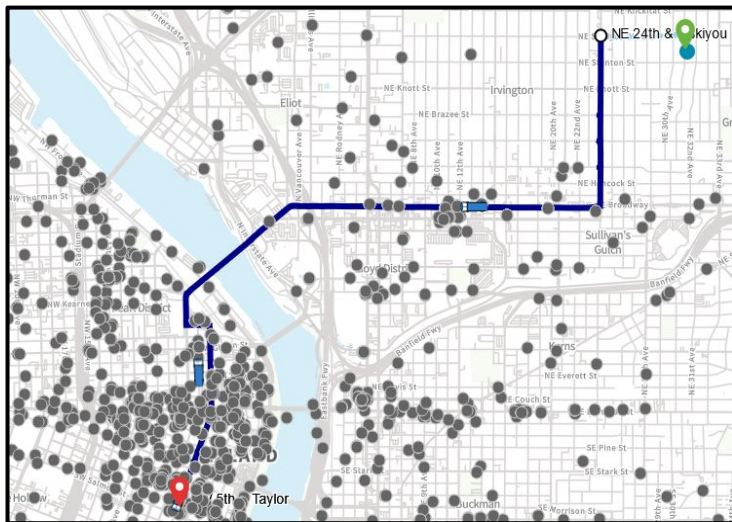
- Rider Attrition
- Return Users



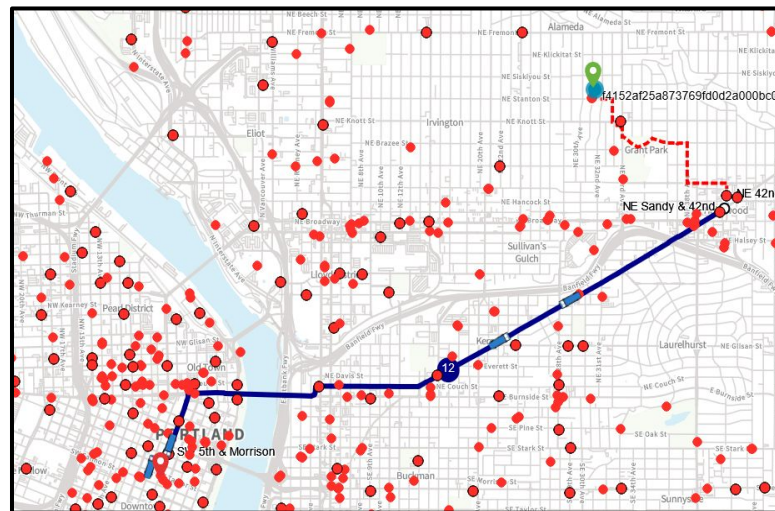
## Accessibility

- Trip Availability for Communities of Concern
- Wait Times for ADA Transportation Options

# Example Metrics



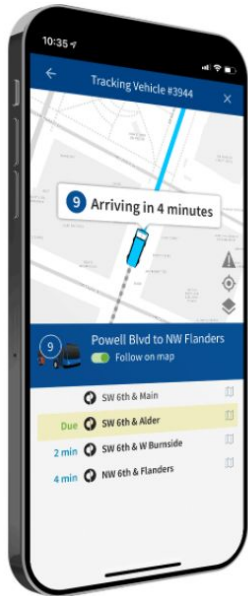
**Scooter + Transit**



**Bikeshare + Transit**

## Example Metrics

RT information improvements  
underway with Machine Learning



## TransitTracker

### TM

Arrivals by web

[trimet.org](http://trimet.org)

Arrivals by text

Send Stop ID # to 27299

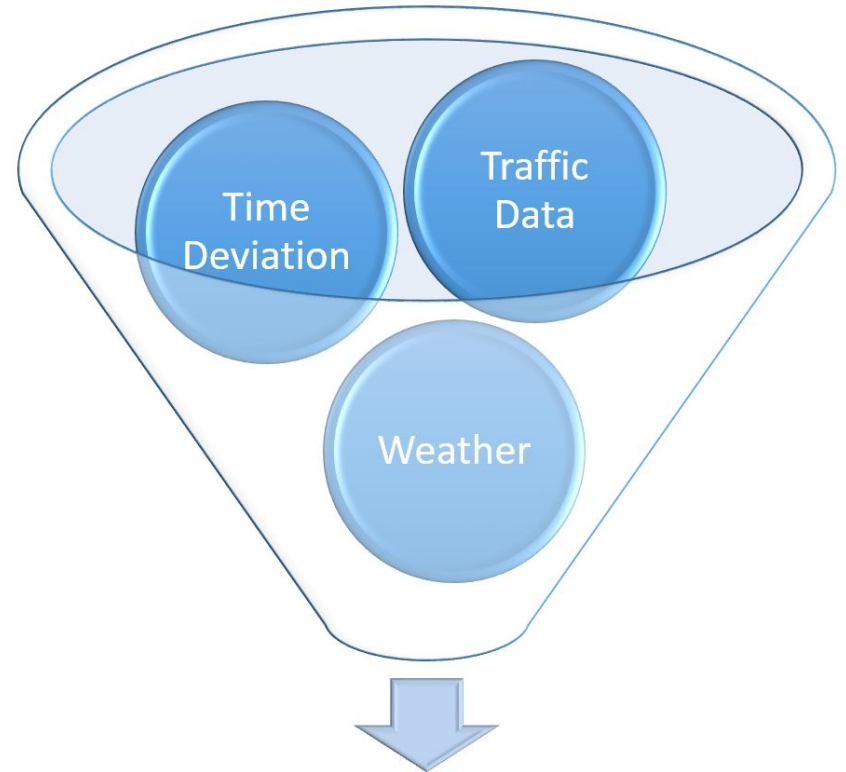
Standard text messaging and data rates apply

[Learn more](#)

Arrivals by phone

[503-238-RIDE](tel:503-238-RIDE)

Select option 1 and enter your Stop ID Number





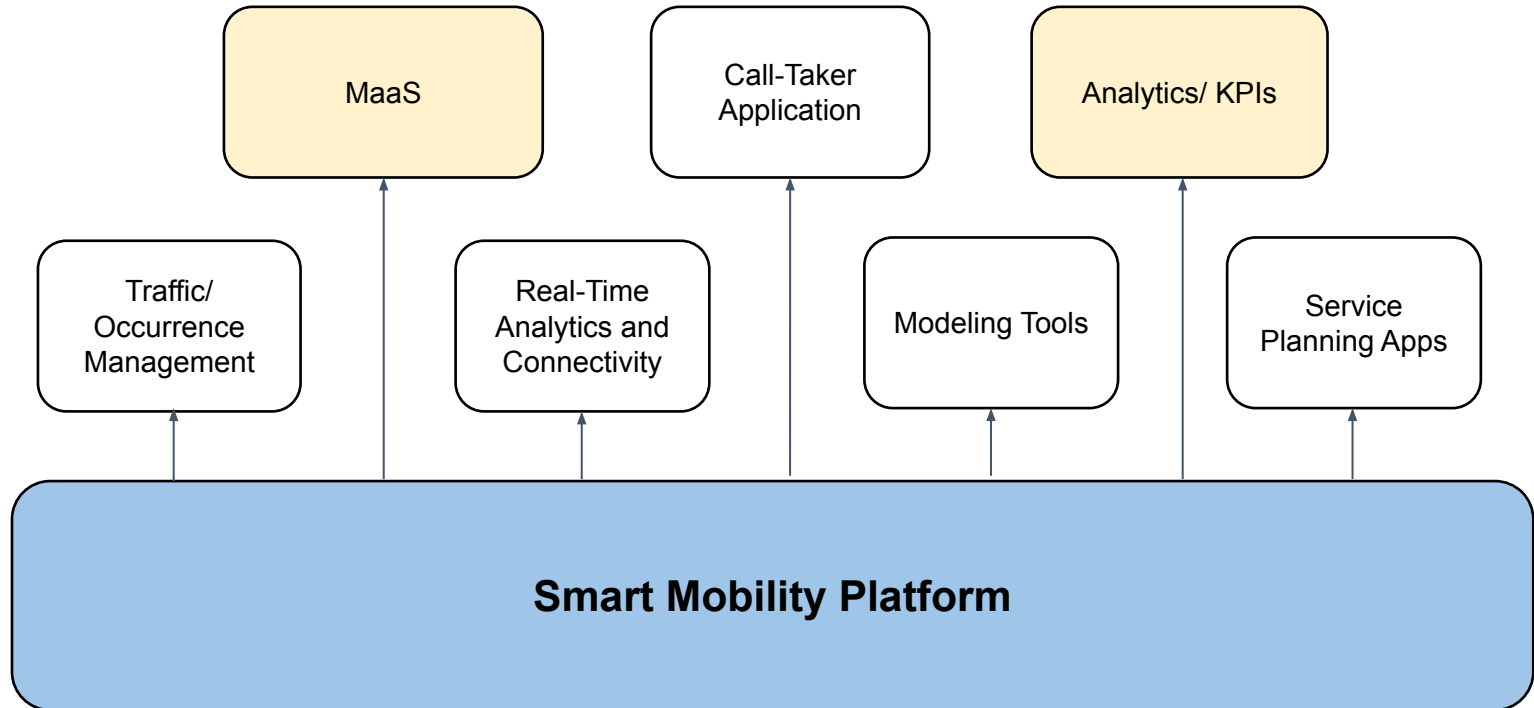
# The Smart Mobility Platform (SMP)

A web-based tool where these metrics can be visualized and explored through space and time.



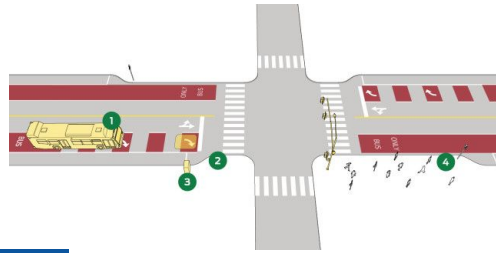
# Smart Mobility Platform

Open Architecture, Open Data and Standards

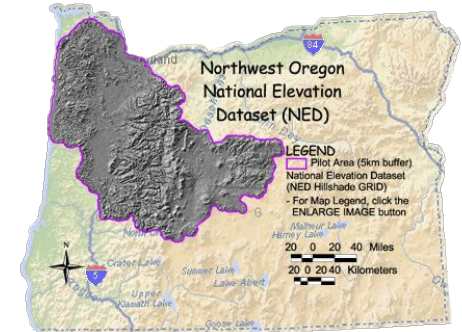
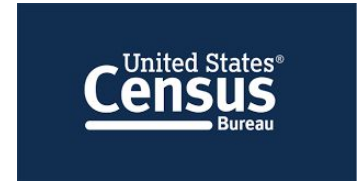


# Integrated Data for Comprehensive Analytics

Historic, Scheduled, RT, Predicted, Inference, Data Blending

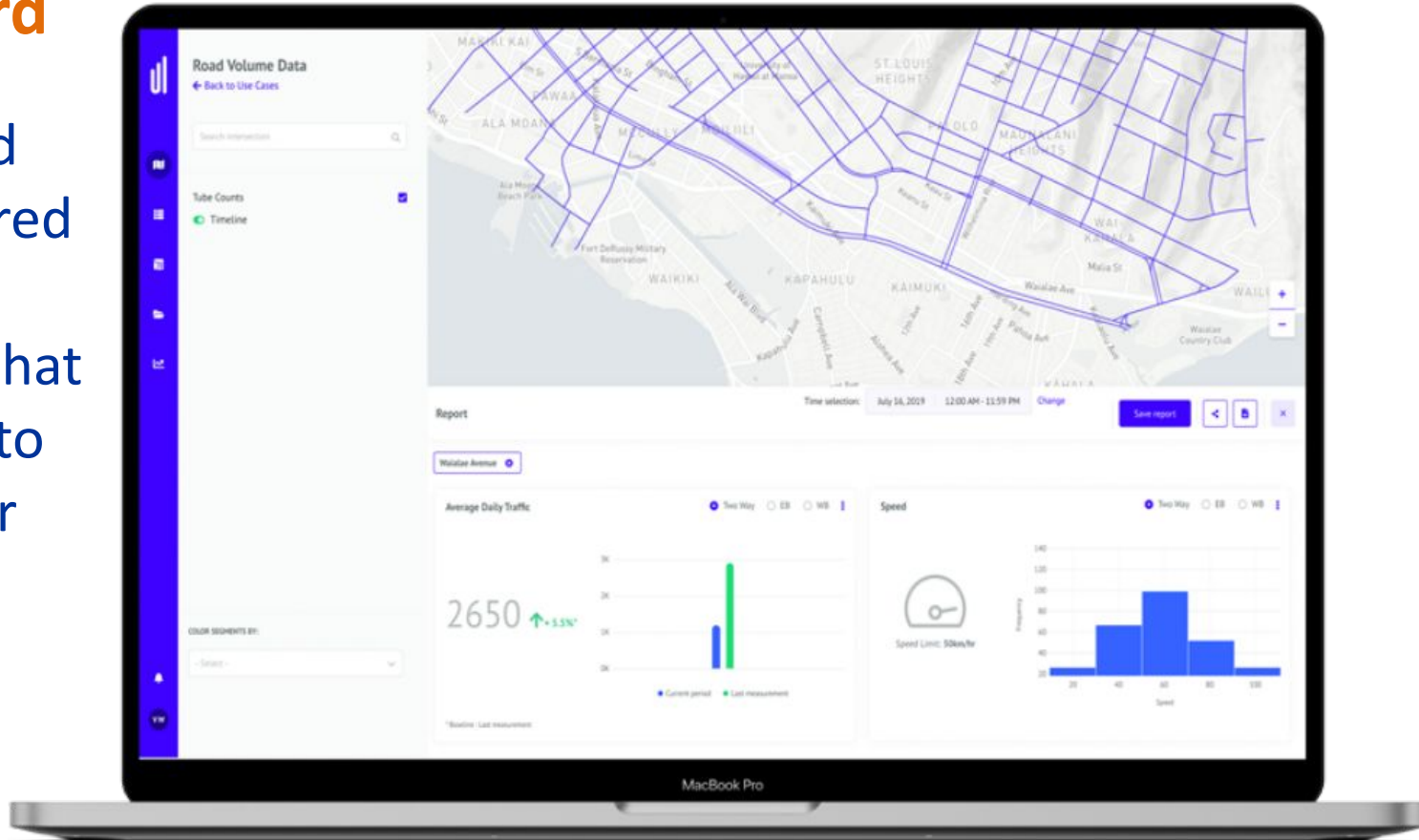


**OpenStreetMap**  
The Free Wiki World Map



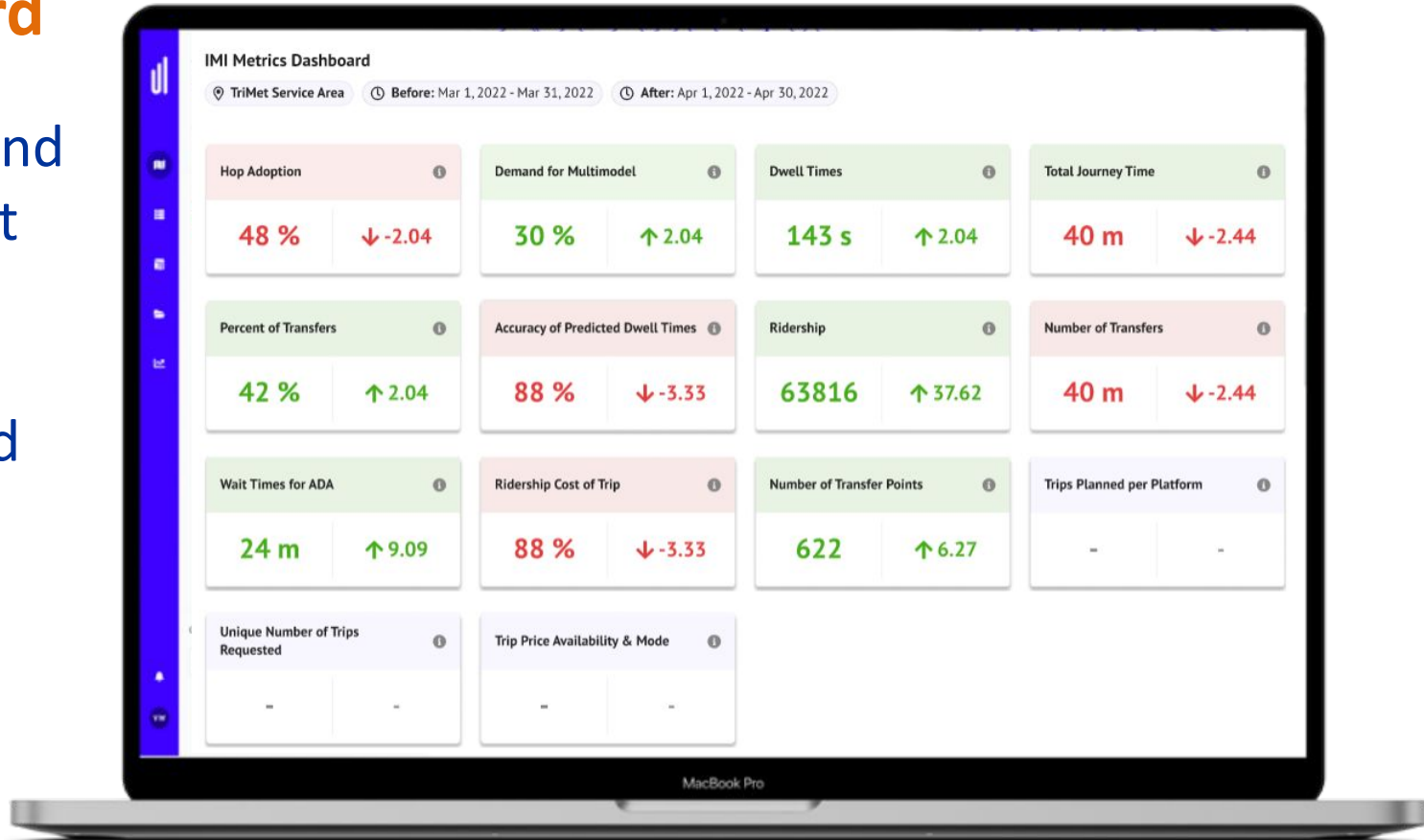
# Dashboard

Metrics and map-centered use case interfaces that allow staff to dive deeper



# Dashboard

Going beyond basic transit operations metrics for analysis and view of complete mobility ecosystem



# Use Cases

## ODX Analysis



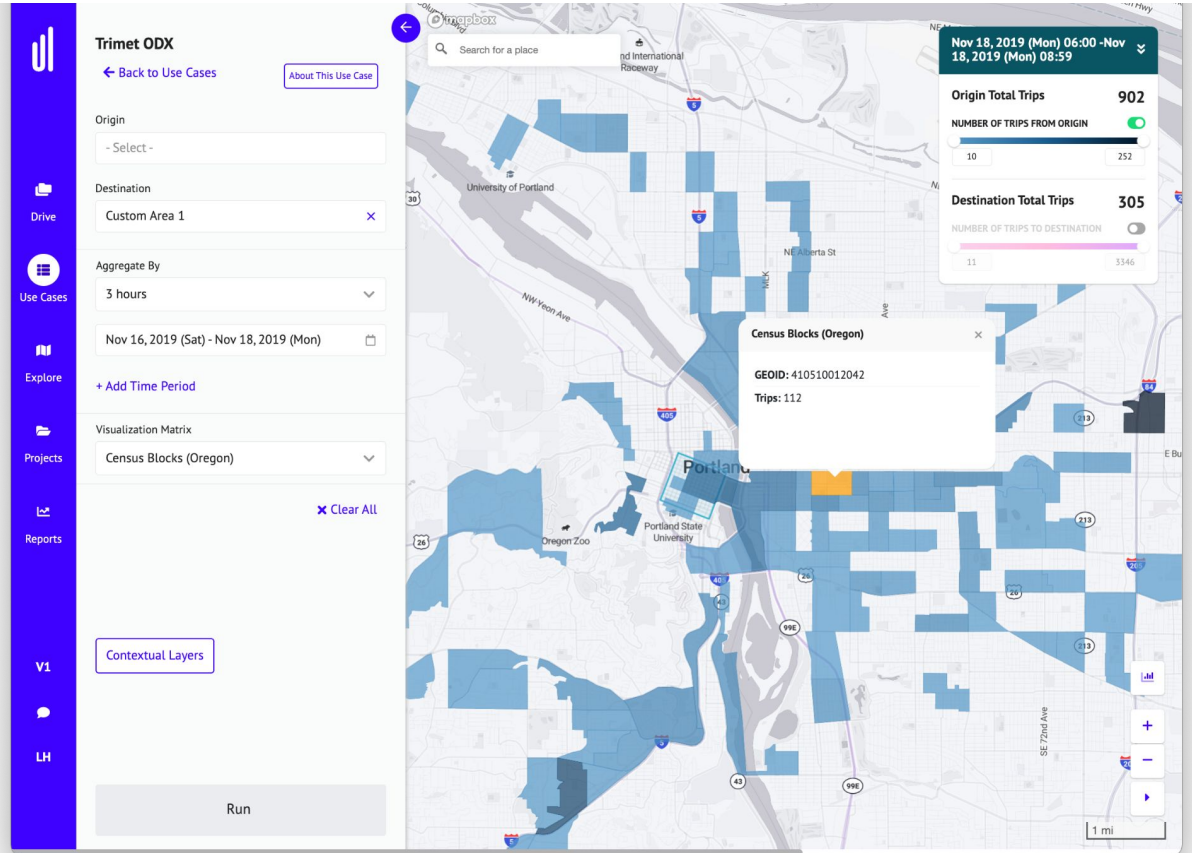
## Hop Fastpass™

- Tap on only
- Open Architecture for interoperability
- Account based
- Cash moved to retail outlets
- Capping - guaranteed best fair
- Mobile Wallet - tap to ride, phone is your card



# Urbanlogiq ODX Model

Provides TriMet with new insights into travel patterns saving hundreds of thousands of dollars annually.





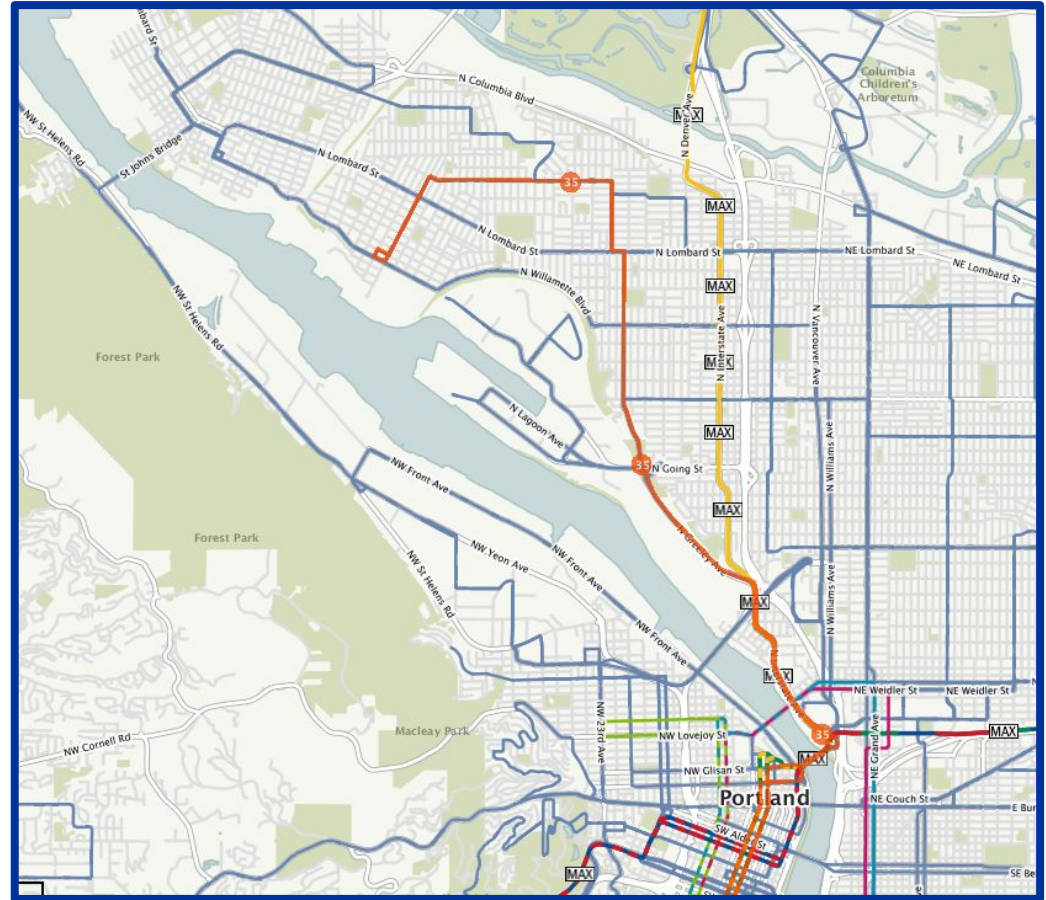
# ODX Analysis Service Planning

Used for developing TriMet's  
Comprehensive Service Plan



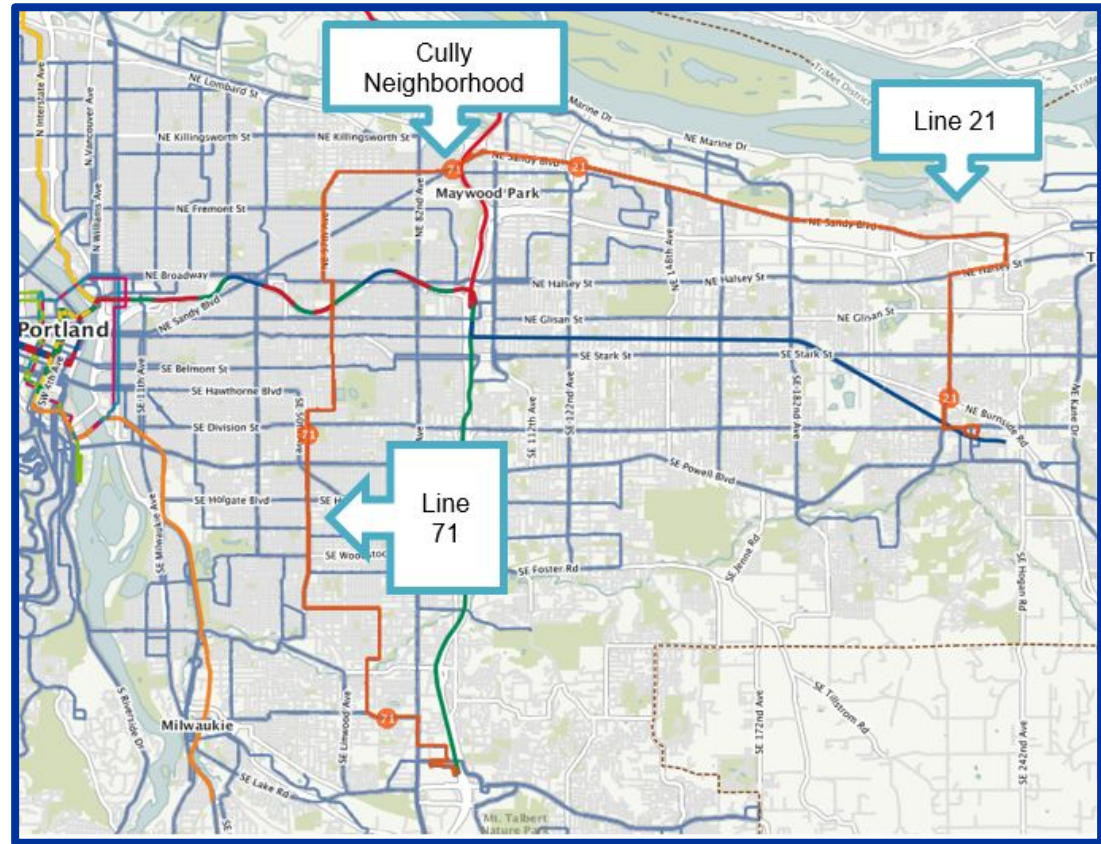
# Transfer Analysis Line 35

Line 35 deviates to create transfer opportunities in St. Johns, but Hop ODX data showed only 1% of Line 35's transfers were happening here. Resulted in proposed redesign that could speed up trips and save hundreds of thousands of dollars annually in service cost.



# O&D Analysis Lines 71 & 21

Based on O/D patterns and poverty data, we are now proposing to combine Lines 71 and 21 into a single route. This will give people in the underprivileged Cully Neighborhood a one-seat ride to jobs along the Columbia Corridor.



# ODX Analysis

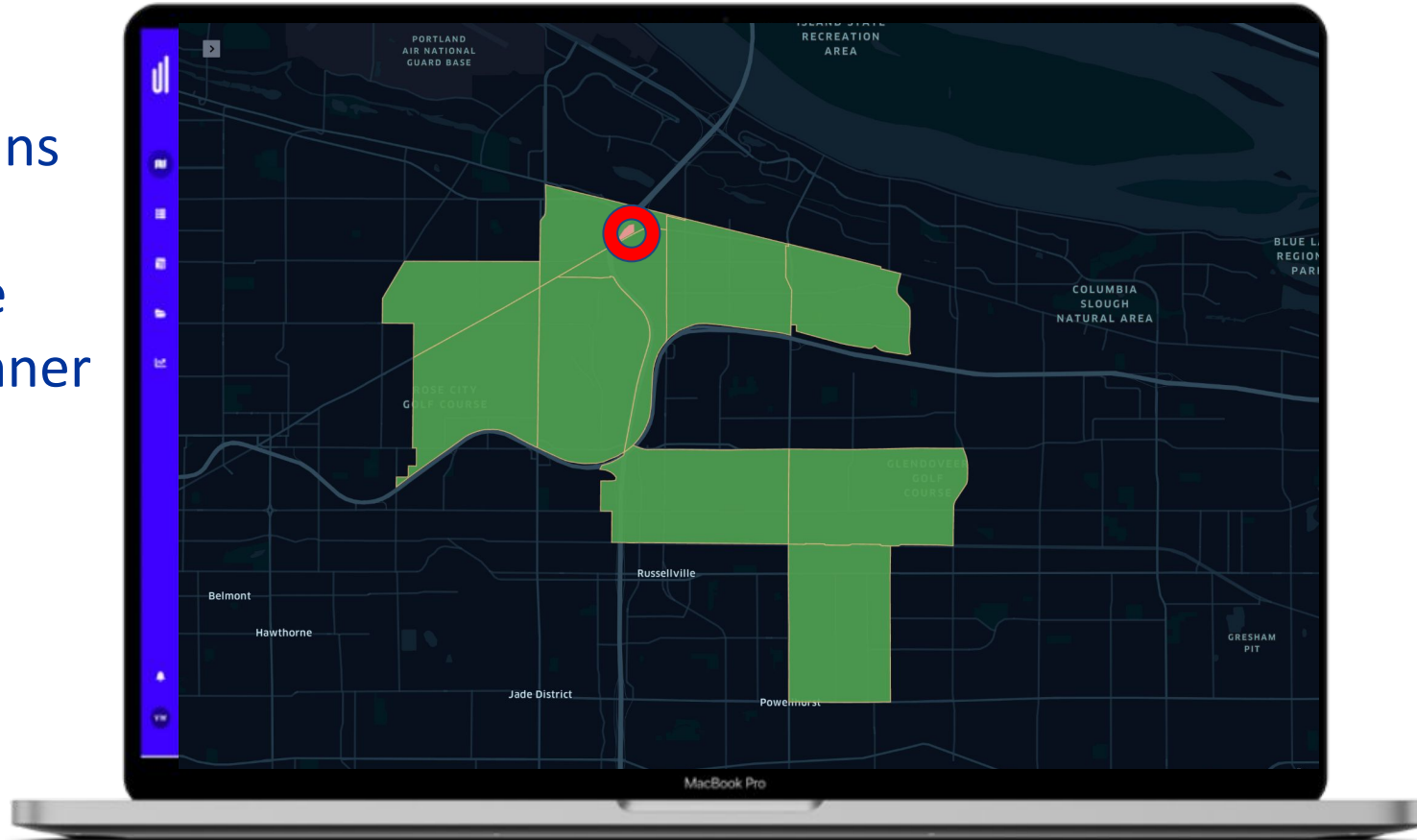
## Mode Comparisons

Study of O&D to/from same transit station comparing Lyft, Uber and Transit data



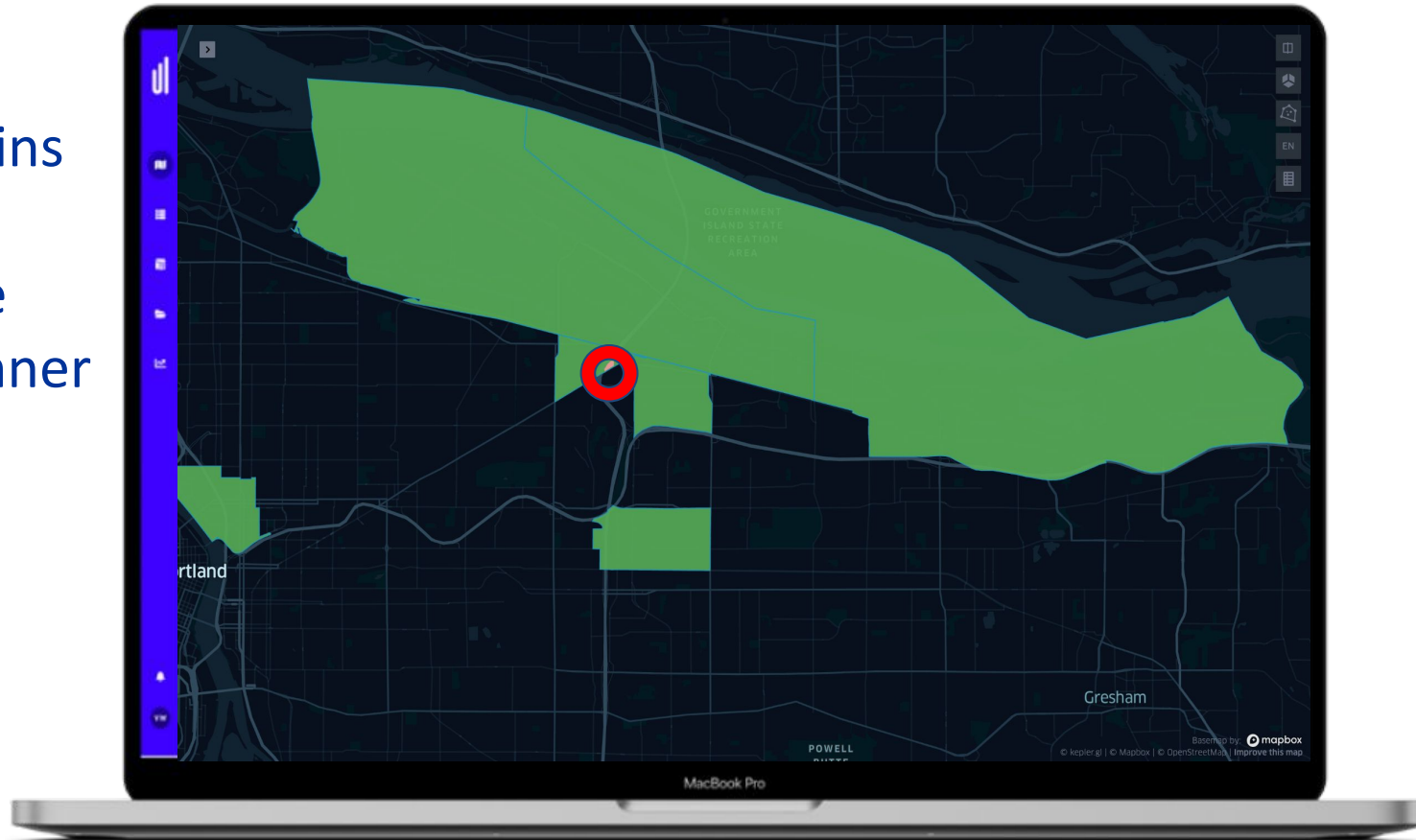
## Lime Data

Lime trip origins  
(green area)  
arriving at the  
Parkrose/Sumner  
Transit Stop



## Uber Data

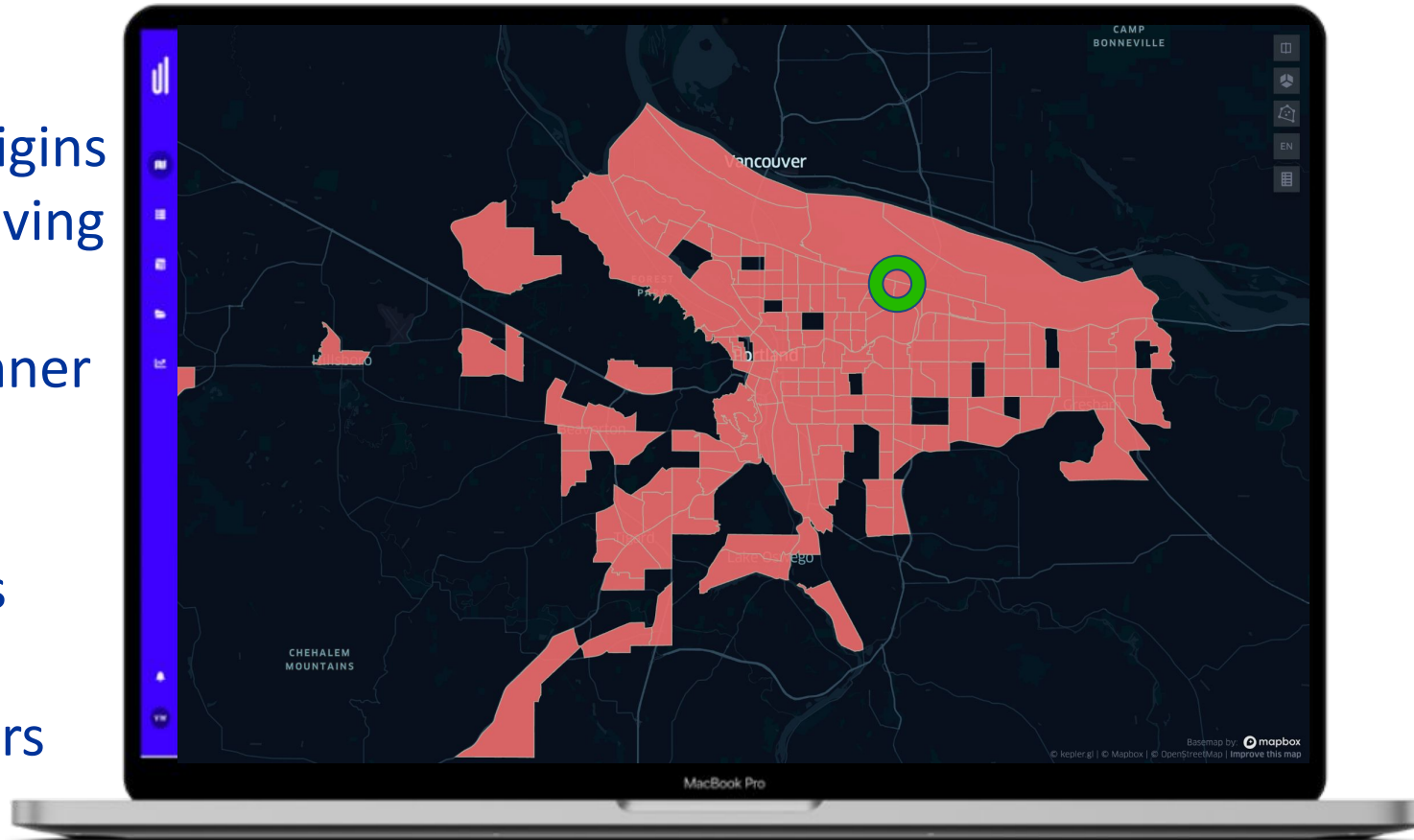
Uber trip origins  
(green area)  
arriving at the  
Parkrose/Sumner  
Transit Stop



## Transit Data

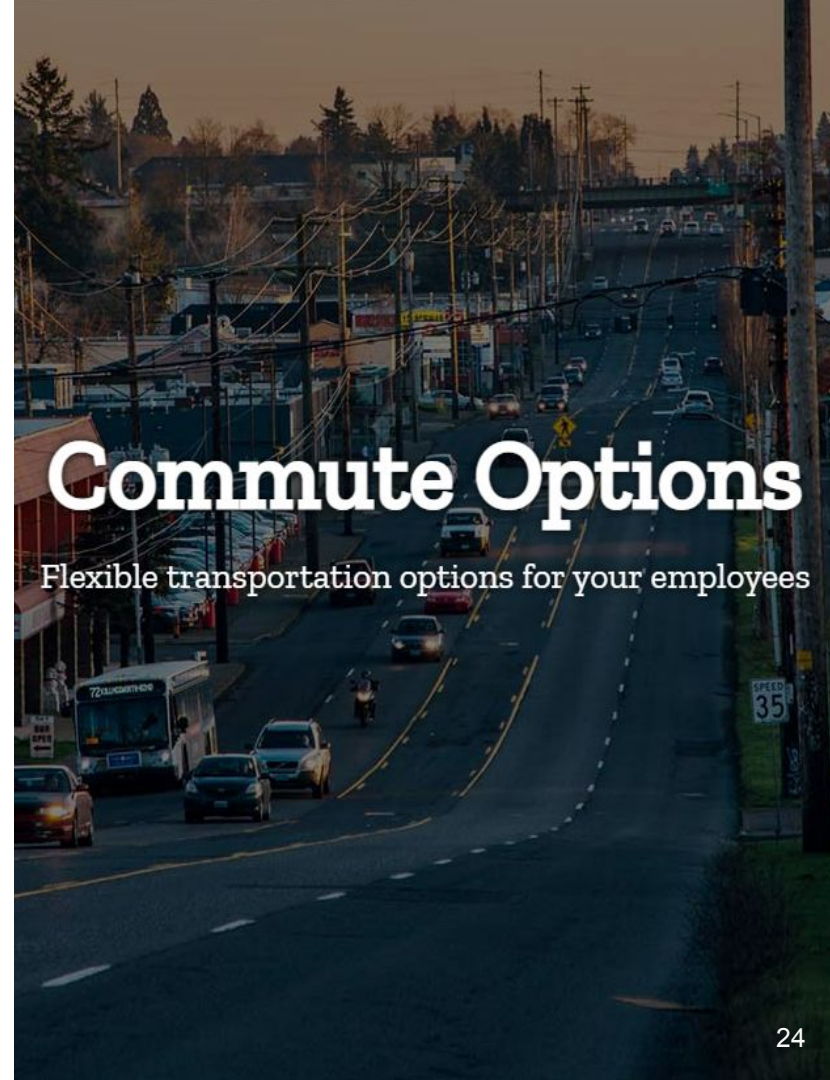
Transit trip origins (red area) arriving at the Parkrose/Sumner Transit Stop.

Demonstrates second leg of Lime and Ubers trips.



# ODX Analysis Marketing and Business Development

- Insight into Employer plans (universal, annual passes, self-serve)
- Insight into Honored Citizen Fares (low income, seniors, disabilities)
- Data on overall Hop Purchases



## Commute Options

Flexible transportation options for your employees





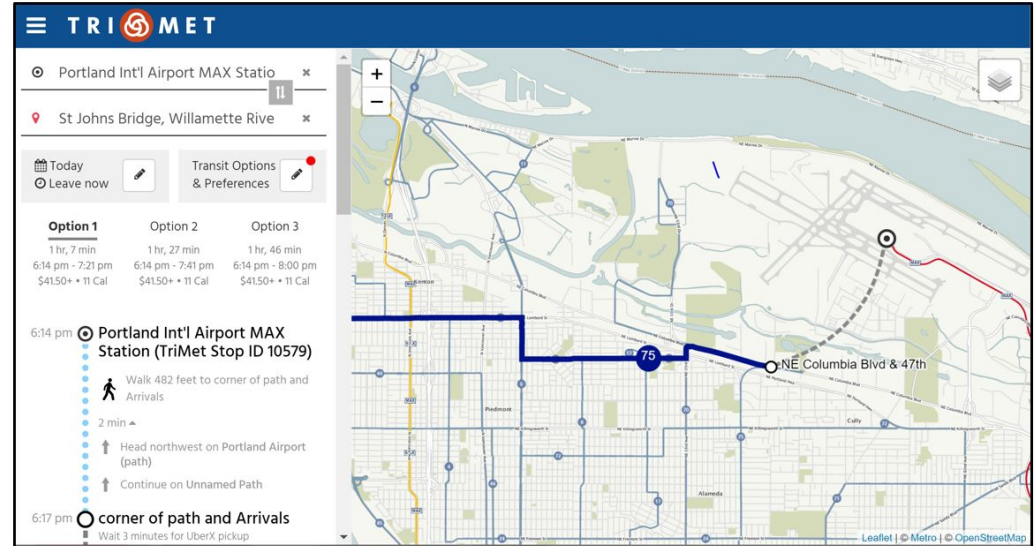
# Use Cases Trends in Multimodal Use

Study of mode usage, transfers,  
travel patterns, rider incentives



# Benefits of Multimodal Trip Planning

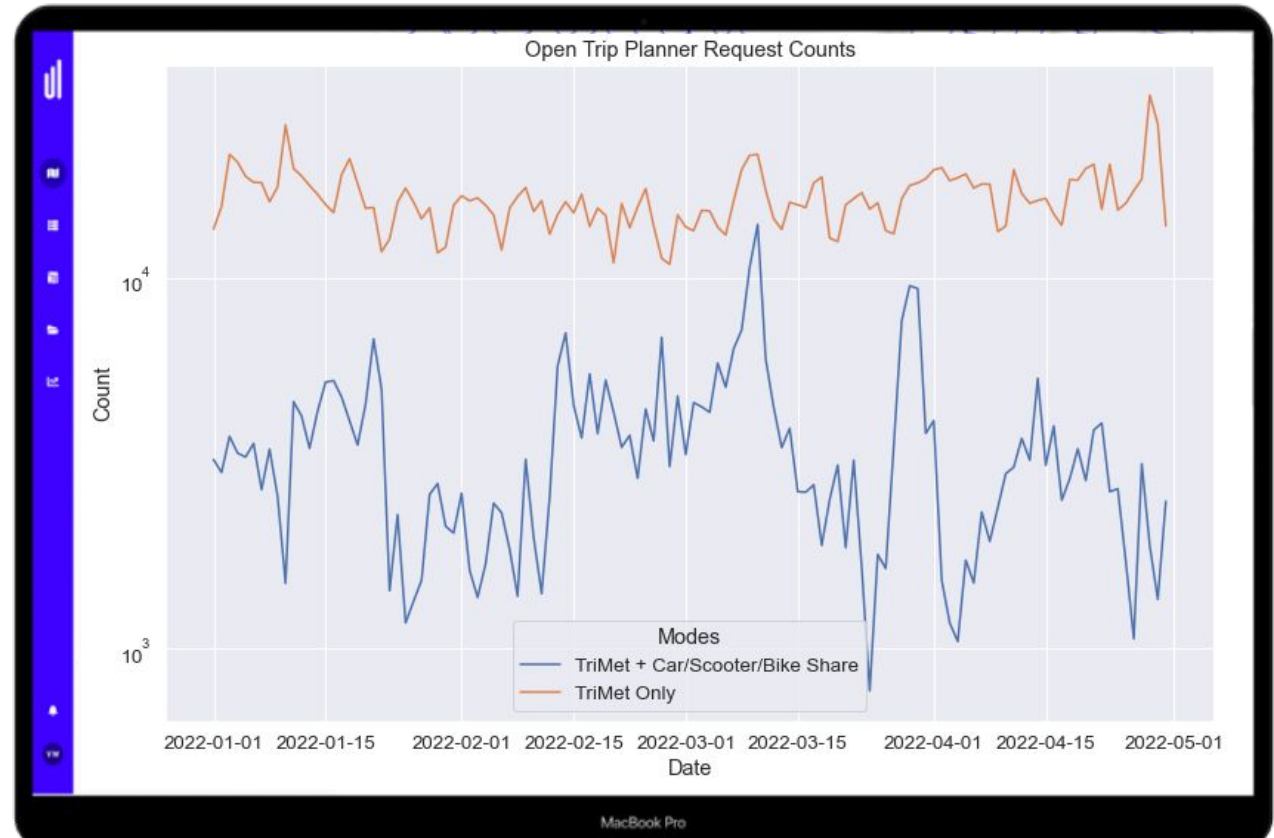
- Solution to the historic *“last mile”* public transit problem
- Offer faster and cheaper options for our customers - important for equitable and accessible service
- Encourages public transit, thus reducing SOVs and CO2 emissions
- Is an inherent requirement for *Mobility Initiatives*



**Integration with Transit**  
Faster than transit alone  
Cheaper than Uber alone

# OTP Request Counts

Five month time period comparing Transit only with TriMet + Uber, Lime and Bikeshare Requests

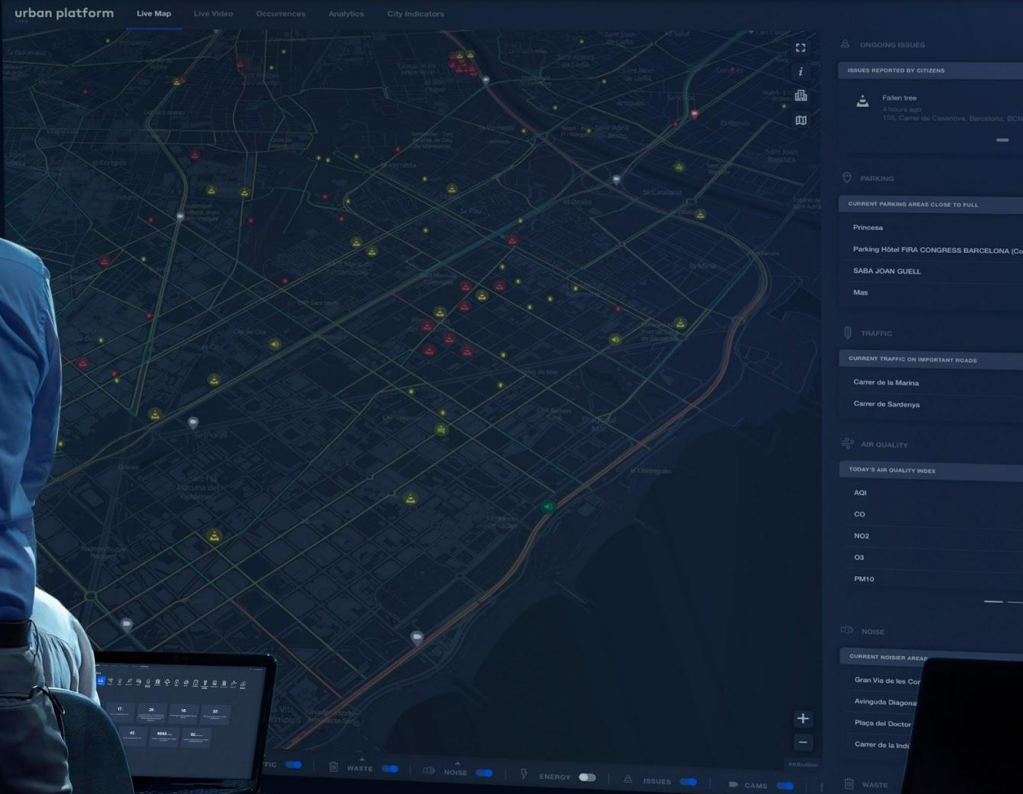


# SMP Impact and ROI

- Better customer information
- Better decision making
- Better seamless, affordable, safe door-to-door trip options
- Better management of regional mobility
- Stronger Public/Private Partnerships (& data sharing!)
- Improved collaboration between business units



# Managing a comprehensive transportation ecosystem beyond just public transit



Urban Platform, developed by Ubiwhere, demonstrated using open data and third-party data about the city of Barcelona