TriMet Stakeholders
2022-06-30

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

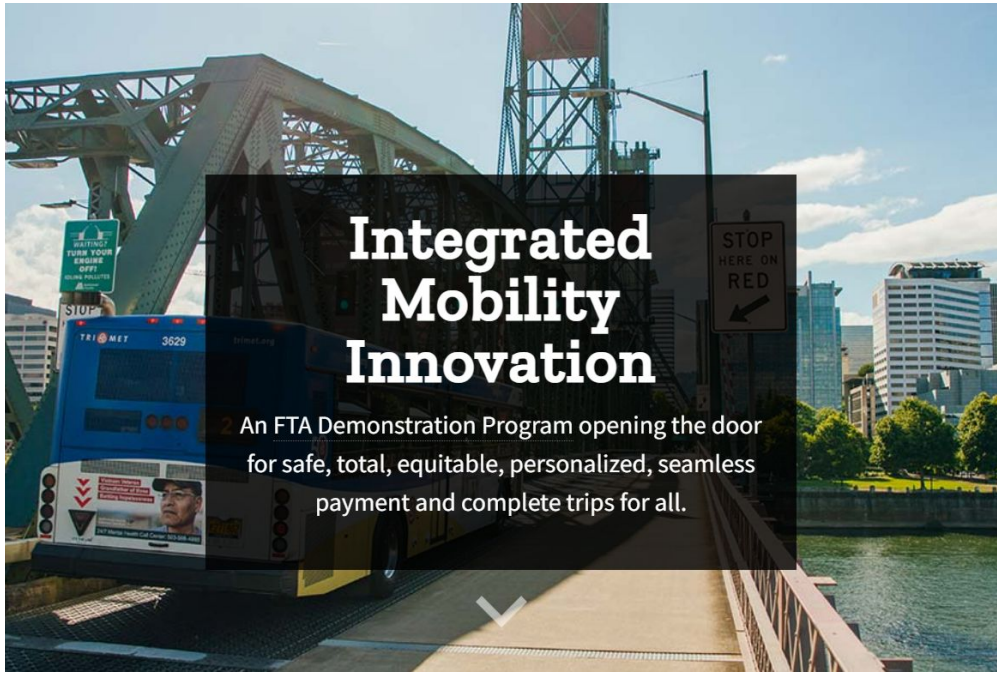
Background

FTA IMI Grant 2020-2023

TriMet received an FTA IMI Grant totaling $2.7M

Focus Area 3:

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



trimet.org/IMI

Key Project Partners

Focus Area 3

FEHR PEERS

IBI GROUP

URBAN LOGIQ

Uber

Lime

Process

Phase 1 - Exploration

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

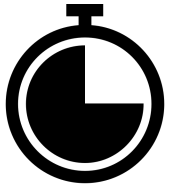
Phase 2 - Demonstration

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

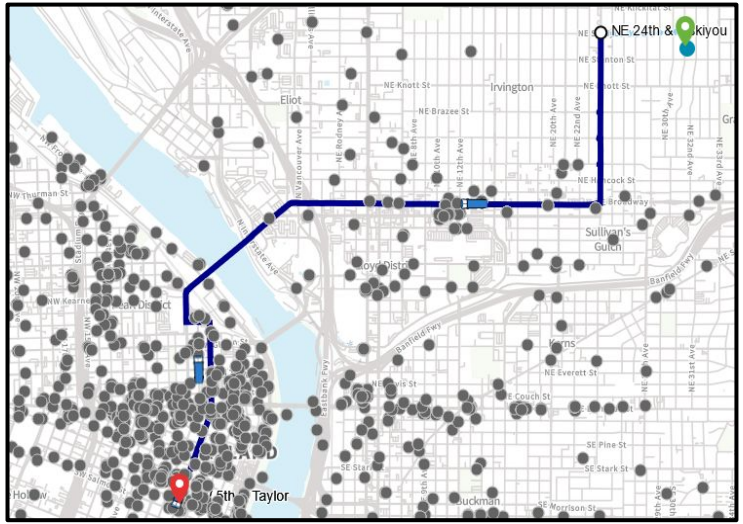
Customer Satisfaction

- Rider Attrition
- Return Users

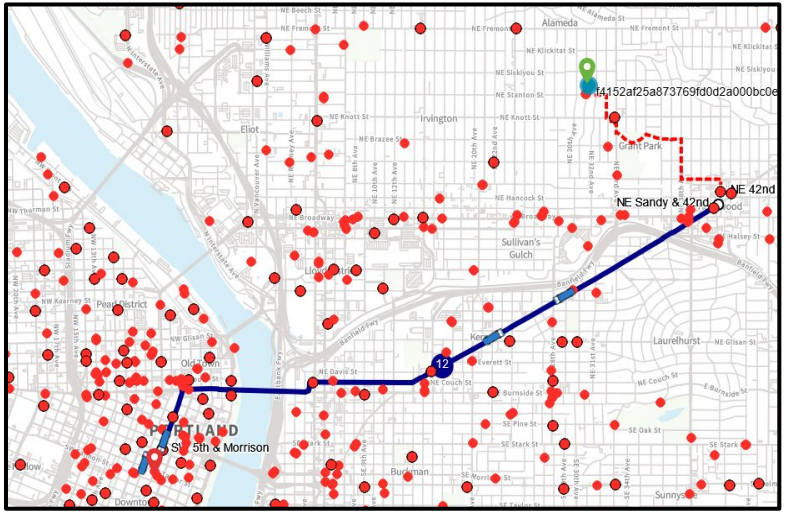
Accessibility

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

Example Metrics



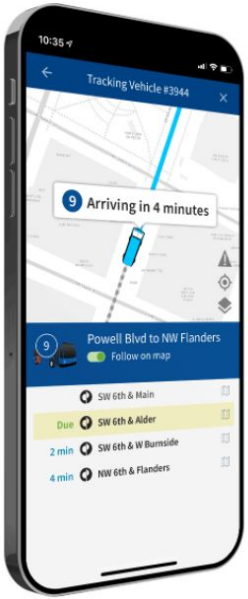
Scooter + Transit



Bikeshare + Transit

Example Metrics

RT information improvements underway with Machine Learning



TransitTracker™

Arrivals by web

trimet.org

Arrivals by text

Send Stop ID # to 27299

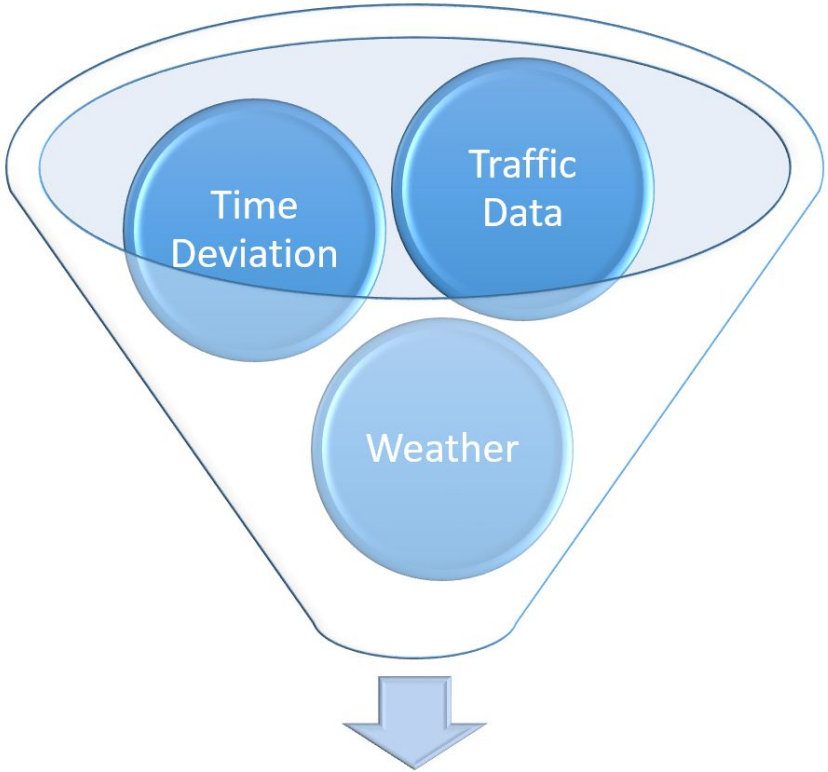
Standard text messaging and data rates apply

Learn more

Arrivals by phone

503-238-RIDE

Select option 1 and enter your Stop ID Number

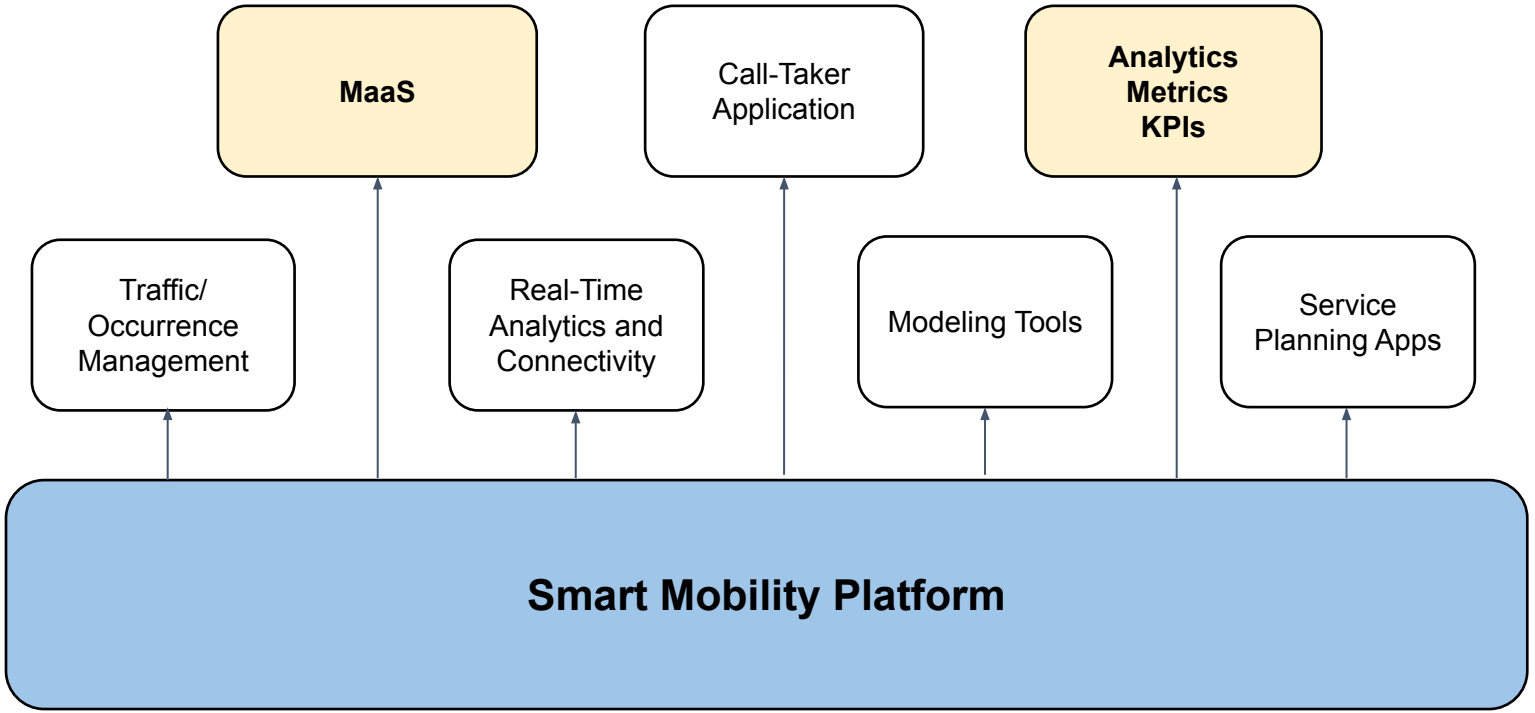


The Smart Mobility Platform (SMP)

Foundation for all Mobility Initiatives and Technologies beyond MaaS

Smart Mobility Platform

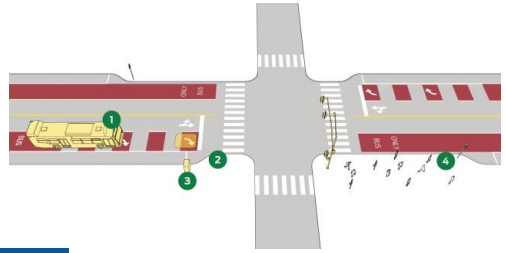
Open Architecture, Open Data and Standards



Integrated Data for Comprehensive Analytics

Historic, Scheduled, RT, Predicted, Inferrerence, Data Blending

hop fastpass

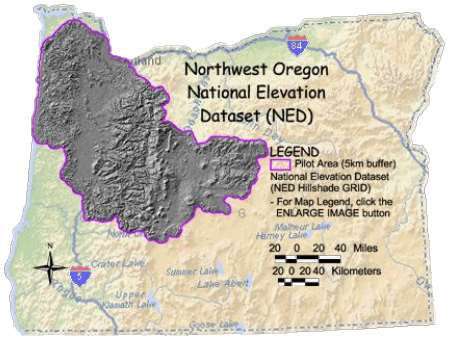


OpenStreetMap
The Free Wiki World Map

United States® Census Bureau

INRIX

OpenWeather



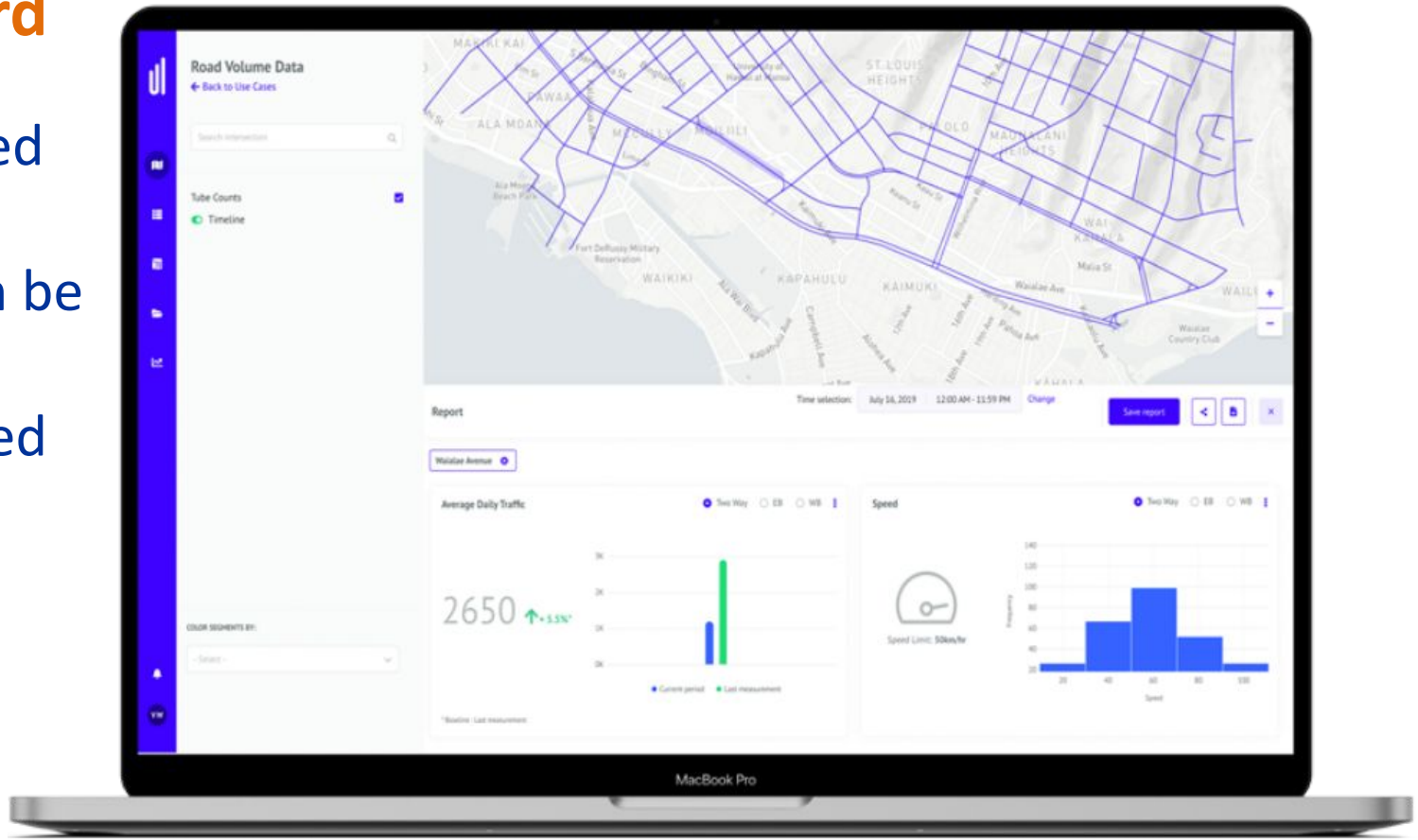
Metro

Uber

Lime

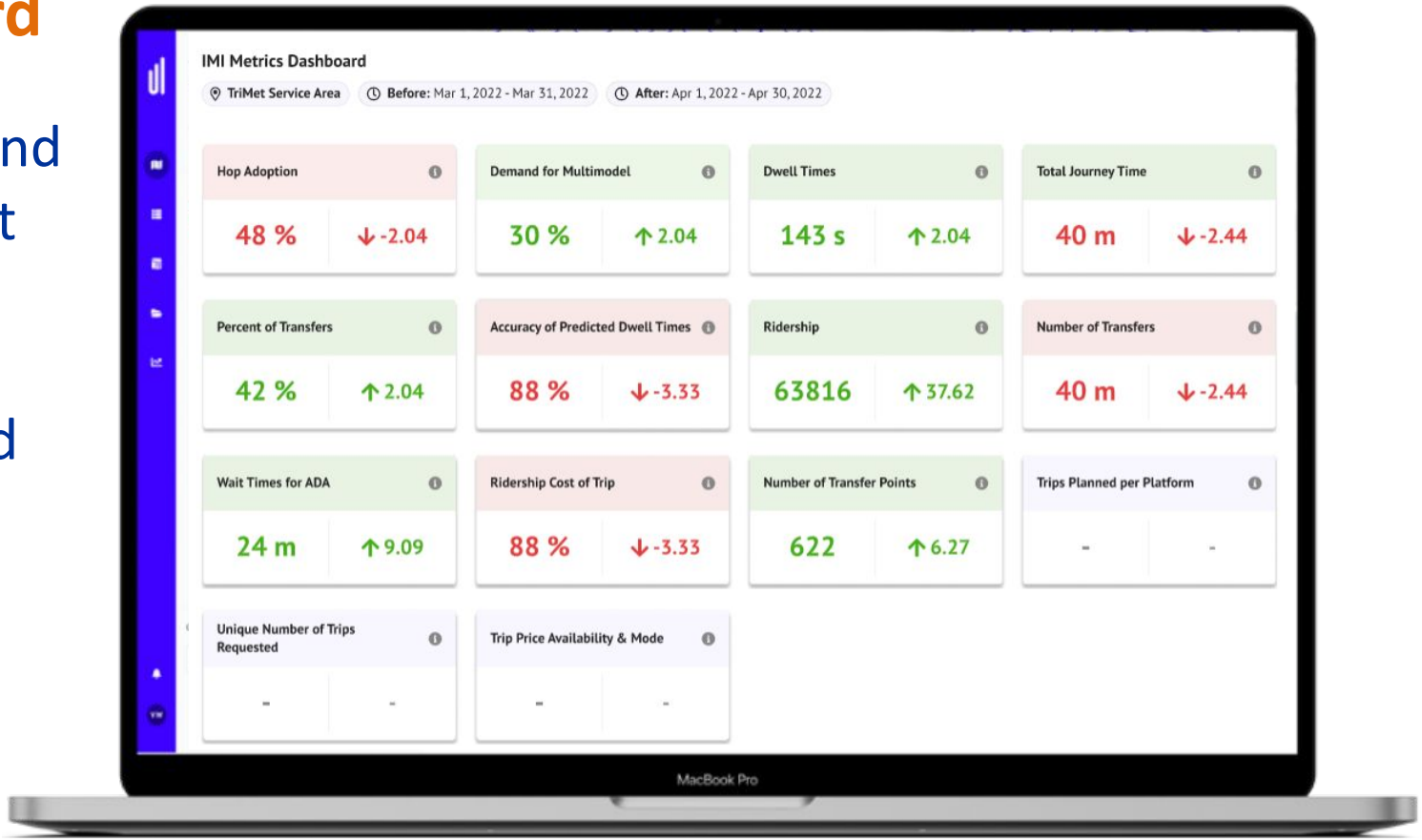
Dashboard

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



Dashboard

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

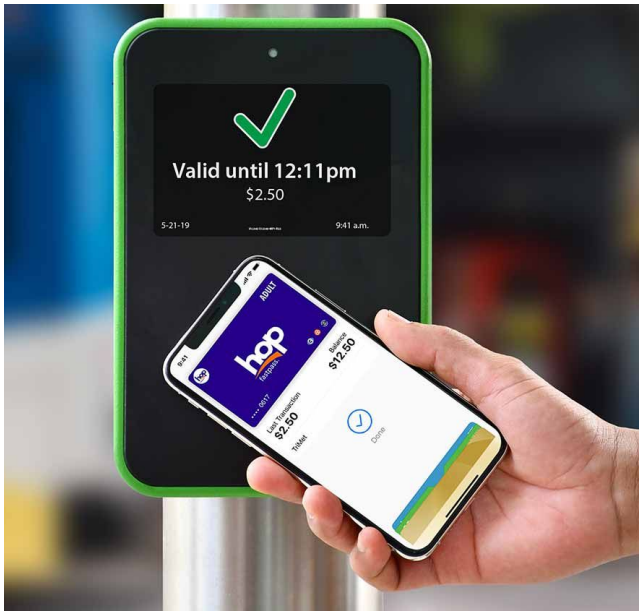


Use Cases
ODX Analysis

Security Measures for Accessing ODX Data

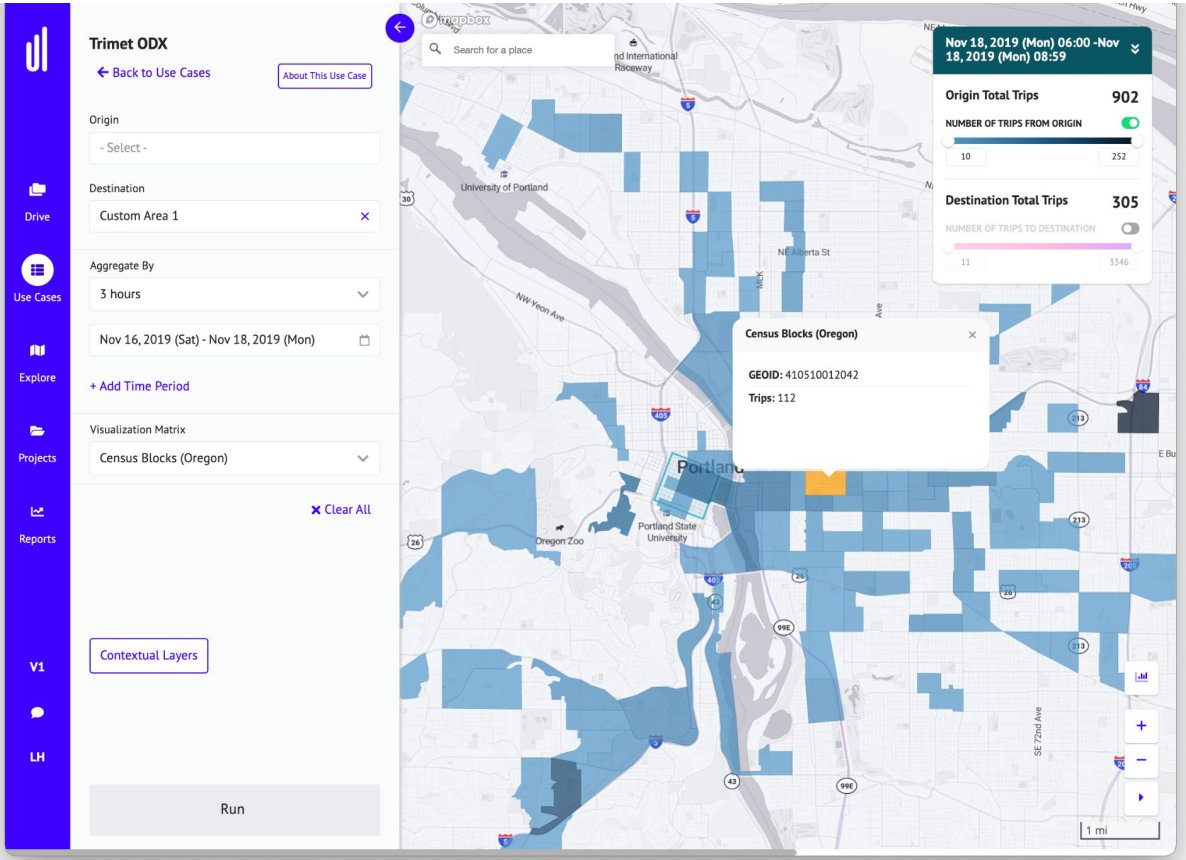
Only aggregated data is available. Any space/time grouping with fewer than 10 taps is masked out.

All users must sign a Hop Data Confidentiality Form



Urbanlogiq ODX Model

Provides new insights into travel patterns and trends.

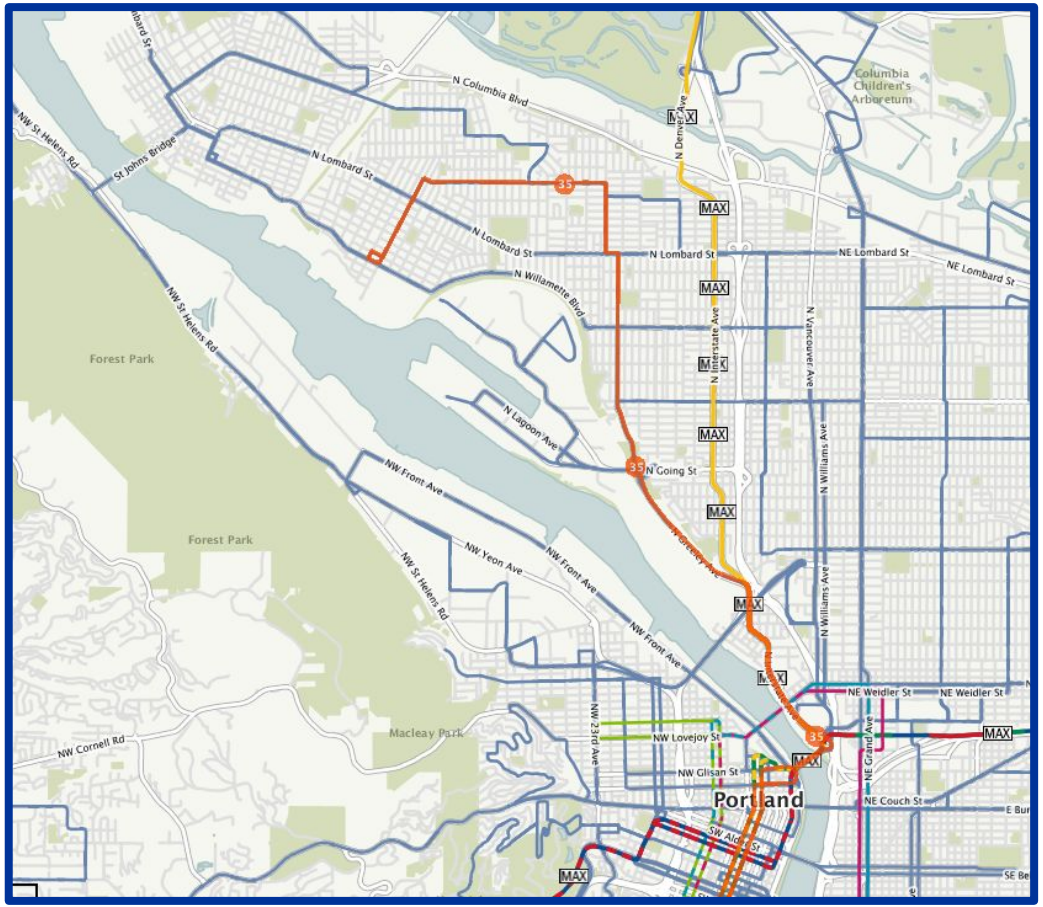


ODX Analysis
Service Planning

Used for developing TriMet's Comprehensive Service Plan

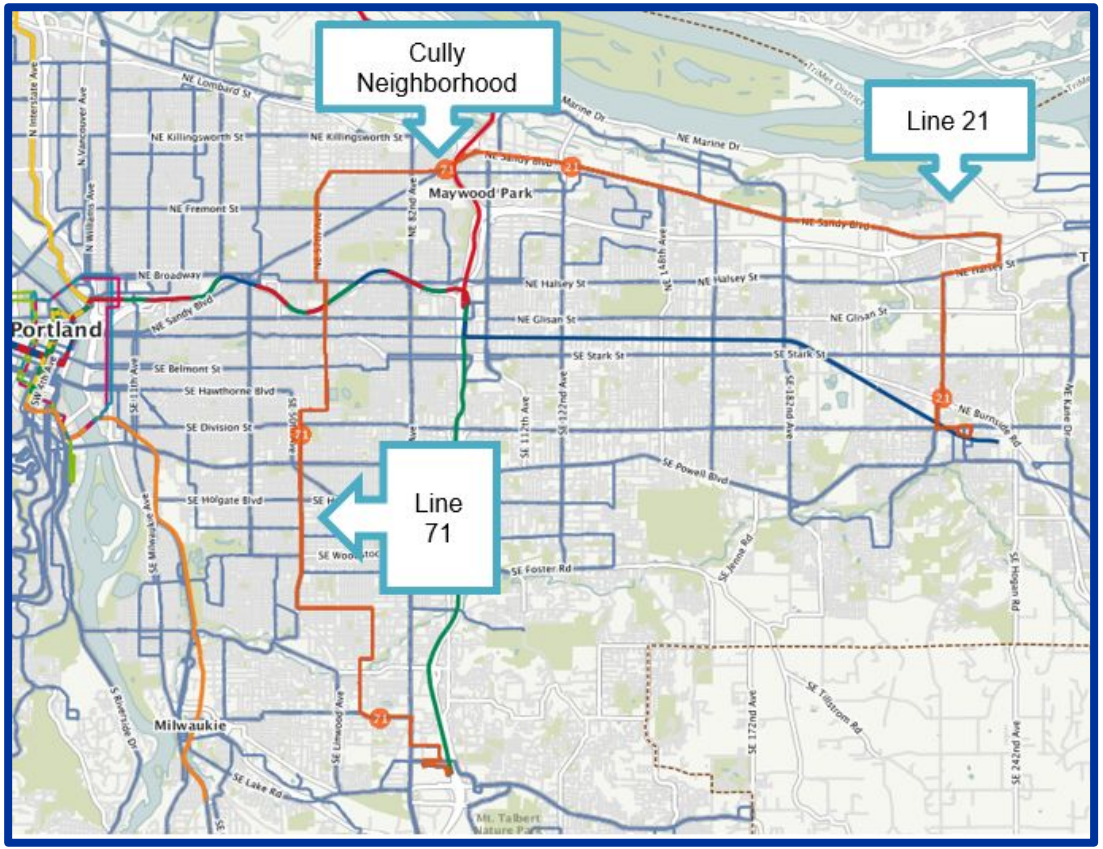
Transfer Analysis
Line 35

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.



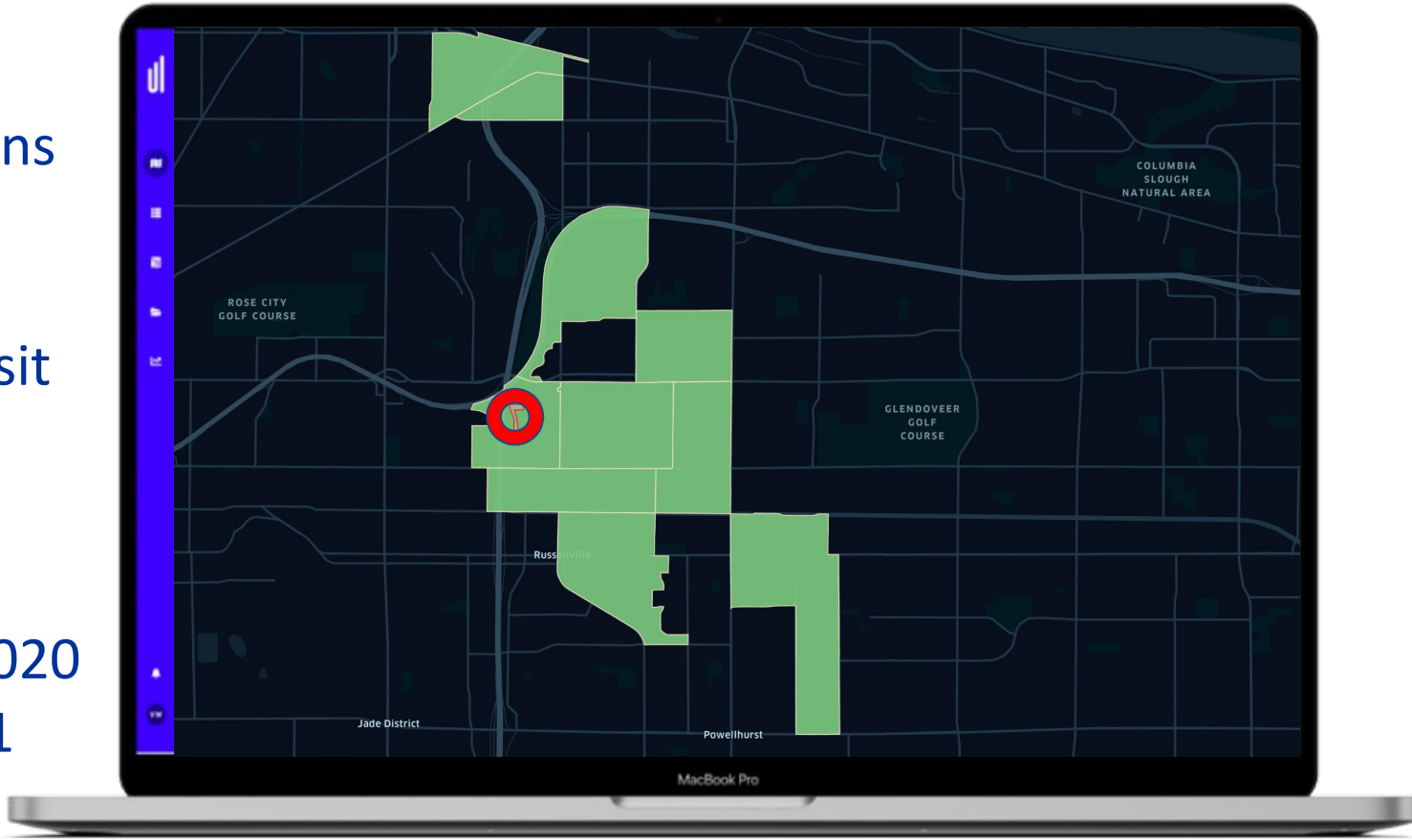
ODX Analysis
Mode Comparisons

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

Lime Data

Lime trip origins (green area) arriving at Gateway Transit Center

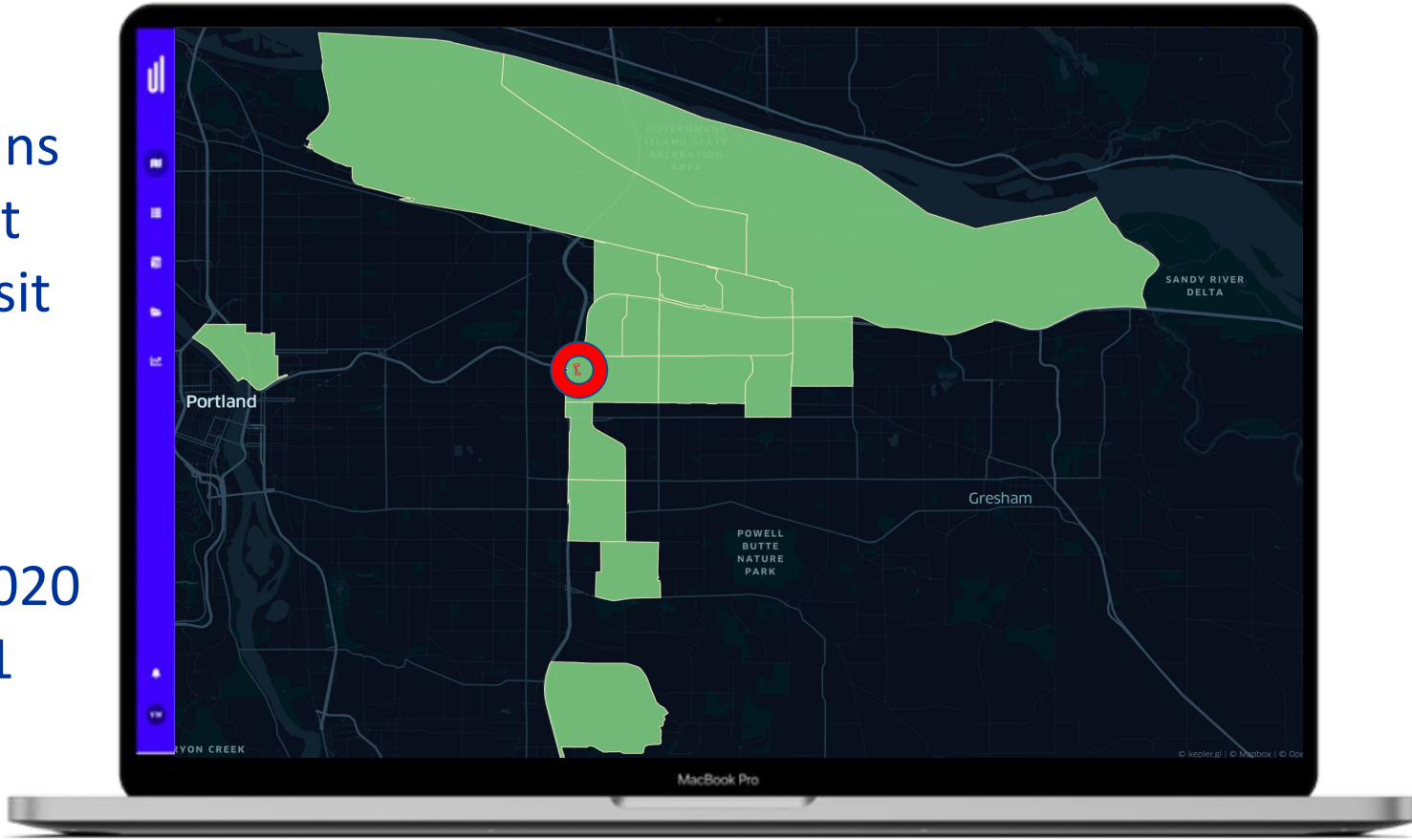
Census Block Level - June 2020 and June 2021 Combined



Uber Data

Uber trip origins (green area) at Gateway Transit Center

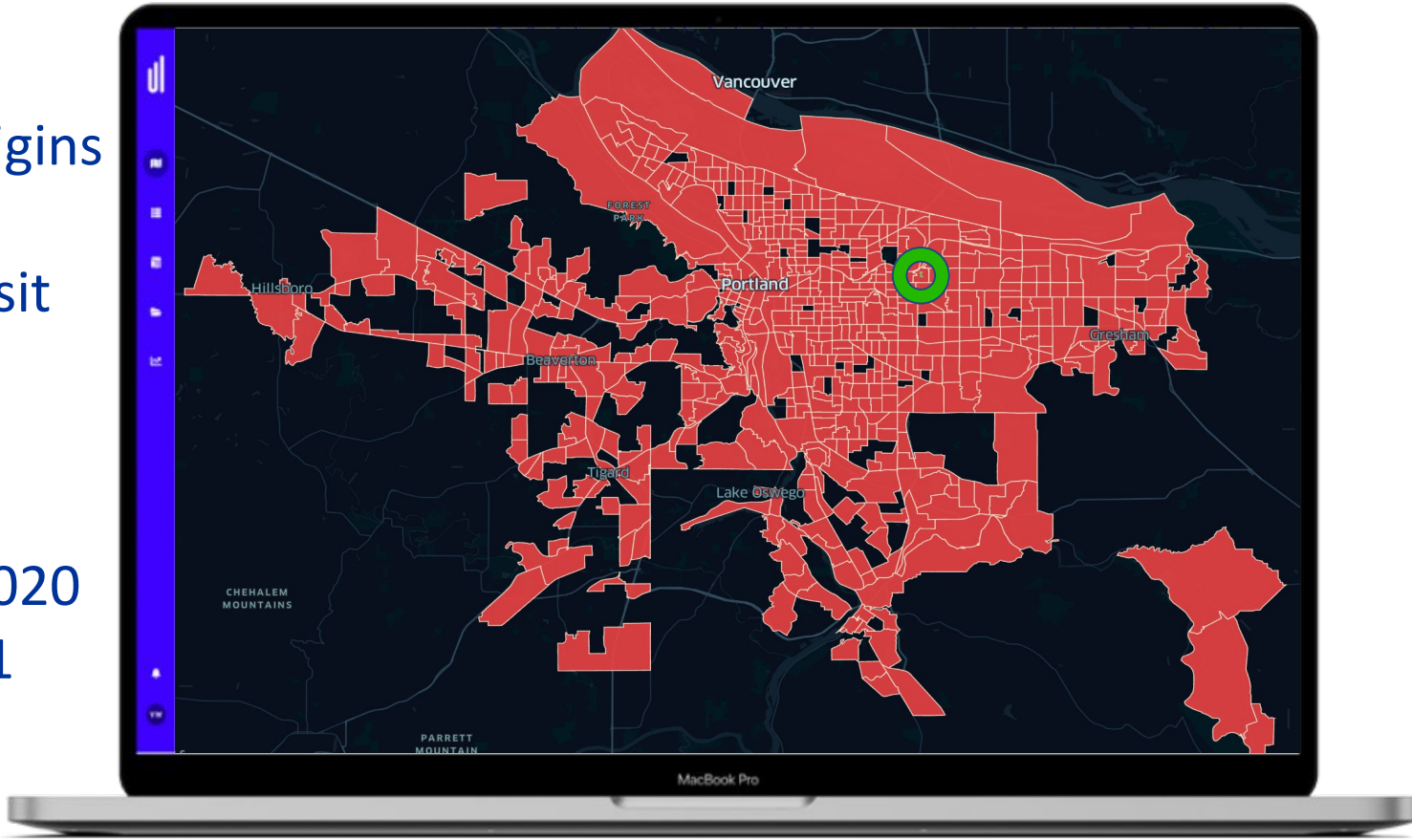
Census Block Level - June 2020 and June 2021 Combined



Transit Data

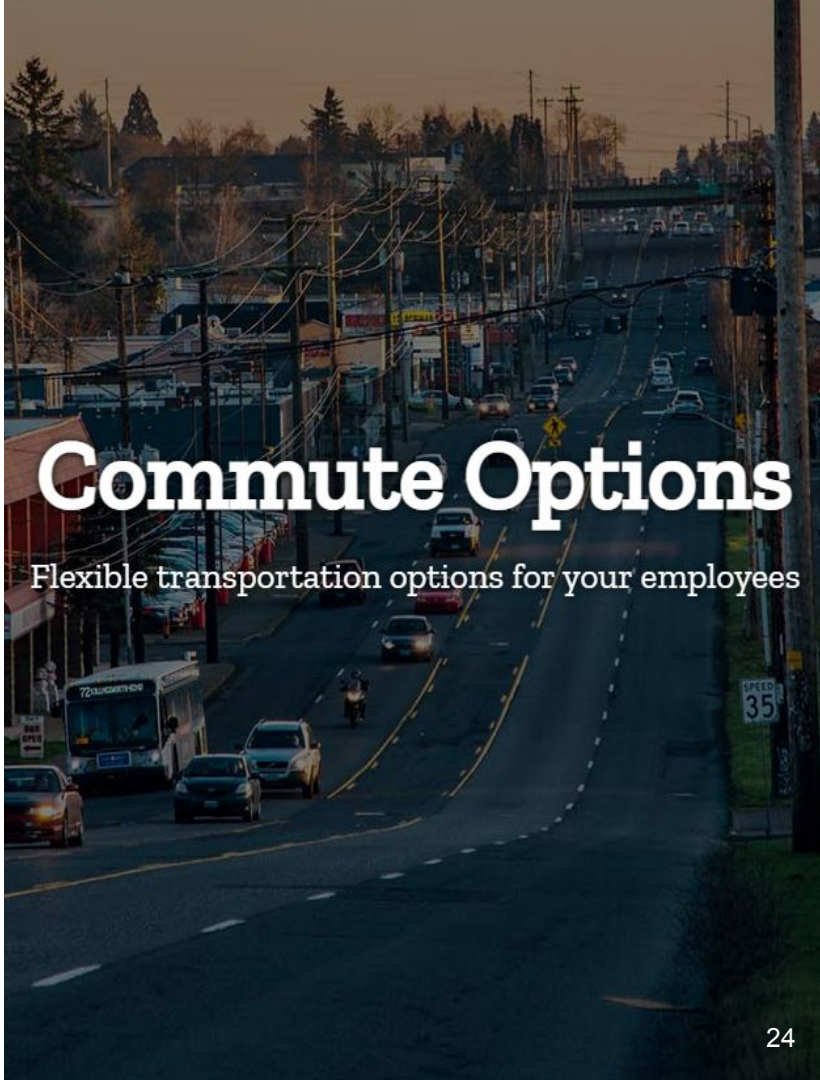
Transit trip origins (red area) at Gateway Transit Center

Census Block Level - June 2020 and June 2021 Combined



ODX Analysis
Marketing and Business Development

- Insight into success of marketing campaigns
- Insight into Honored Citizen Fares (low income, seniors, disabilities)
- Data on overall Hop Purchases

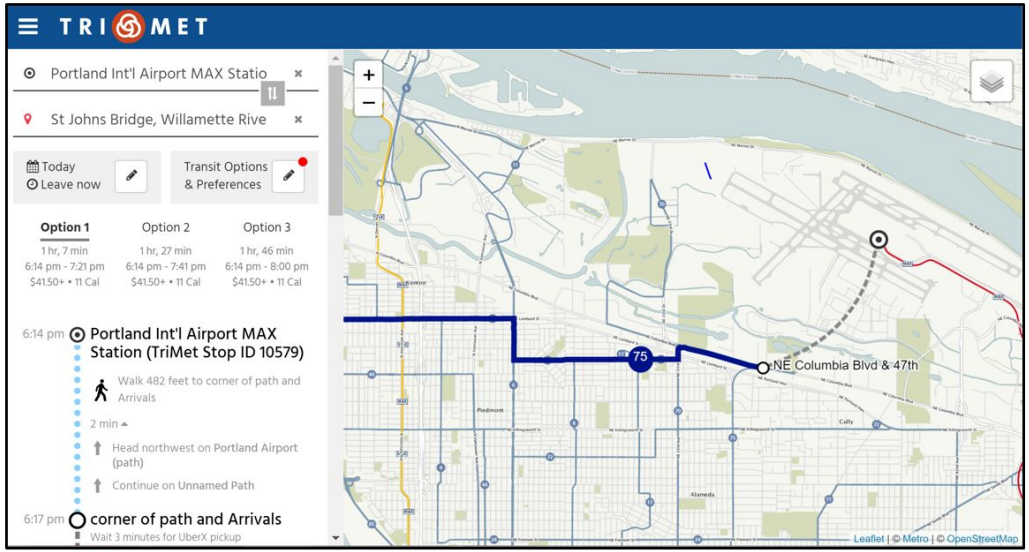


Use Cases Trends in Multimodal Use

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***



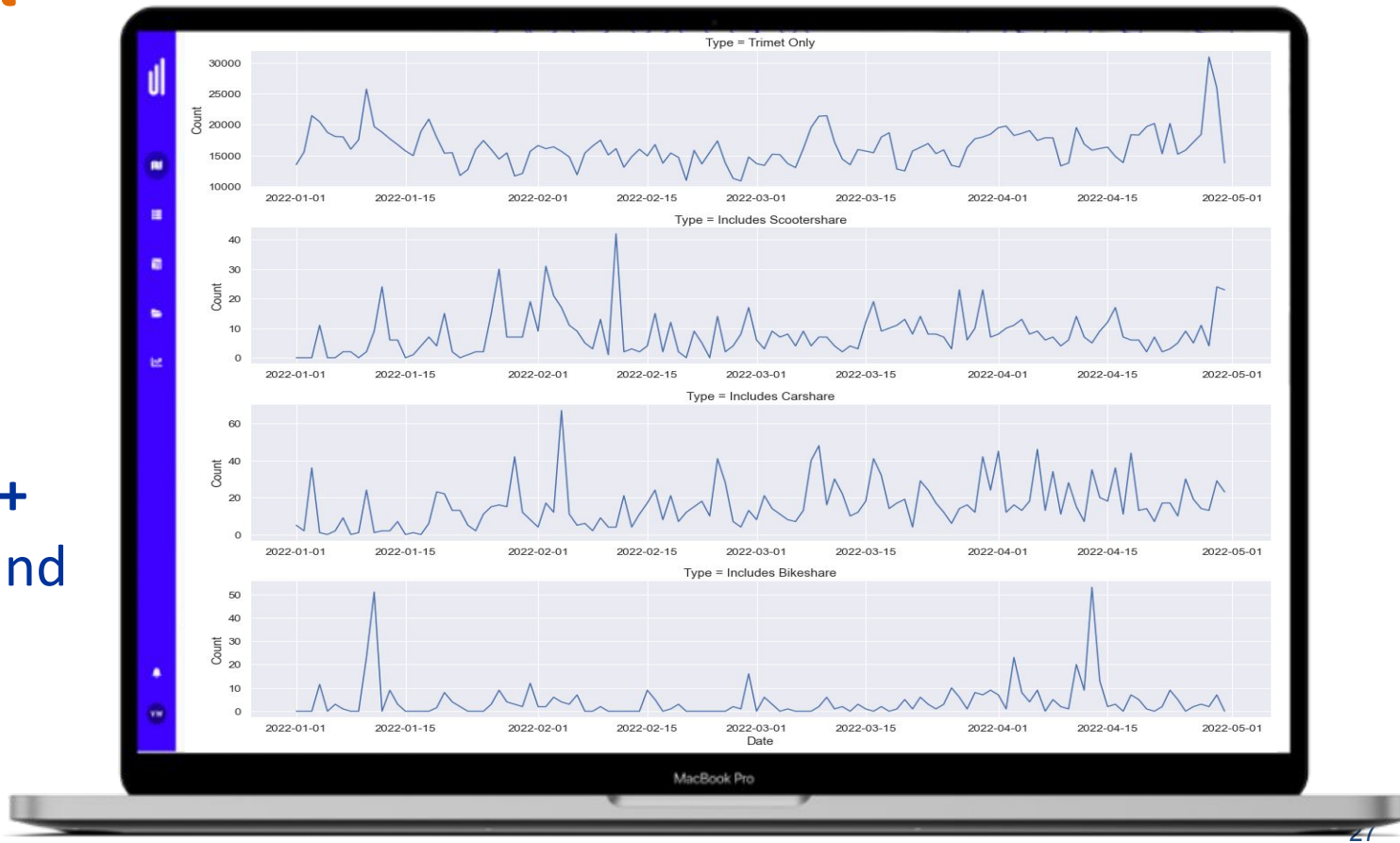
Integration with Transit

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



OTP Request Counts - Transit Only

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