

MOD Sandbox OpenTripPlanner Key Findings & Lessons Learned

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Project Overview

Key Findings

Success Factors

Lessons Learned

Moving Forward

Project Overview

Strategy

Leverage open source software, open data, and open standards to facilitate widespread adoption.



OpenTripPlanner

Multimodal Trip Planning



Pelias

A modular, open-source search engine for our world.

Pelias is a geocoder powered completely by open data, available freely to everyone.



OpenStreetMap



GTFS

Project Overview

OpenTripPlanner

Extend OTP code base as a foundation to support the integration of transit trip planning with **ALL** shared-use-mobility modes and real-time information.



Project Overview

Pelias Geocoder

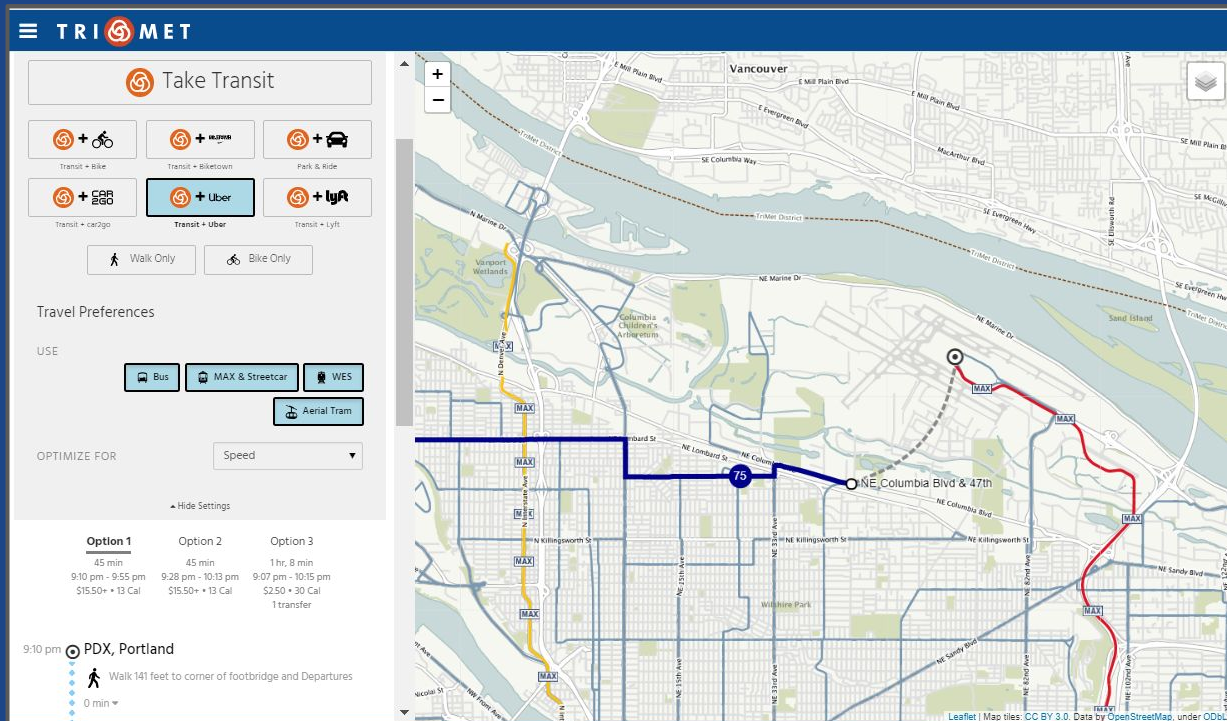
Implement a framework for government agencies to auto-feed their authoritative address data into a publicly accessible geocoding service.



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Key Findings



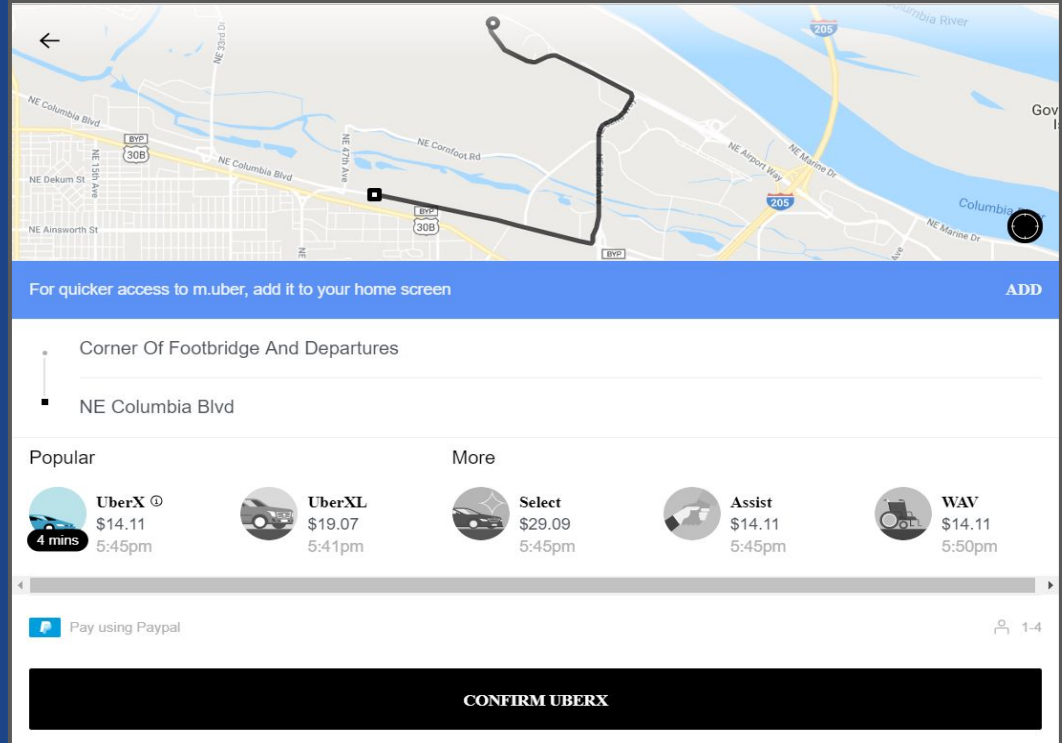
Transit + Uber Trip

Faster than Transit Alone, Cheaper than Uber Alone

Key Findings



Book Ride



Deep Linking

Book Ride feature opens Uber app to confirm, book and pay

Key Findings



- Education
- Incentivise travelers and demonstrate value of multimodal trips
- Focus on what our customers will need in the future for seamless mobility and a cleaner environment

Multimodal Trips

Reluctance by some, offers complete independence for other travelers (esp. low income and seniors)

Key Findings



Replicability and Shared Resources

AC Transit

ATL (Atlanta, GA)

Florida DOT, District 5

LA Metro (Los Angeles, CA)

MBTA (Boston, MA)

METRO (Houston, TX)

MTA NYCT (New York, NY)

New York State DOT (NY)

RTD (Denver, RTD)

SEPTA (Philadelphia, PA)

Sound Transit (Seattle, WA)

TriMet (Portland, OR)

20th Street, USA

1401 Central Av, Alameda, USA 94501

Today

Leave now

Transit Options & Preferences

Option 1

28 min

8:44pm - 9:13pm

\$4.50 • 45 Cal

1 transfer

Option 2

37 min

8:47pm - 9:25pm

\$4.50 • 100 Cal

1 transfer

Option 3

40 min

8:58pm - 9:39pm

\$4.50 • 69 Cal

1 transfer

Option 4

49 min

8:40pm - 9:29pm

\$4.85 • 158 Cal

1 transfer

Option 5

35 min

9:14pm - 9:49pm

\$4.50 • 45 Cal

1 transfer

Option 6

49 min

9:04pm - 9:54pm

\$4.50 • 84 Cal

1 transfer

Today 20:44—21:13

28 min

NL

51A

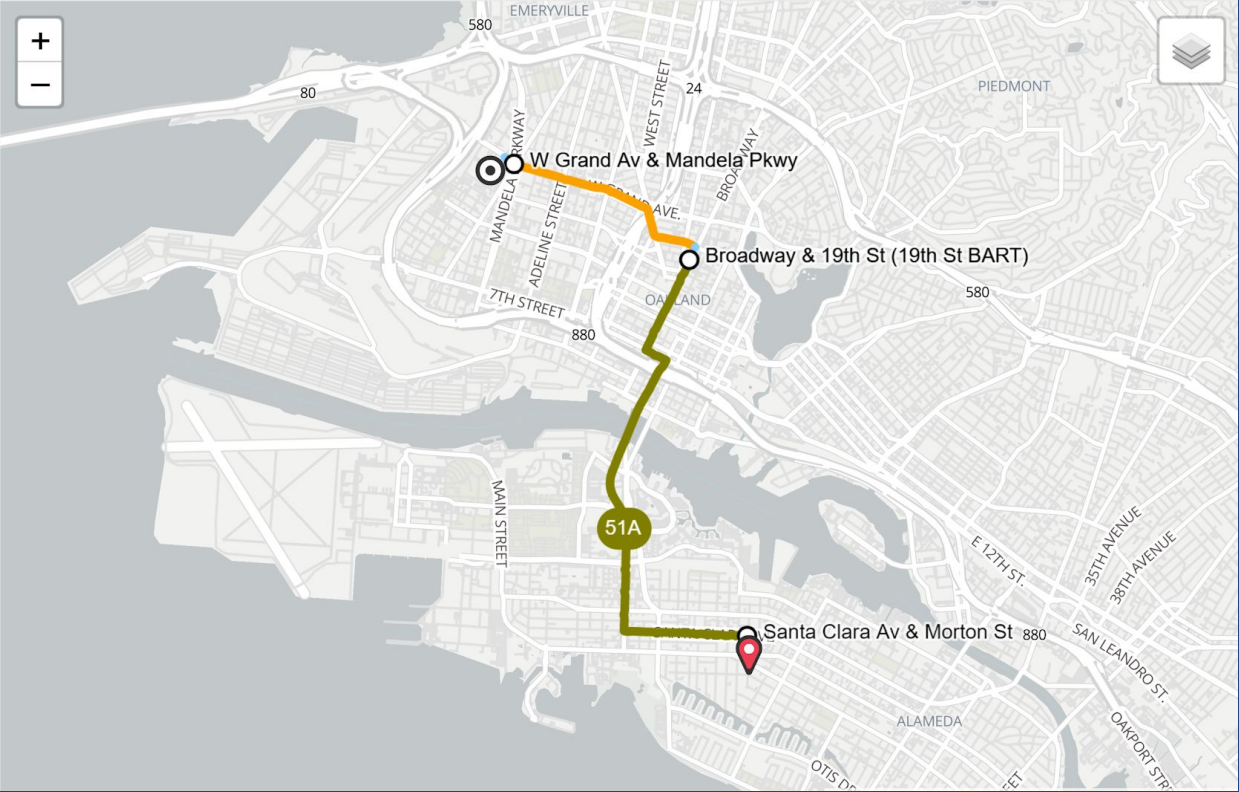
WALK 4 min (0.2 miles)

NL

MacArthur Transbay Limited

+

-



AC Transit's in-house implementation of the
MOD Multimodal Trip Planner White Label App

Key Findings



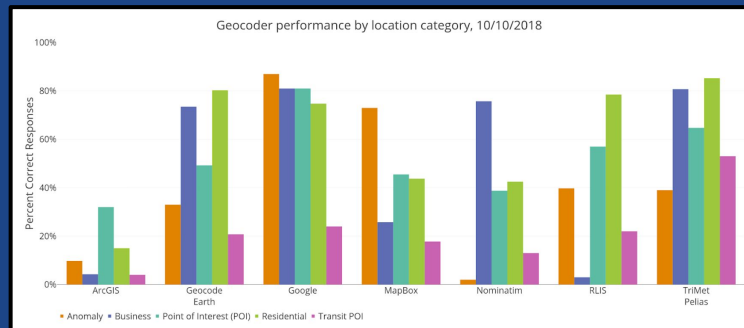
A modular, open-source search engine for our world.

Pelias is a geocoder powered completely by open data, available freely to everyone.

- No license fees or restrictions
- Complete control over the address locations
- Includes transit specific points to improve generated itineraries
- Ease of implementation for agencies
- Note ability to integrate other geocoders with OTP - Pelias is one option

Benchmark Tests against other Geocoders

Rivals the best and tailored to transit specific trip planning



Success Factors

Collaboration and Communication

- Kick-off Workshop and mid-project workshop
- Weekly Slack check-in meetings and video conferencing when necessary
- Strong team development and skill placement
- Online collaboration tools
- Transparency and clear concise information (trimet.org/mod)

Lessons Learned

- For MaaS implementations, start with access to public APIs and amend Data Terms of Use Agreements, rather than negotiating formal, legal policies
- Flexibility and agility is paramount to overcome setbacks and unknowns
- Benefits of Open Source Software
- Need for “mobility” KPIs and measurements beyond ridership
- **Start small** (ex: accessing existing third party APIs; deep linking for payment integration)

OTP Platform vs. Third Party MaaS Solutions

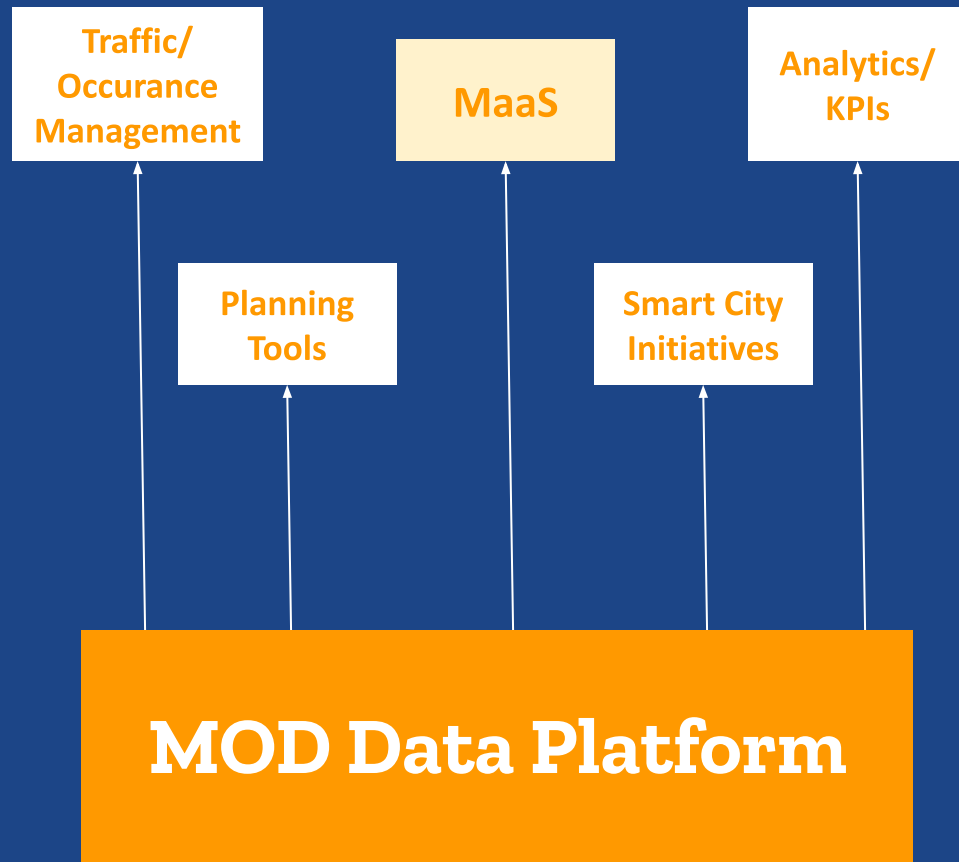
More options & tools
for customers? Great!

Agency reliance on a
third party MaaS
solution? Risky!

- Increasing annual maintenance and data fees
- Largely venture capitalist funded (less risk with open code)
- Closed solutions, lock-in (not optimal in a quickly evolving software sector)
- Lack of control over data update cycles and data accuracy
- Competing private business priorities w/ public accessible & equitable solutions
- Not a comprehensive platform to meet all agency requirements

Lessons Learned

MaaS is NOT a foundation - it is one product of potentially many built on a MOD platform



Moving Forward

The Future of Mobility

- Continuing Innovations with IMI Projects
- Incentivising travelers - focus on what we NEED in the future for seamless mobility, not on immediate needs of our customers
- Strategic technology choices, open architecture, planning, design will allow for future enhancements & flexibility
- What does it look like under the hood of a transit agency in 5 years to support regional mobility?

Managing a comprehensive transportation ecosystem beyond just public transit

urban platform

Live Map

Live Video

Occurrences

Analytics

City Indicators

ONGOING ISSUES

ISSUES REPORTED BY CITIZENS



Fallen tree
4 hours ago
C/da. Carretera de Castellón, Barcelona, 08014

PARKINGS

CURRENT PARKING AREAS CLOSE TO FULL

Princesa

Parking Hotel FIRA CONGRESS BARCELONA (C/da. Princesa)

SABA JOAN GUILL

Mas

TRAFFIC

CURRENT TRAFFIC ON IMPORTANT ROADS

Carre de la Marina

Carre de Sardenya

AIR QUALITY

TODAY'S AIR QUALITY INDEX

AQI

CO

NO2

O3

PM10

NOISE

CURRENT NOISE LEVELS

Gran Via de les Corts

Avinguda Diagonal

Plaça del Doctor

Carre de la Ind

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

Data Revolution

- personalized traveler information (incentives)
- data and measurements beyond just ridership counts
- more accessible and standardized data (environmental, health...)
- historical, real-time, predicted with machine learning
- analytical tools

Next Generation MaaS

*personal travel
assistant*

Emerging Technologies

*open
architecture*

Business

*beyond the
bottom line*

Policy

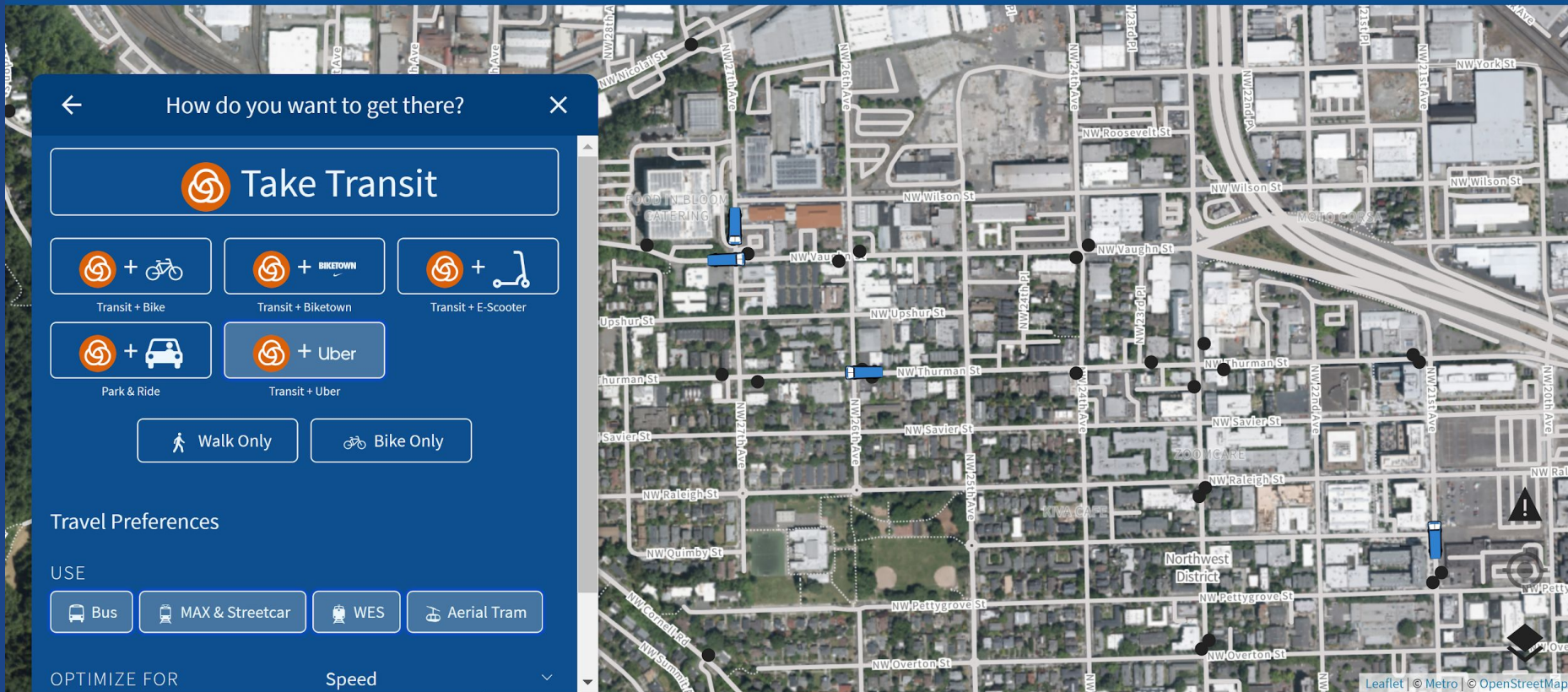
*cross
jurisdictions
& providers*

Operations

*how we
operate and
make
decisions*

*Cultural
change*

**NEXT GENERATION
MOBILITY**



New trimet.org coming soon featuring integrated
MOD Multimodal Trip Planner

“Innovation is driving our world forward, and we want public transportation providers to seize opportunities to embrace new ideas and solutions.”

Former Transportation Secretary Anthony Foxx

