



PROCESS AND APPLICATION OF ANALYZING SMARTPHONE GPS TRAJECTORIES FOR TRANSPORTATION PLANNING PURPOSES

Cooperate

Reduce Traffic

Plant a Tree

Arrive on Time

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Director of R&D
Metropia, Inc.

Presented to:
15th TRB Transportation Planning Applications
Conference
May 19, 2015

What is Metropia?



- ❑ Traditional ways of building infrastructure to increase network supply is not sustainable
- ❑ Manage the travel demand is the key

Metropia is an incentive-based intelligent metro **mobility** management system that enables commuters, businesses, employers and governmental agencies to work together for improved mobility and a better quality of life.

Austin Launch (May 6, 2015)



www.utahbusiness.com/news/view/metropia_rolls_out_app_to_cut_commutes_in_texas

Utah Business
THE MAGAZINE FOR DECISION MAKERS

www.techrockies.com/metropia-rolls-out-app-to-cut-commutes-in-texas/s-0060120.html

Southern California | Silicon Valley | Rocky Mountains | Pacific Northwest | Texas

techrockies
High Tech News and Information For the Rocky Mountain Region

www.texastechpulse.com/startup_aims_app_at_austin_traffic_woes/s-0060114.html

austin.culturemap.com/news/innovation/05-07-15-austin-metropia-app-help-traffic-commute-mobility-authority/

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TRAFFIC TECHNOLOGY

This new app hopes to solve Austin's terrible traffic problem

BY NICOLE RANEY 5.7.15 | 2:55 pm

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ENLARGE IMAGE

The Metropia smartphone app launched in Austin on Wednesday. Courtesy photo

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2015 CULTUREMAP

Tucson Launch (March 18, 2015)

https://news.azpm.org/p/arizona-news/2015/3/20/59519-new-app-aims-to-speed-your-tucson-commute/

ARIZONA PUBLIC MEDIA



HOME

Arizona Business

www.kvoa.com/story/28643889/tucson-startup-releases-app-that-will-help-traffic-congestion



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www.scrippsmedia.com/kgun9/news/Metropia-a-locally-created-app-to-solve



www.tucsonnewsnow.com/story/28655529/app-could-be-answer-to-traffic-in

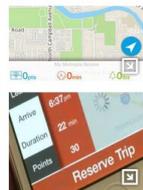
Contests | Health | My Tucson Home | \$13



NEWS WEATHER

App could be answer to traffic in Tucson

Posted: Mar 30, 2015 7:12 PM
Updated: Apr 13, 2015 7:19 PM
By Craig Reck CONNECT



Metropia is an app that helps drivers on the time of your trip. Maybe your originally intended. Completed trips be spent on gift cards to places like by Threads.

"I think it's a great fit and I think Tucson is excited to be a part of," said Fed by

Appadurai's business provides 12 months of people in need for every month in downtown. He said Metropia's ability to track Carbon Dioxide emissions and Tucson syncs up with his own company's effort to provide sustainable solutions in Southern Arizona.

The app also has the attention of local government agencies. Pima Association of Governments is the lead agency for the app. Pima Association of Governments is the lead agency for the app.

www.wildcat.arizona.edu/article/2015/04/new-app-to-aid-traffic-flow

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ua-news.org/story/ua-born-traffic-app-launches-in-tucson



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COMMENCEMENT

UA-Born Traffic App Launches in Tucson

By Paul Tumaikin, Tech Launch Arizona | March 19, 2015



The UA and Tucson provided "pivotal support," says Yi-Chang Chiu, creator of the Metropia app. (Photo: Scott Meek, LIC)

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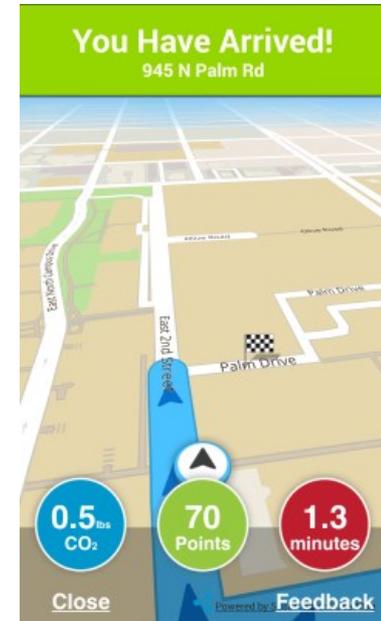
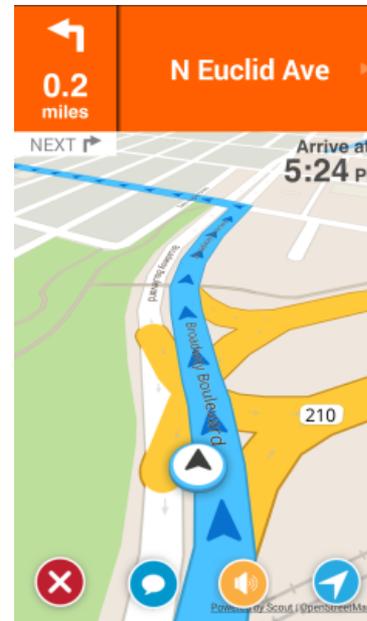
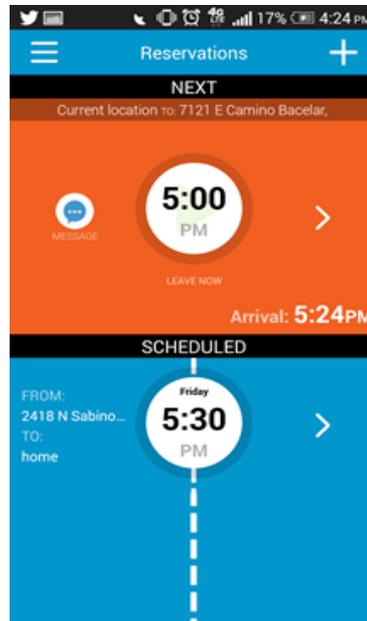
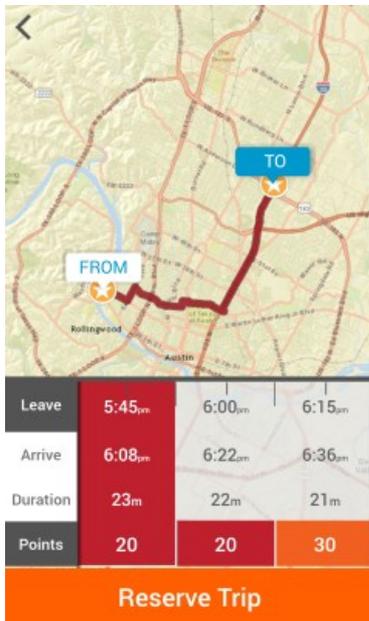


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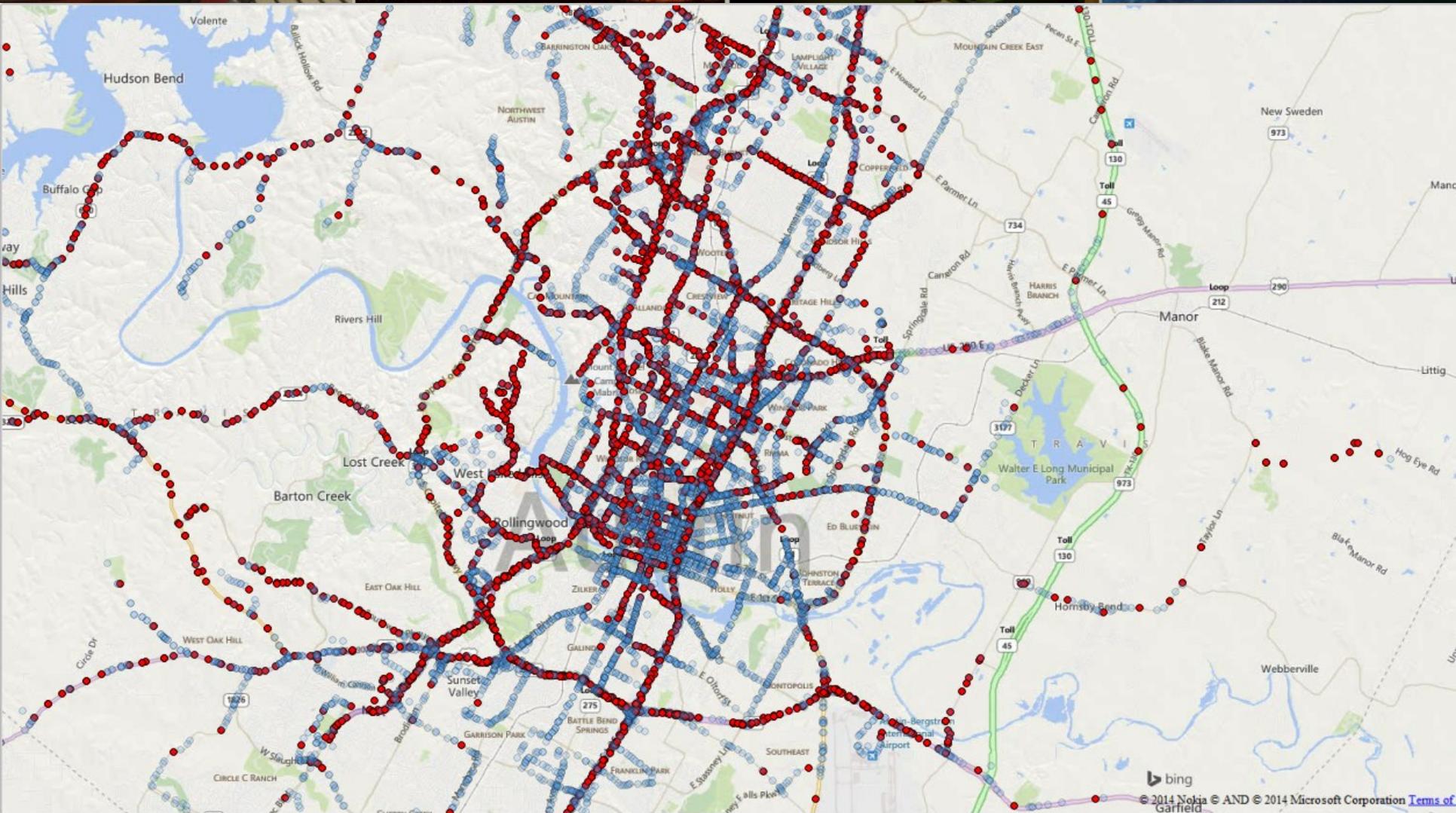
Predictive Optimal Routing and Load Balancing

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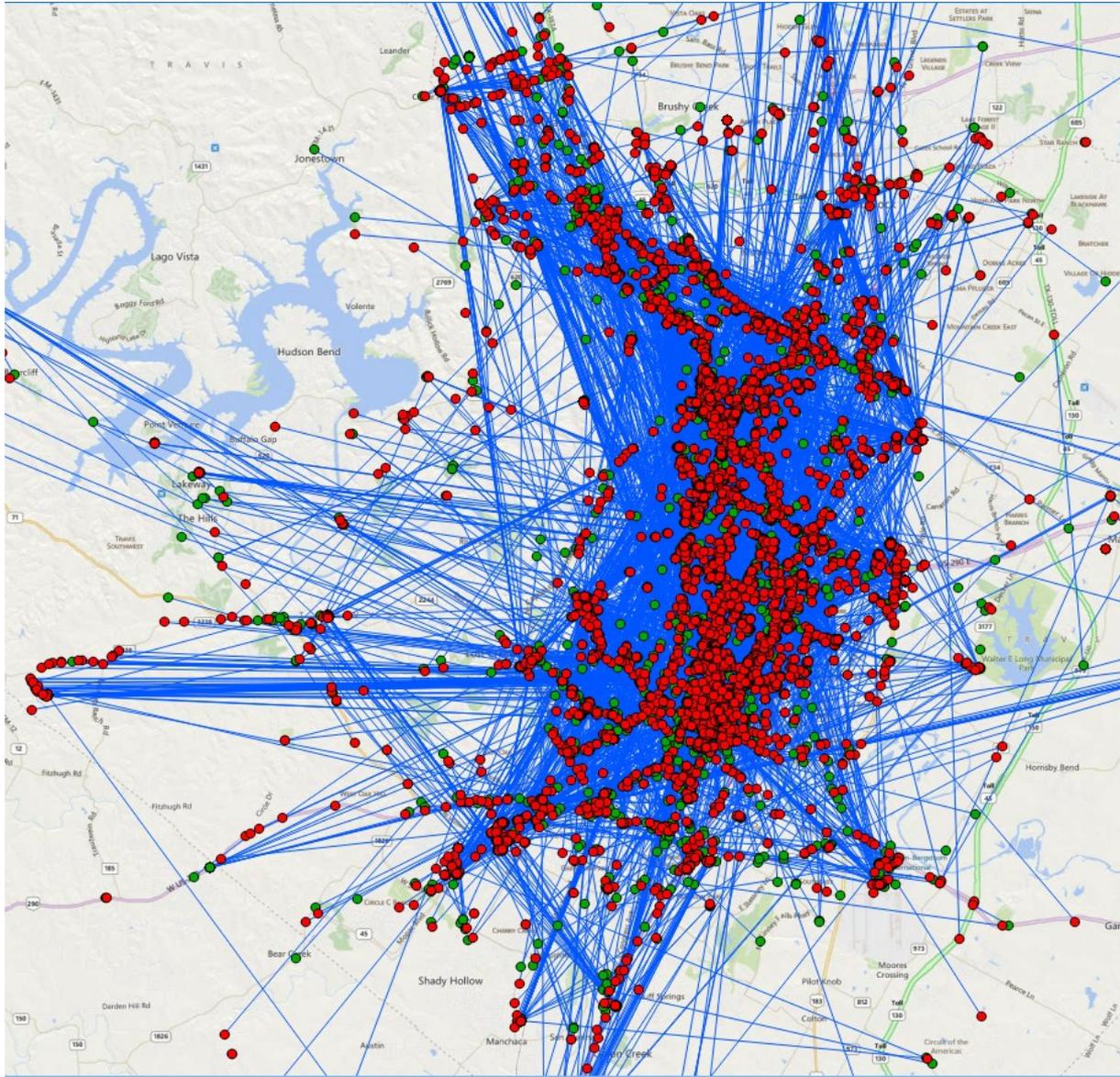
Austin Data Coverage over traffic network



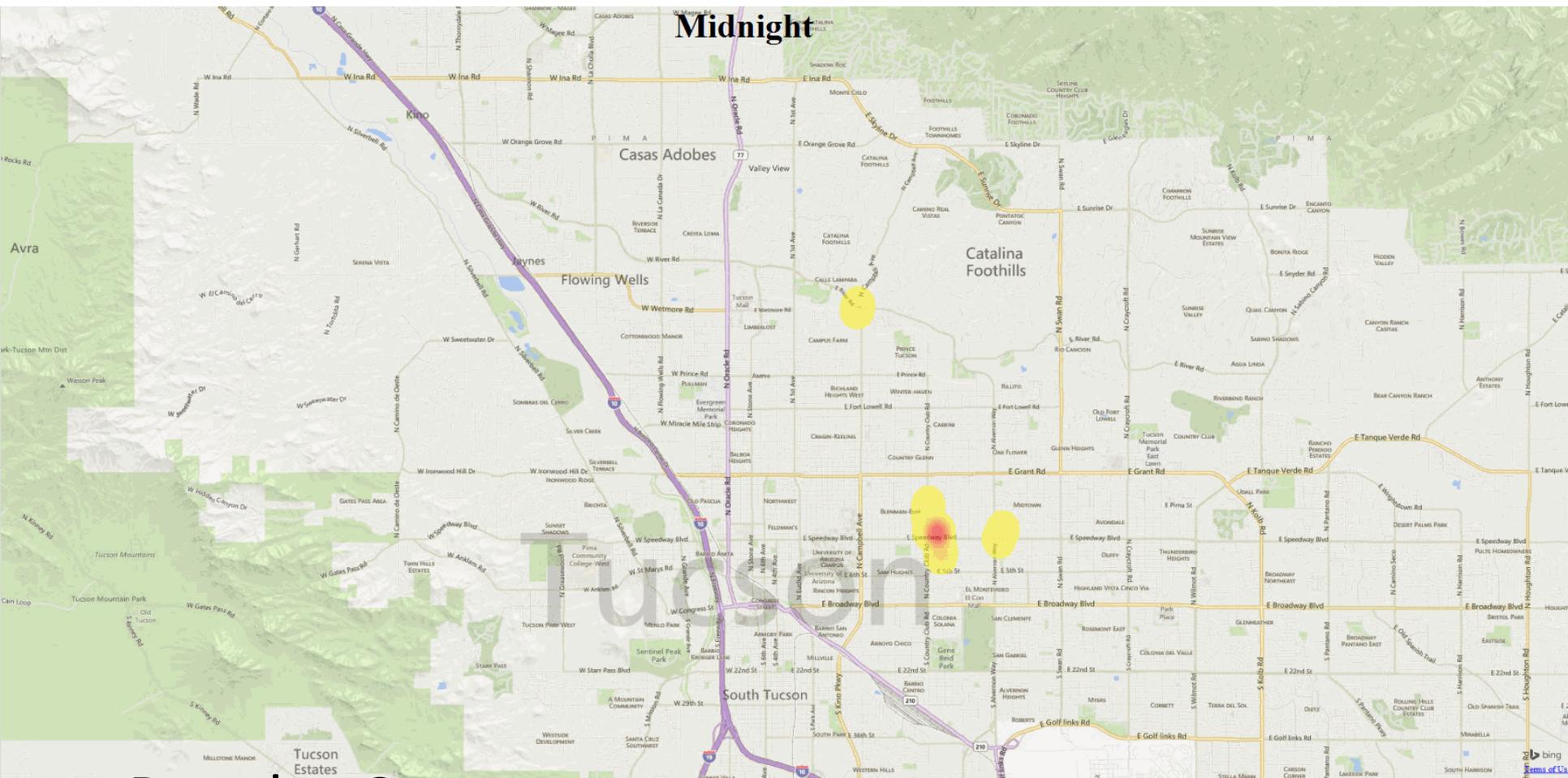
Confidential, Internal Discussions Only



Austin Trips Collected



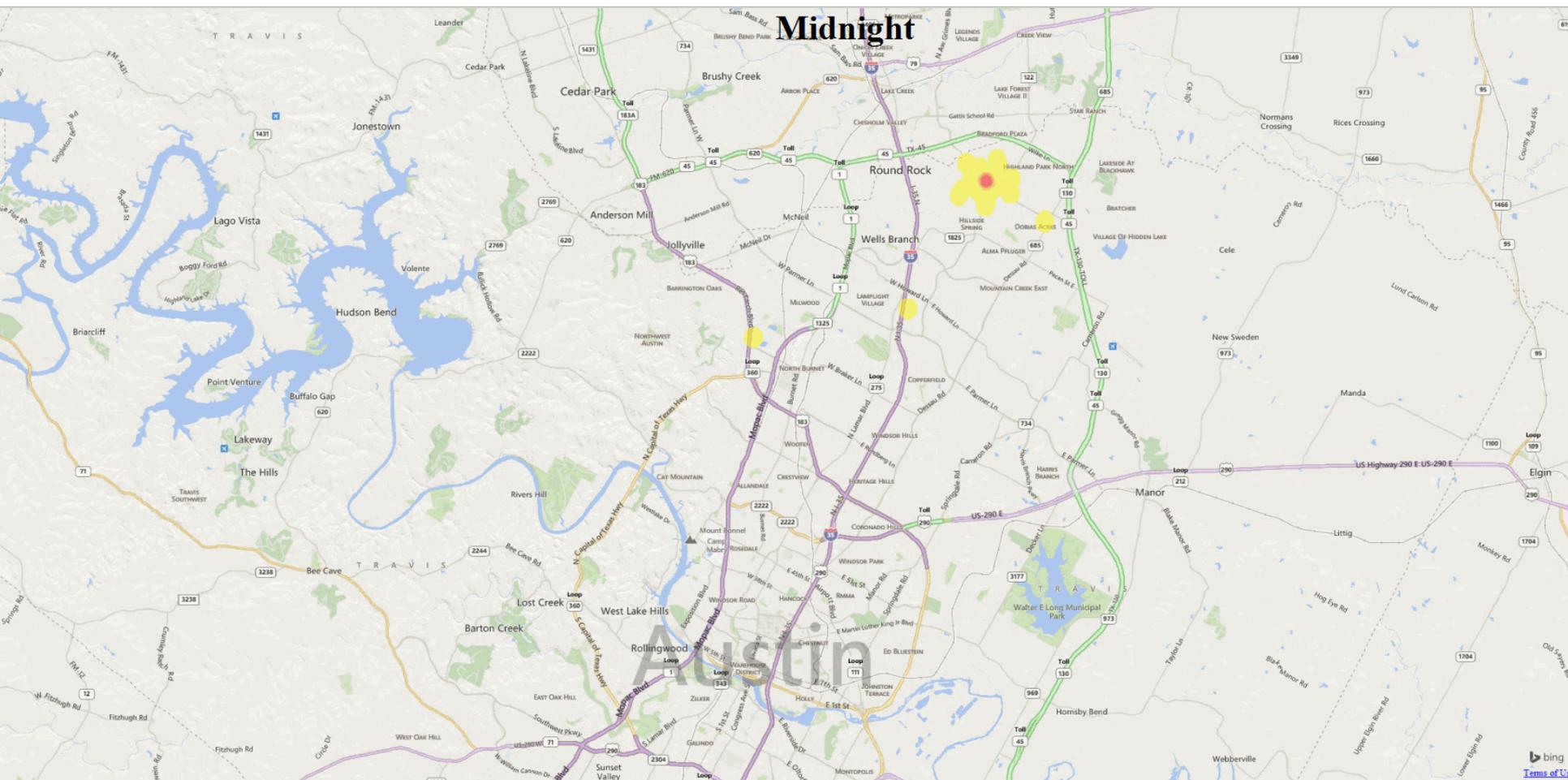
Application 1 - Time-Dependent Location Pattern Analysis



Regular Commuters

Home/Office address
Generation/Attraction

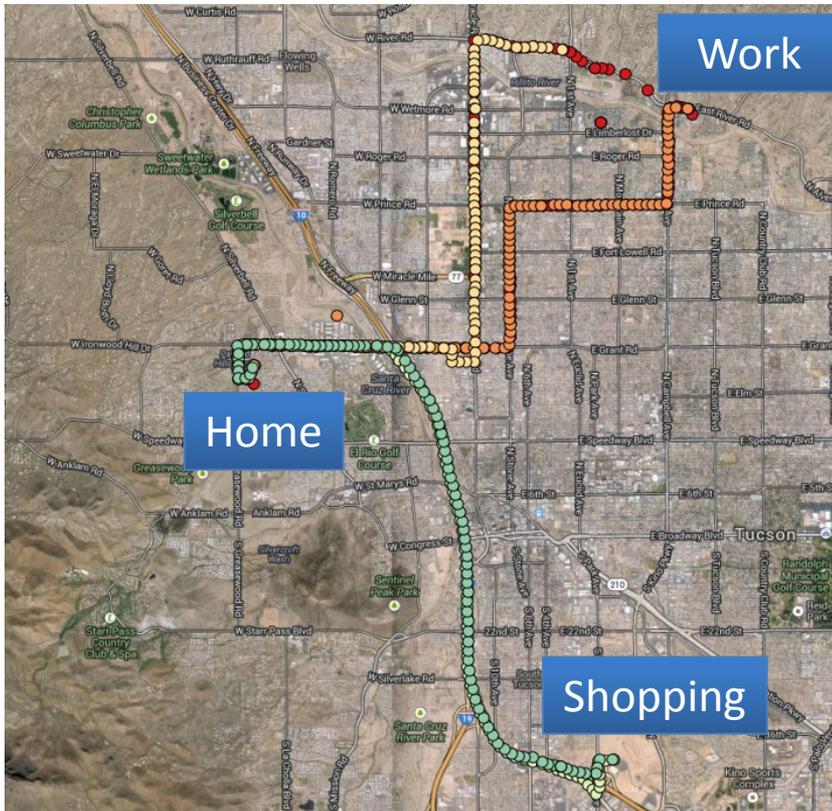
Application 1 - Time-Dependent Location Pattern Analysis



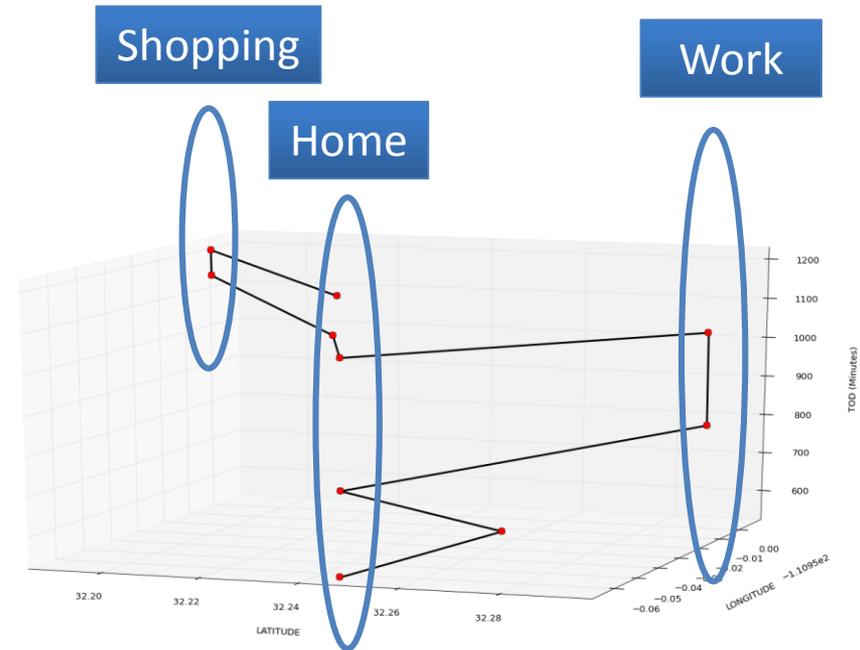
Non-Commuters

Application 2 – Time-Dependent Activity Pattern Analysis

- Activity History



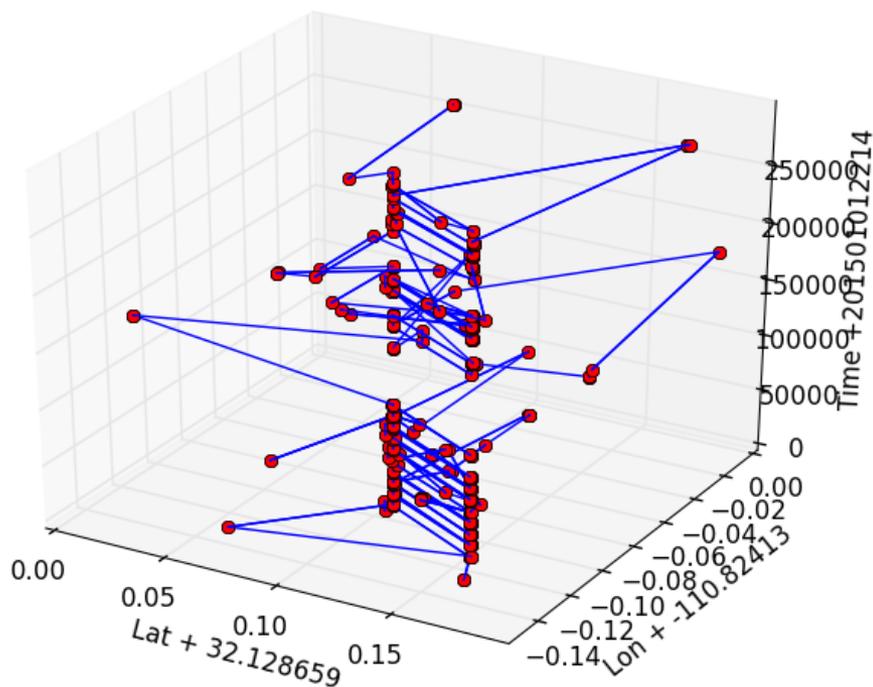
- Activity Pattern



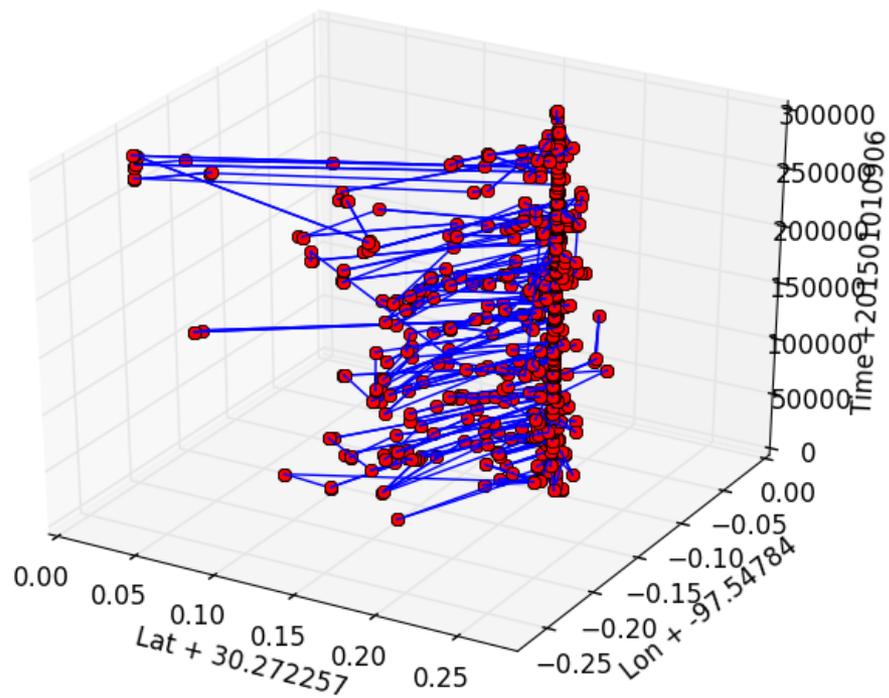
Activity Pattern
Trip time of day

Aggregated Activity Pattern Analysis

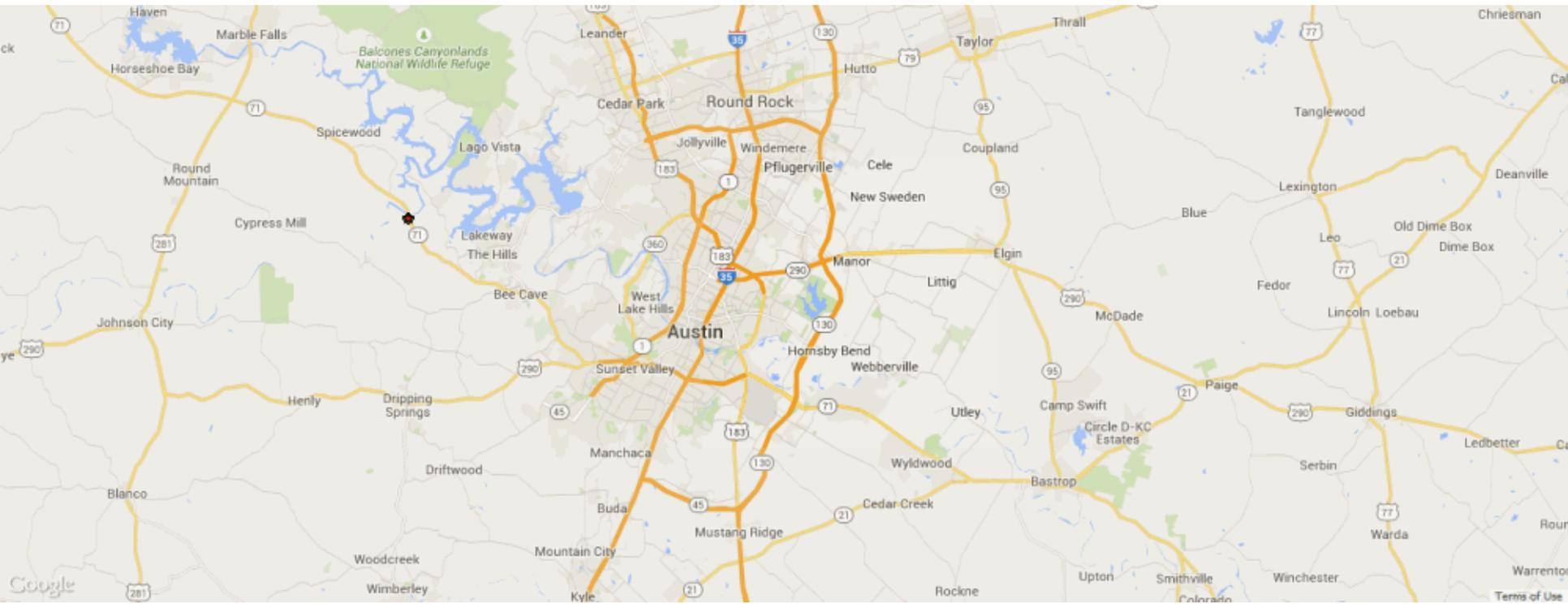
- Regular Commuter



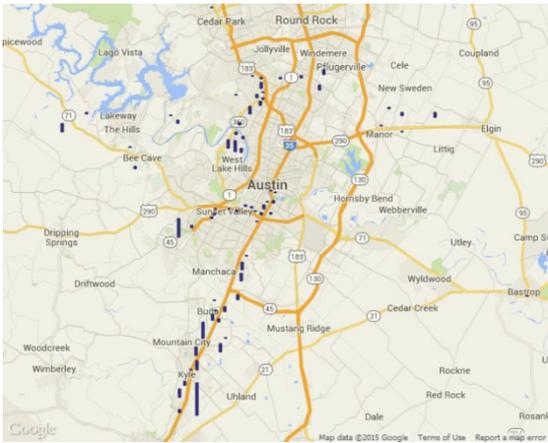
- Non-Commuter



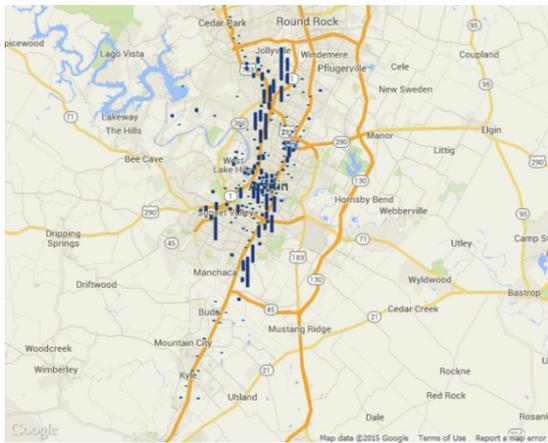
Application 3 – Time-Dependent Demand Pattern Analysis



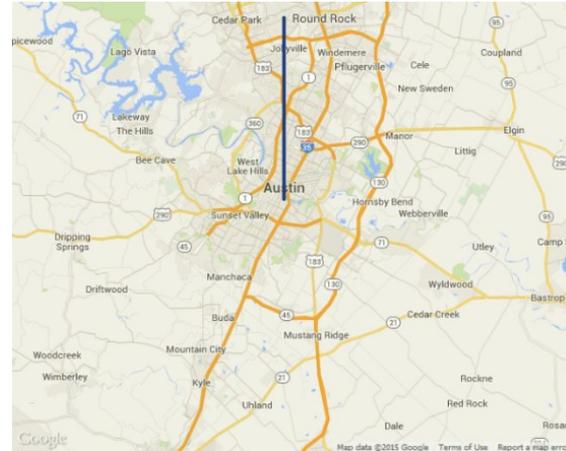
Application 3 – Time-Dependent Demand Pattern Analysis



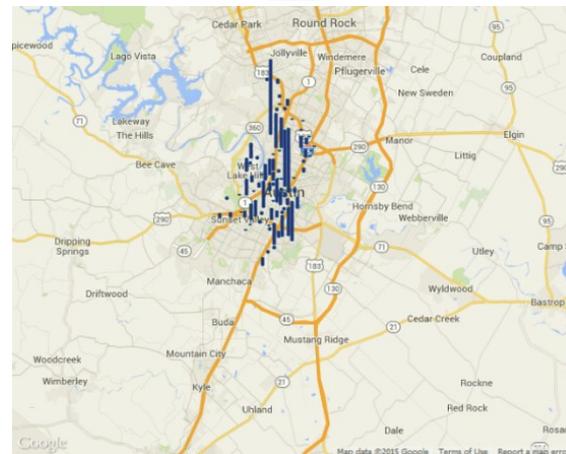
7:30am



8:00am



9:00am



8:30am

**Demand
Source & Distribution**

Mobility Ecosystem - Working together





Rewards Get Points
to help your **City**

Trees for All



Metropia plants a tree for your city

**Thank You
Q&A**