



# Data Science for Smart Cities

CE88

**Prof: Alexei Pozdnukhov**

**GSI: Madeleine Sheehan**

**115 McLaughlin Hall**

**[alexeip@berkeley.edu](mailto:alexeip@berkeley.edu)**

**[m.sheehan@berkeley.edu](mailto:m.sheehan@berkeley.edu)**

**CE88 in title**

## Introduction and motivation: cities as complex systems.

Lecture 1. Introduction to urban systems. Inter-dependent infrastructures with human in the loop.

Lecture 2. Modeling principles. Causality and experiments in demand- and supply-side data analysis.

## Agenda:

9:10 Lecture 3. Spatio-temporal nature of urban data.

9:50: Mini-lab setup

10:00 Break

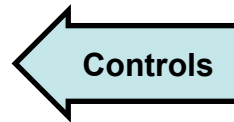
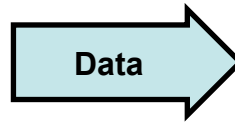
10:10 Mini-lab

10:40 **Lecture 4. Data flows in cities. Decision making feedback loops.**

# Data flows and decision making: traffic control.

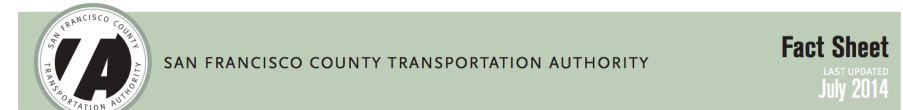
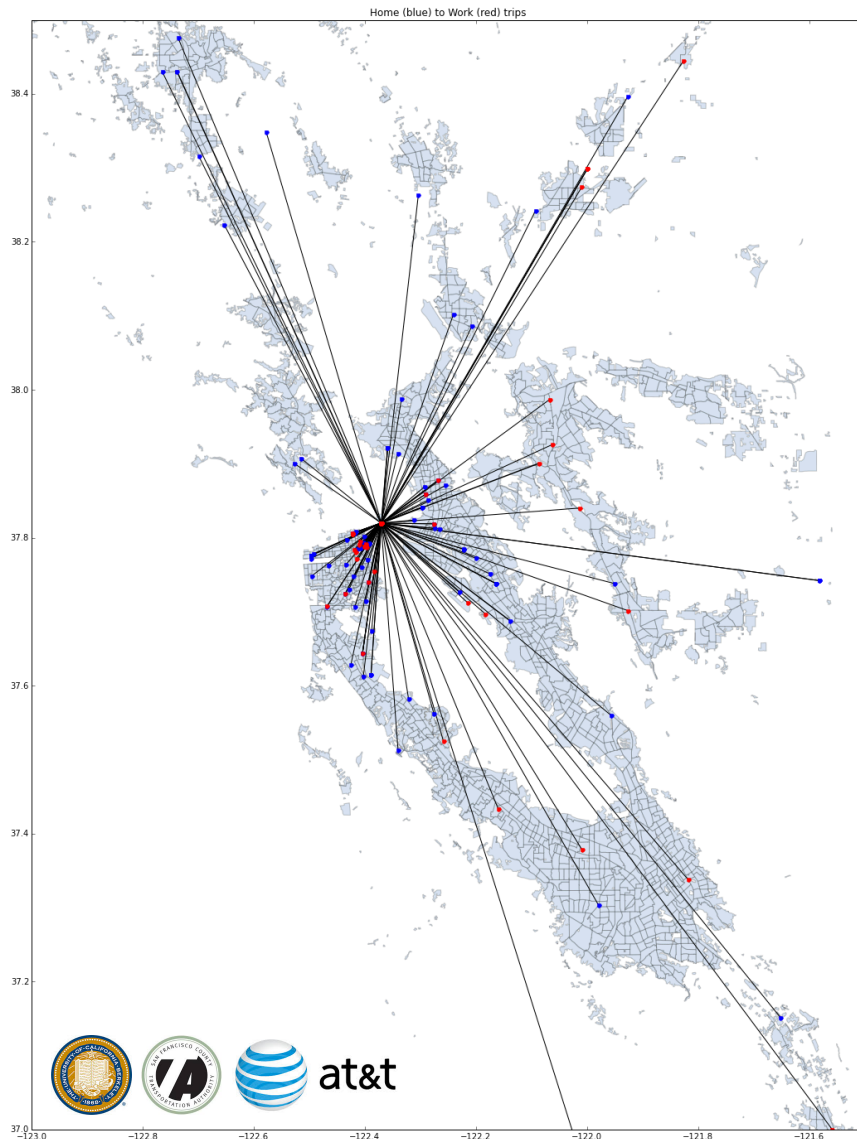


Traffic counts  
Video streams



Traffic lights timing  
Message signs, announcements

# Data flows for decision making: urban planning.



SAN FRANCISCO COUNTY TRANSPORTATION AUTHORITY

Fact Sheet

LAST UPDATED  
July 2014

CONGESTION PRICING TO ENABLE NEW NEIGHBORHOOD DEVELOPMENT

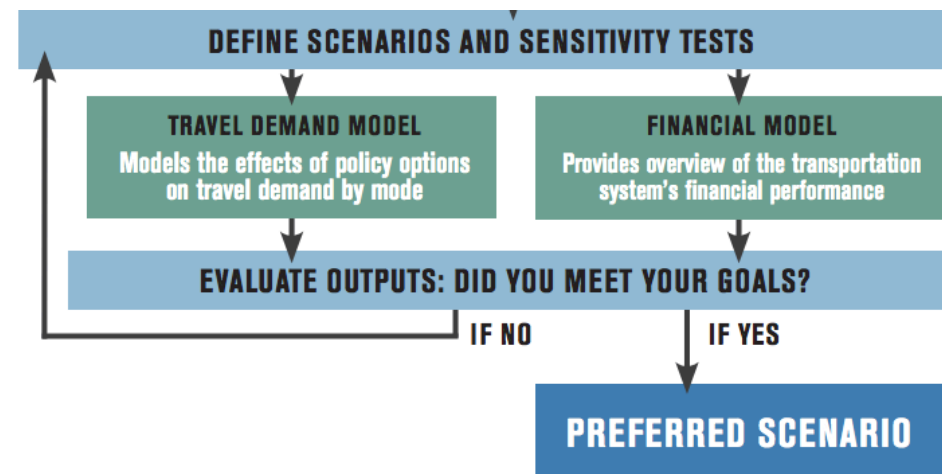
## Treasure Island Mobility Management



### Current Activities: Pricing Program Policy Analysis

The Treasure Island Mobility Management Study, currently underway, will analyze and recommend pricing program policies, and establish financial viability.

- **Who Should Pay Toll:** Residents only, or all drivers?
- **Toll Pricing Structure and Hours of Operation:** All day, weekday peak only, weekends?
- **Directionality of Tolling:** Toll both on and off the Island, or one direction?



# Data flows and data ownership

## Urban data ecosystem

