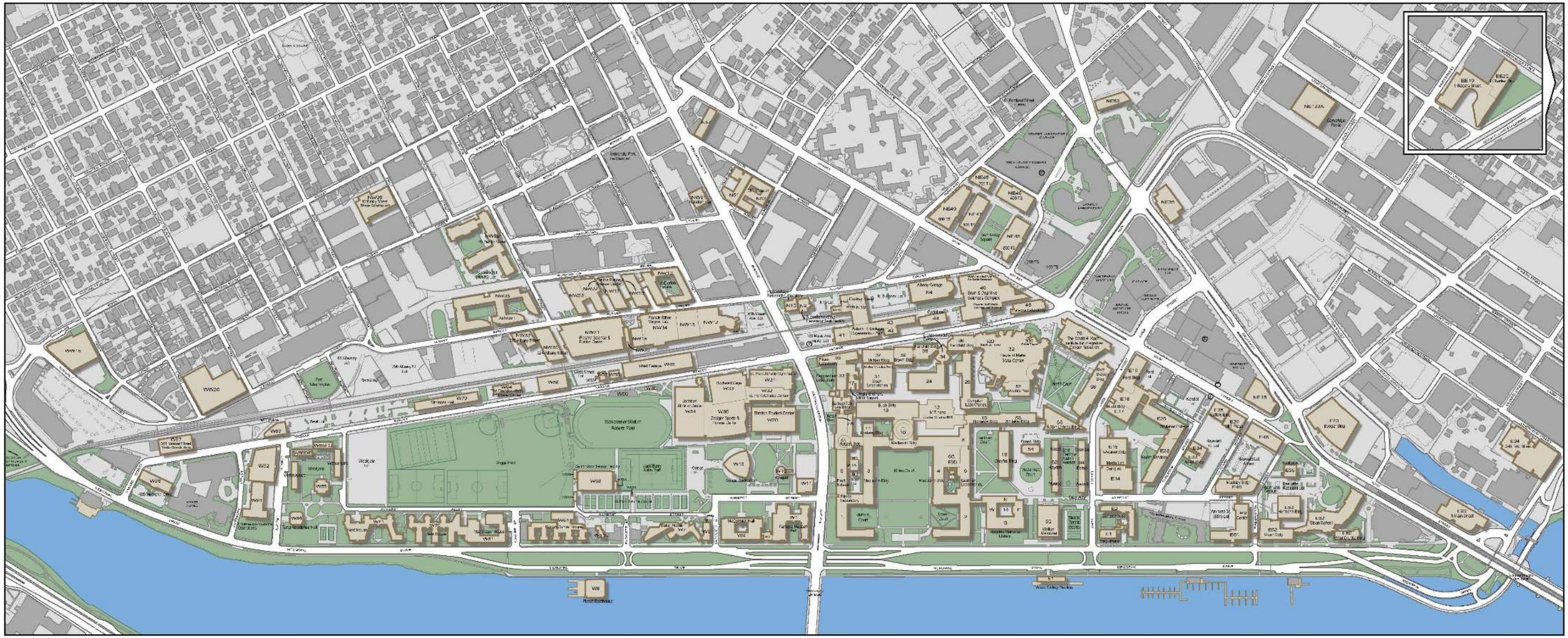
How Technology is Providing New Eyes to the Campus Community

Todd Robinson, RLA, ASLA

Campus Planner @ MIT



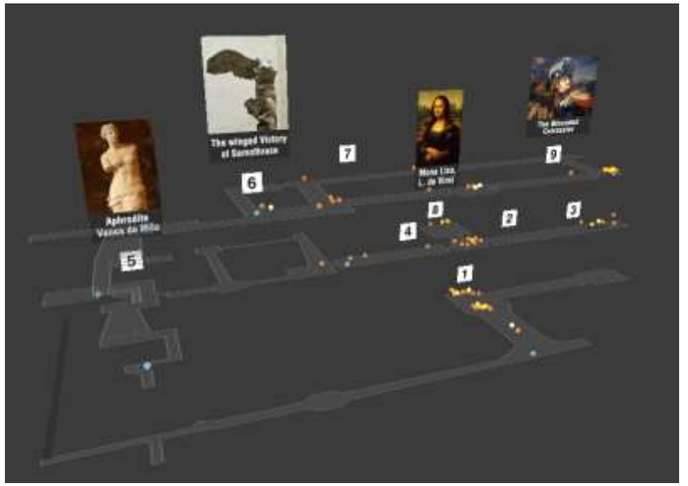
New Ways of Visualizing MIT

MIT from Above

MIT Senseable Cities Lab

Information Collected from:
http://senseable.mit.edu/louvre/

- 2013 Louvre Study
  - Museum Hypercongestion
    - Members of MIT's Senseable Cities Lab, along with colleagues from other institutions, studied ways to mitigate museum "hypercongestion" at the Louvre.

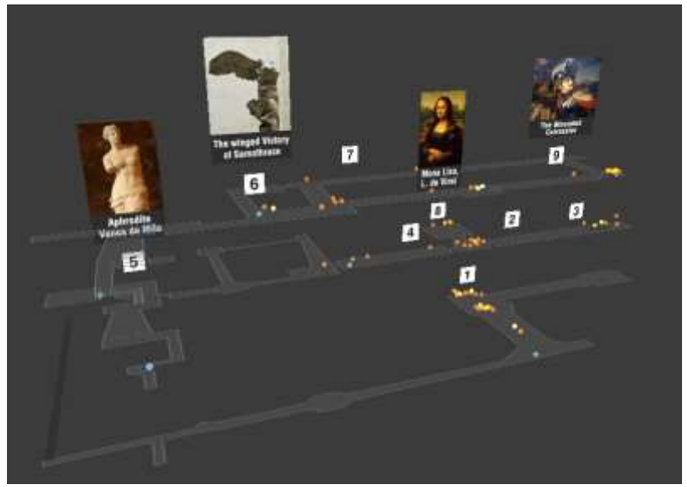


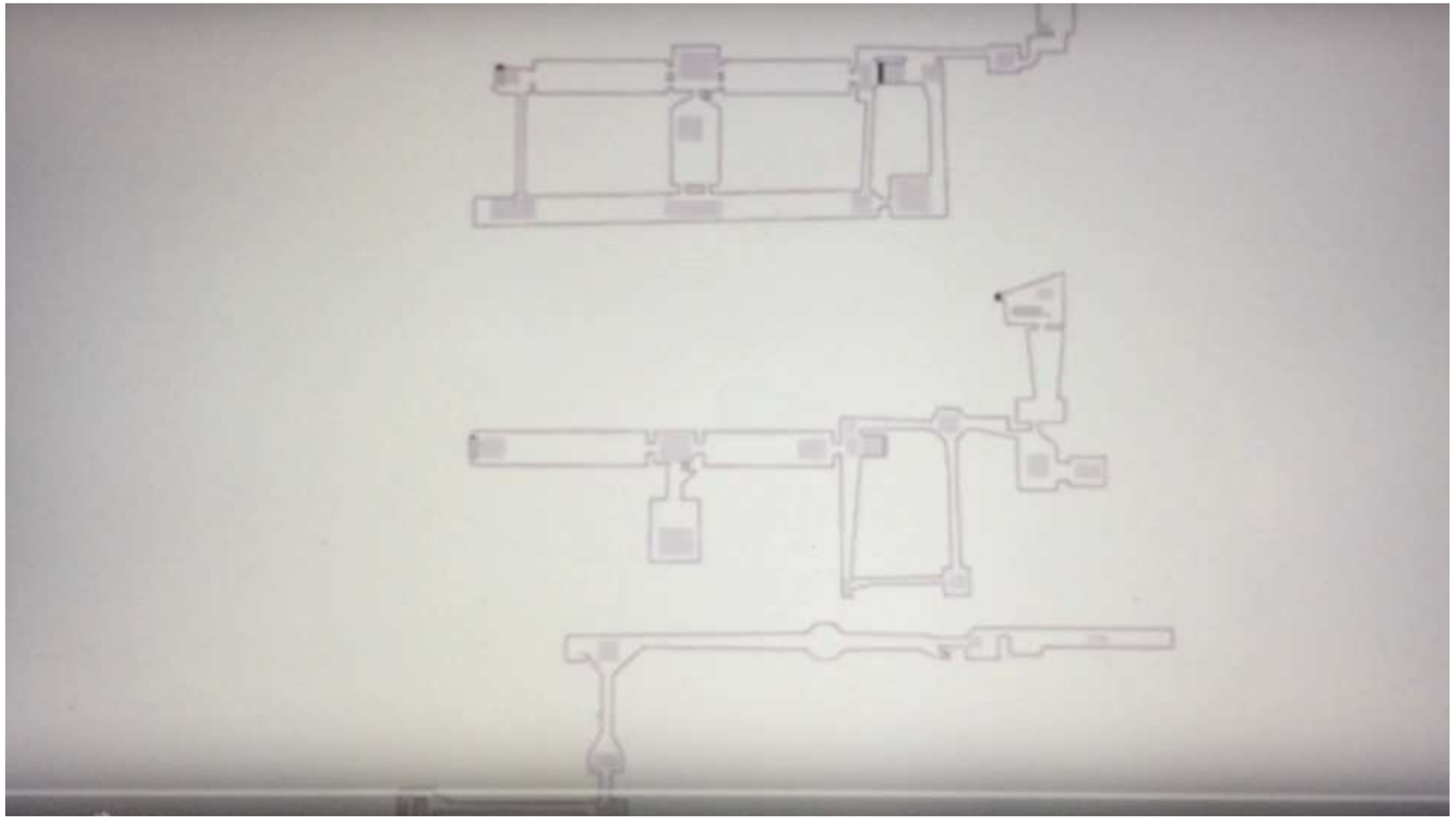
MIT from Above

MIT Senseable Cities Lab

Information Collected from:
http://senseable.mit.edu/louvre/

- 2013 Louvre Study
  - Museum Hypercongestion
    - Using Bluetooth sensors they tracked and analyzed visitor movement through the museum.





MIT from Above

MIT Senseable Cities Lab

Information Collected from:
MIT Senseable Cities Lab

- Sensing Lights: Traffic / Pedestrian Study
  Partner Project: Phillips | MIT

  Mass Ave and Vassar Street

  Carlo Ratti, Director
  Erin Baumgartner, Assistant Director

  Core Team
  Alaa AlRadwan
  Ricardo Alvarez
  Rex Britter
  Fábio Duarte
  Marguerite Nyhan
  Michelle Sit

  Supporting Team
  Amin Anjomshoaa
  Carlos Gershenson
  Ruixian Ma
  Wenzhe Peng
  Wonyoung So
  Jonathan Sun
  Anthony Vanky
  Fan Zhang

MIT from Above

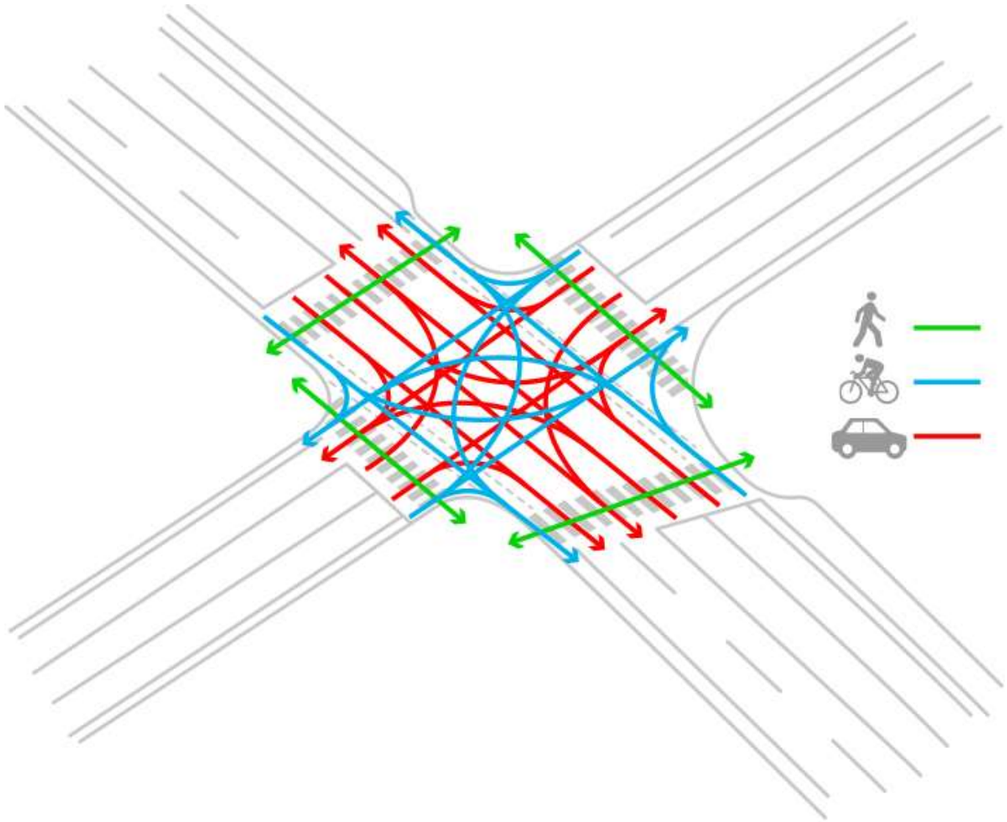
MIT Senseable Cities Lab

Information Collected from:
MIT Senseable Cities Lab

2015 Traffic / Pedestrian Study

– Mass Ave and Vassar Street

- Multiple possible flows for Pedestrians, Bicyclists & Automobiles



MIT from Above

MIT Senseable Cities Lab

Information Collected from:
MIT Senseable Cities Lab

2015 Traffic / Pedestrian Study

- Mass Ave and Vassar Street

  - Multiple possible flows for Pedestrians, Bicyclists & Automobiles

  - Pedestrian Activity
    - Initially tracked through Breeze activity tracking application
      - » June 2014 – May 2015
      - » ~10,000 trips
      - » 1063 unique users
      - » Average 18 trips per user

MIT from Above

Senseable Cities

Information Collected from:
MIT Senseable Cities Lab

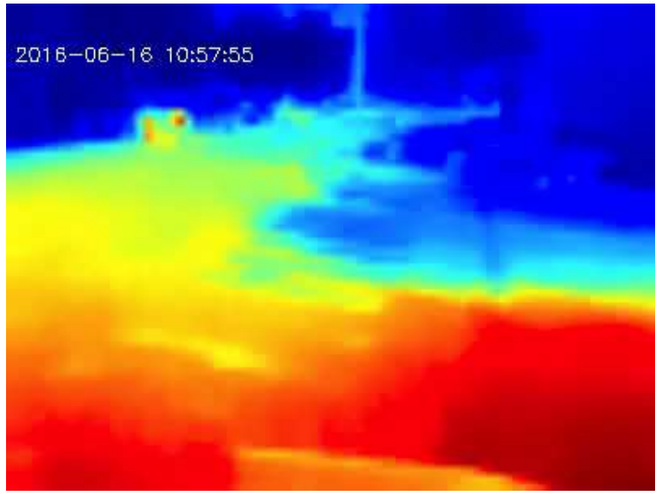
2015 Traffic / Pedestrian Study

- Mass Ave and Vassar Street

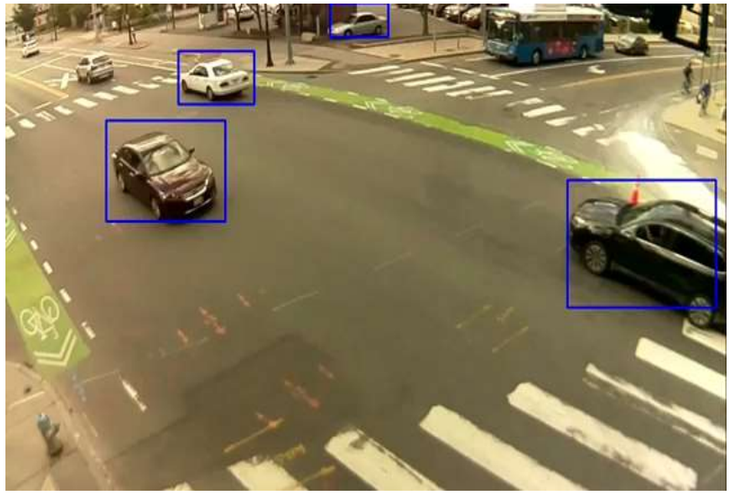
  - Multiple possible flows for Pedestrians, Bicyclists & Automobiles

  - Pedestrian / Bicycle / Vehicular Movement:
    - Thermal Sensors
      - » Allows for anonymous video tracking
    - Standard Cameras
      - » Tracks Vehicles and Bicycle Movement

Thermal sensor
Pedestrian Tracking



Camera
Vehicle Tracking



MIT from Above

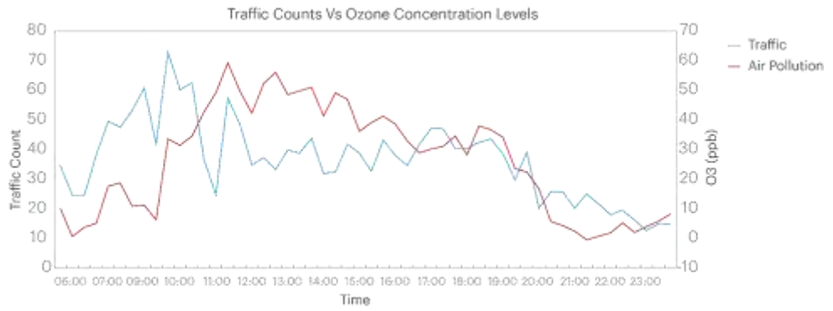
Senseable Cities

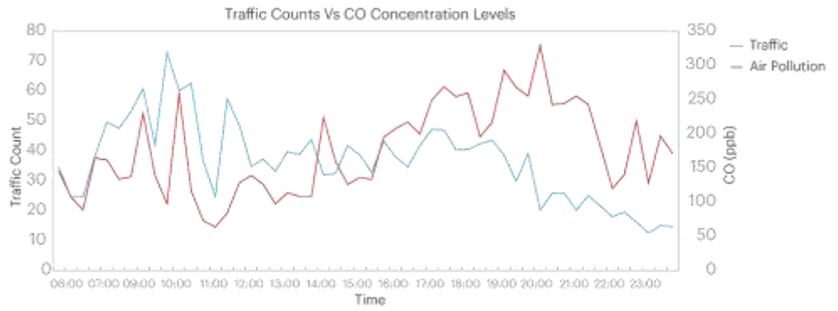
Information Collected from:
MIT Senseable Cities Lab

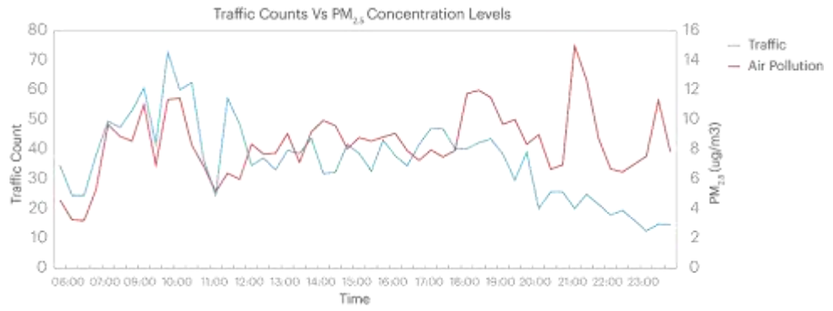
2015 Traffic / Pedestrian Study

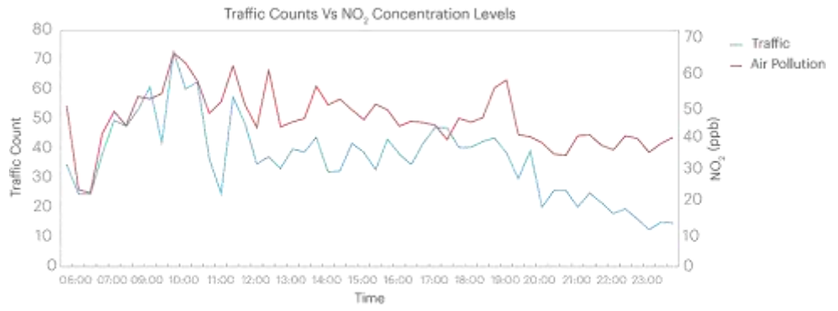
- Air Quality Nodes

- Detect Levels of
  - Carbon Monoxide
  - Ozone
  - Nitrogen Dioxide
  - And Particular Matter









MIT from Above

Senseable Cities

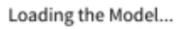
Information Collected from:
MIT Senseable Cities Lab

2015 Traffic / Pedestrian Study

- Data is analyzed and models are produced that simulate alternative traffic patters
  - Improved traffic movement,
  - Decreased wait time
  - Improved pedestrian air quality

8:00 am normal cycle

8:00 am optimized cycle



MIT at Ground Level

The Soofa Bench

Learn more at
www.soofa.co/

Solar-Powered Charging Station

- Charges Phone
- Provides Seating
- Collects User Data from 75-mtr radius
  - Anonymously recognizes unique MAC address (media access control)
  - Provides continuous usage info to analyze trends

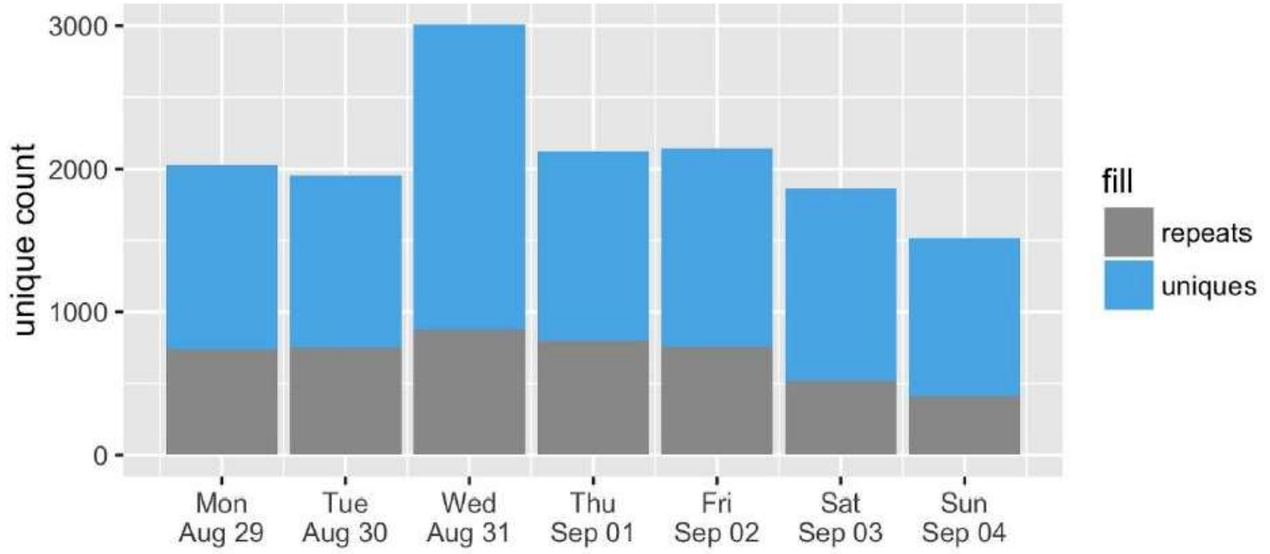
MIT at Ground Level

The Soofa Bench

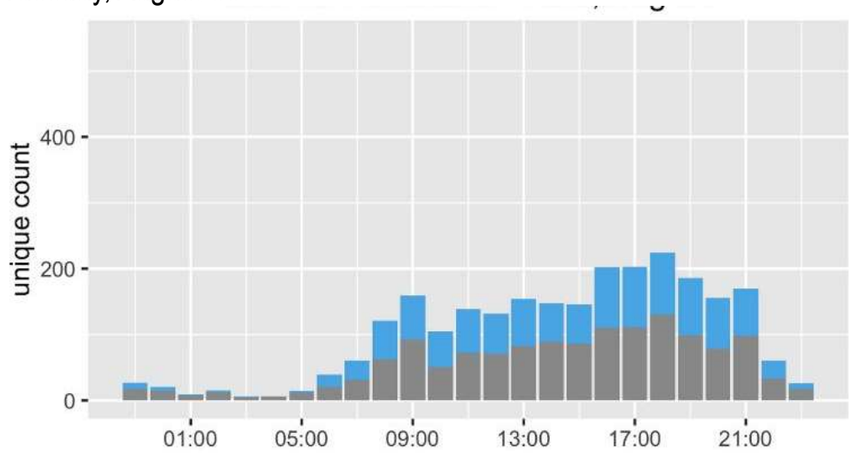
Learn more at
www.soofa.co/

Park Usage Example

- Noticeable uptick in park traffic on Wednesday evening
- Unusual peak aligned with unscheduled park event
- Technology has potential to help understand peak park usage times, understand flow dynamics, schedule trash collection, schedule park repairs…etc.



Tuesday, August 30



Wednesday August 31