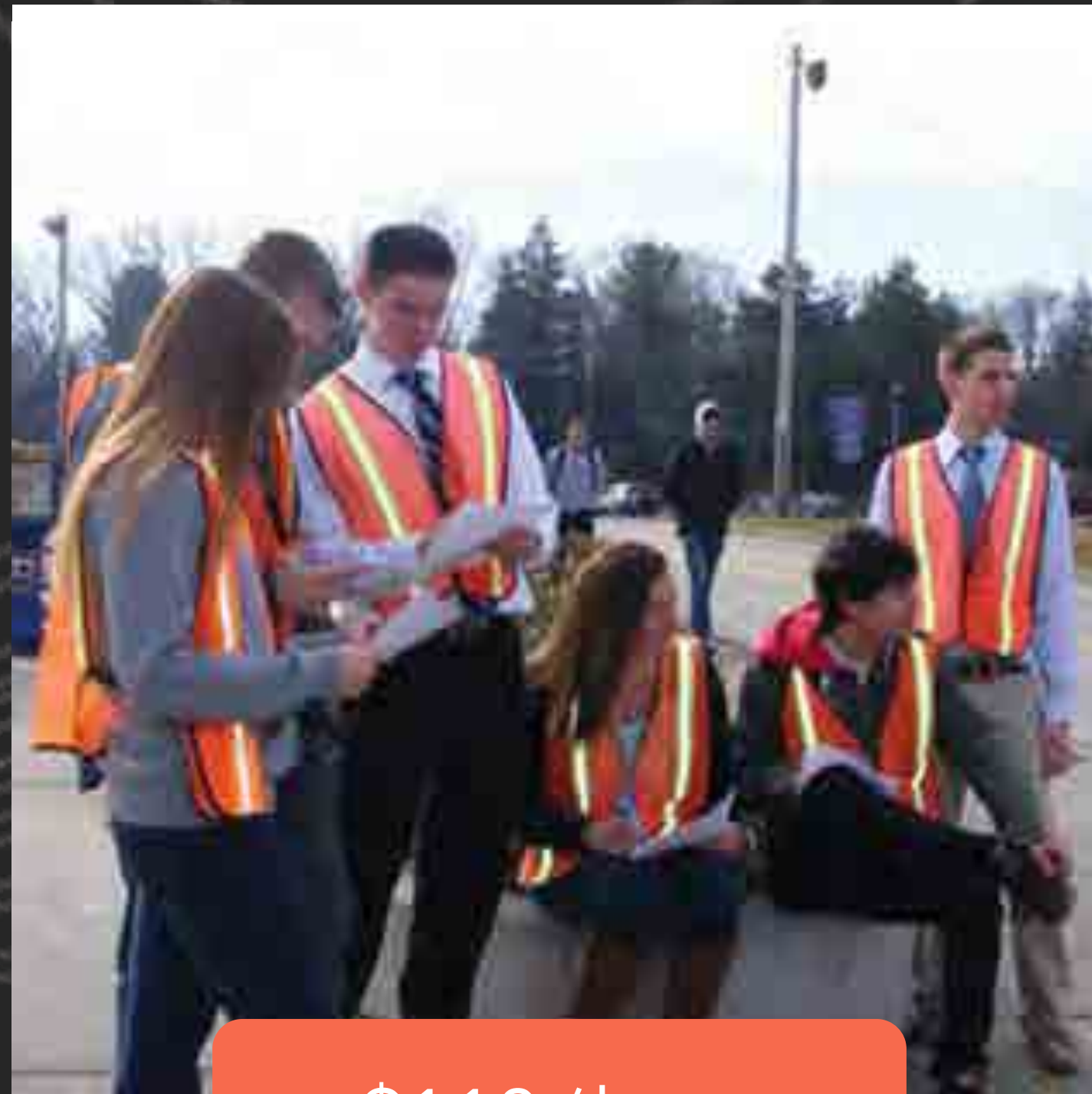




the API for streets

growth@numina.co

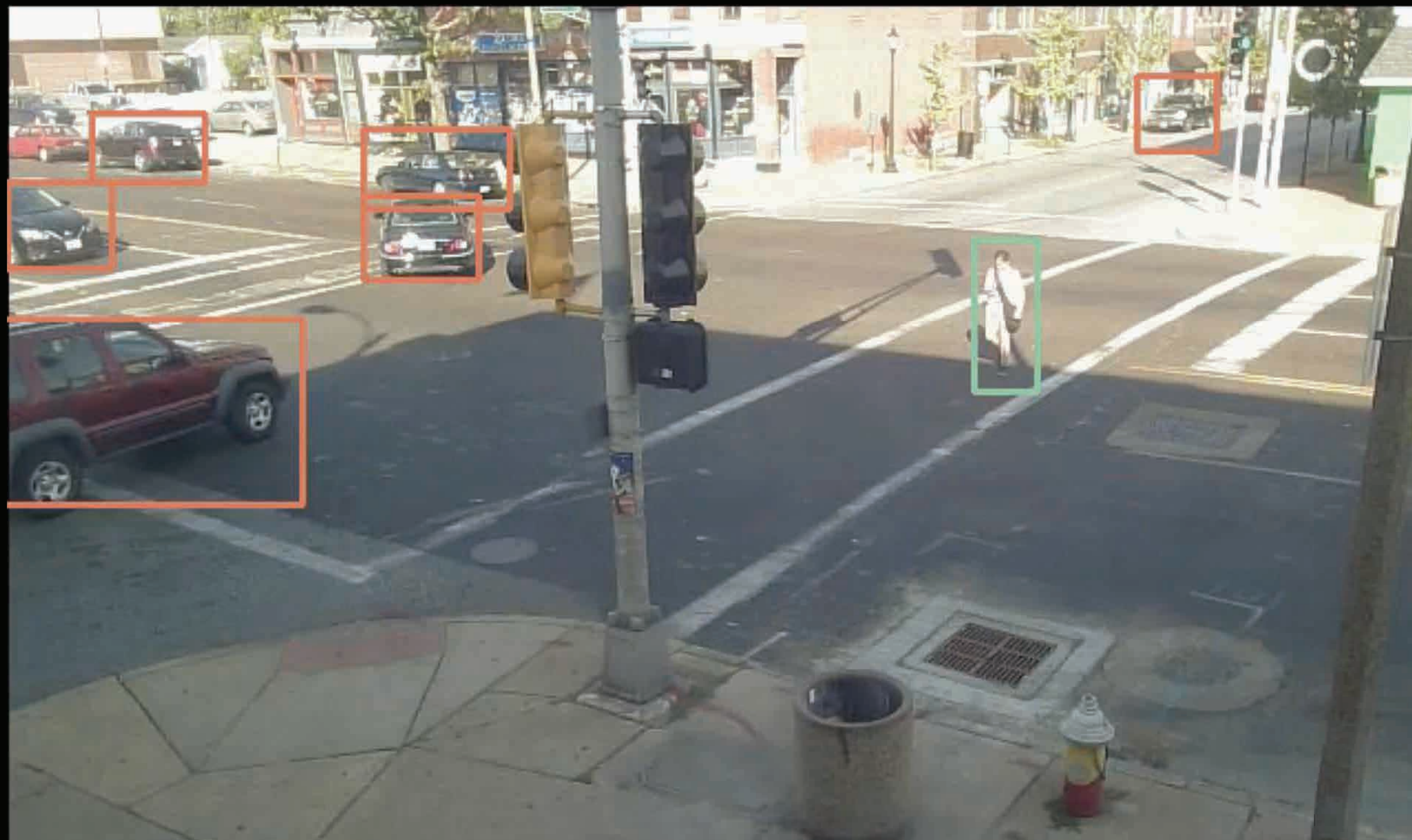
Traditionally, cities have been measured like this:



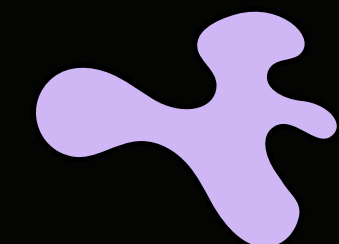
\$110/hour



\$1,500 tablets



This is only an example of how Numina computer vision works. In operation, Numina never stores video or collects personally identifiable information.

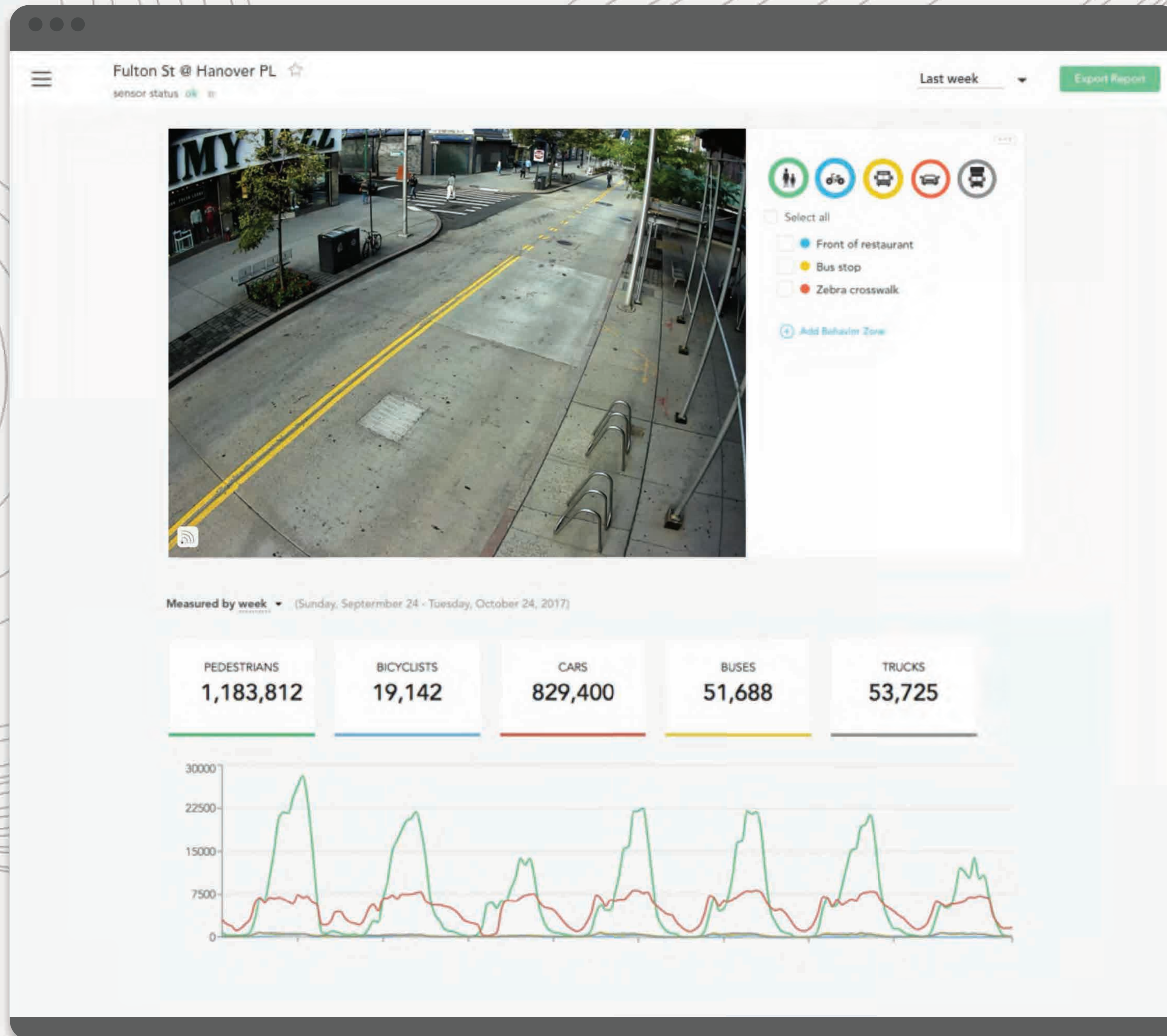


INTELLIGENCE **WITHOUT** SURVEILLANCE

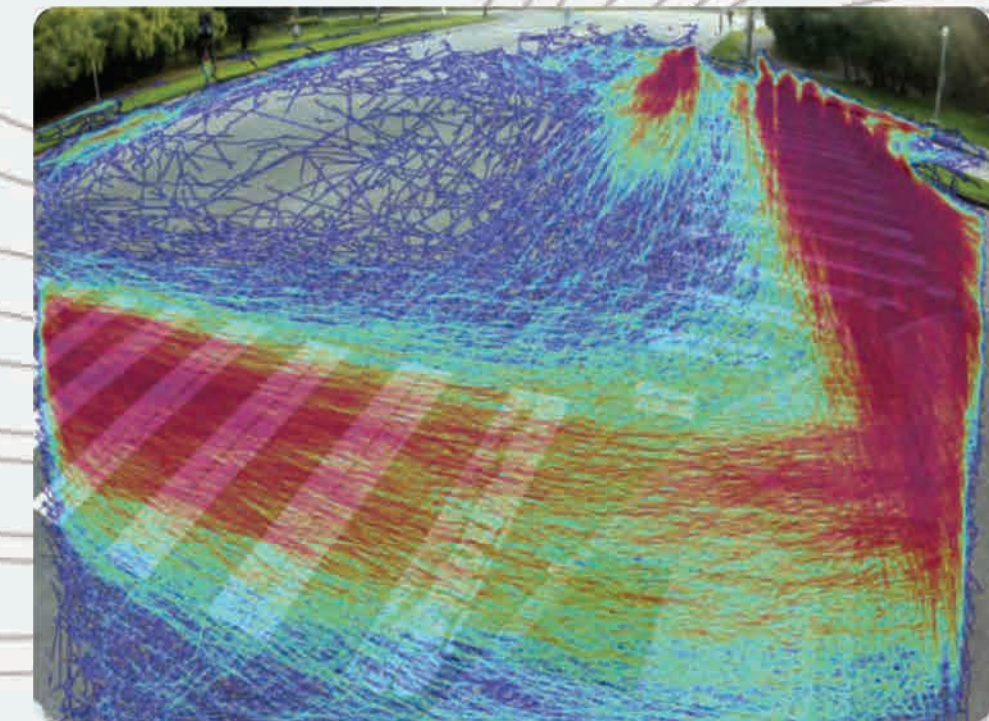


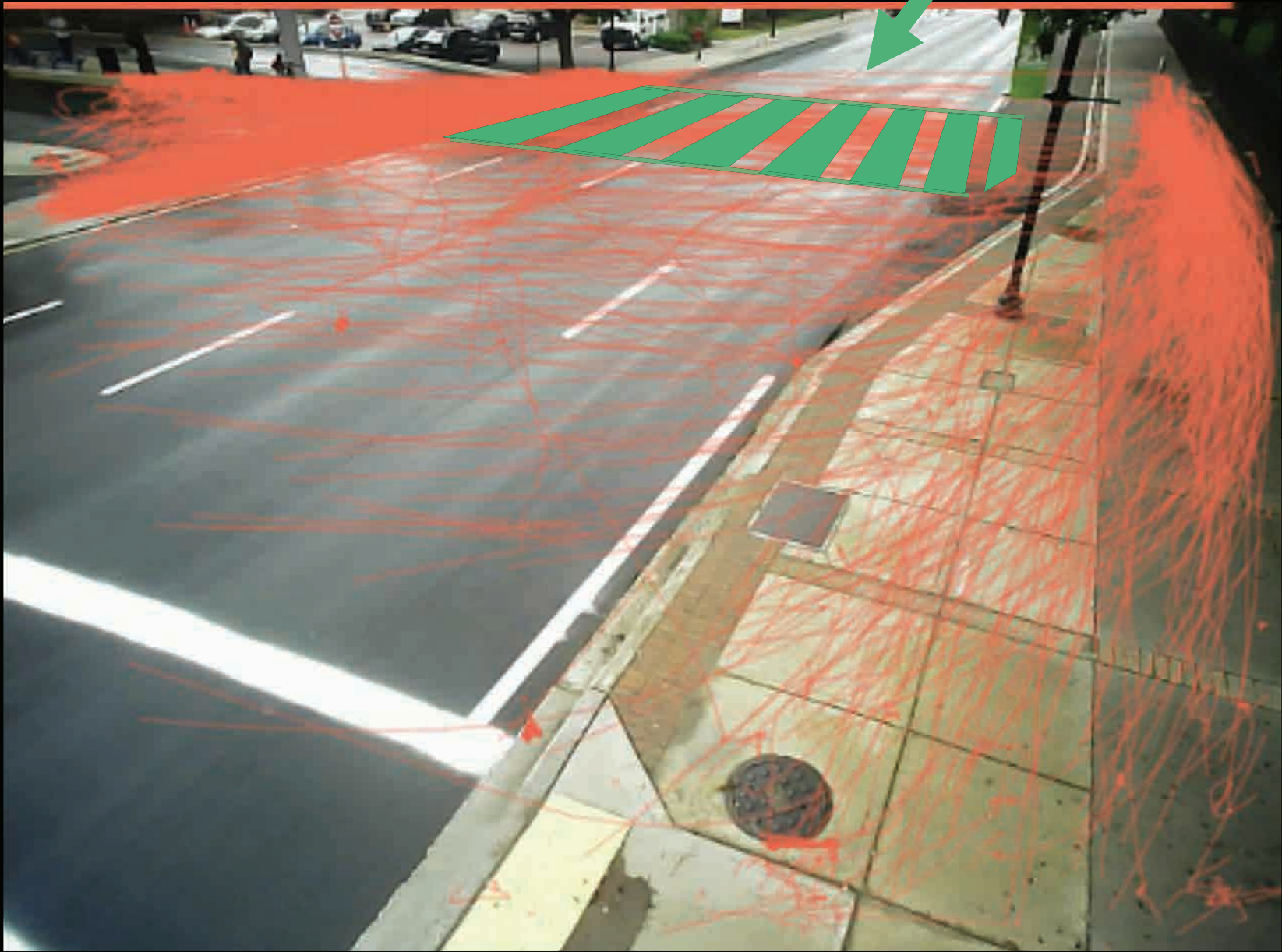
We process all imagery onboard the sensor and do not save or transmit video.

We never collect Personally Identifiable Information.



See heat maps and traveler paths, interactions, dwell times:







NEWLAB

DWN
TWN

NUMINA

Numina sensors strap to light poles
like any street sign.

The Numina real-time data feed (API) can fuel all kinds of other applications to trigger services in streets where needed, when needed.

```
[{
  "class": "pedestrian",
  "movement_id": "470588d220e446dca40fa2613806e4cb",
  "box": [160, 19, 176, 56],
  "lat": 40.703085,
  "lng": -73.986670,
  "feed_id": "58409ebaffe95e3fa662baa1",
  "time": "2017-06-10T00:00:32.457679104Z"
}, {
  "class": "pedestrian",
  "movement_id": "470588d220e446dca40fa2613806e4cb",
  "box": [168, 21, 182, 57],
  "lat": 40.703088,
  "lng": -73.986663,
  "feed_id": "58409ebaffe95e3fa662baa1",
  "time": "2017-06-10T00:00:32.957789952Z"
}, ...]
```

API /activities

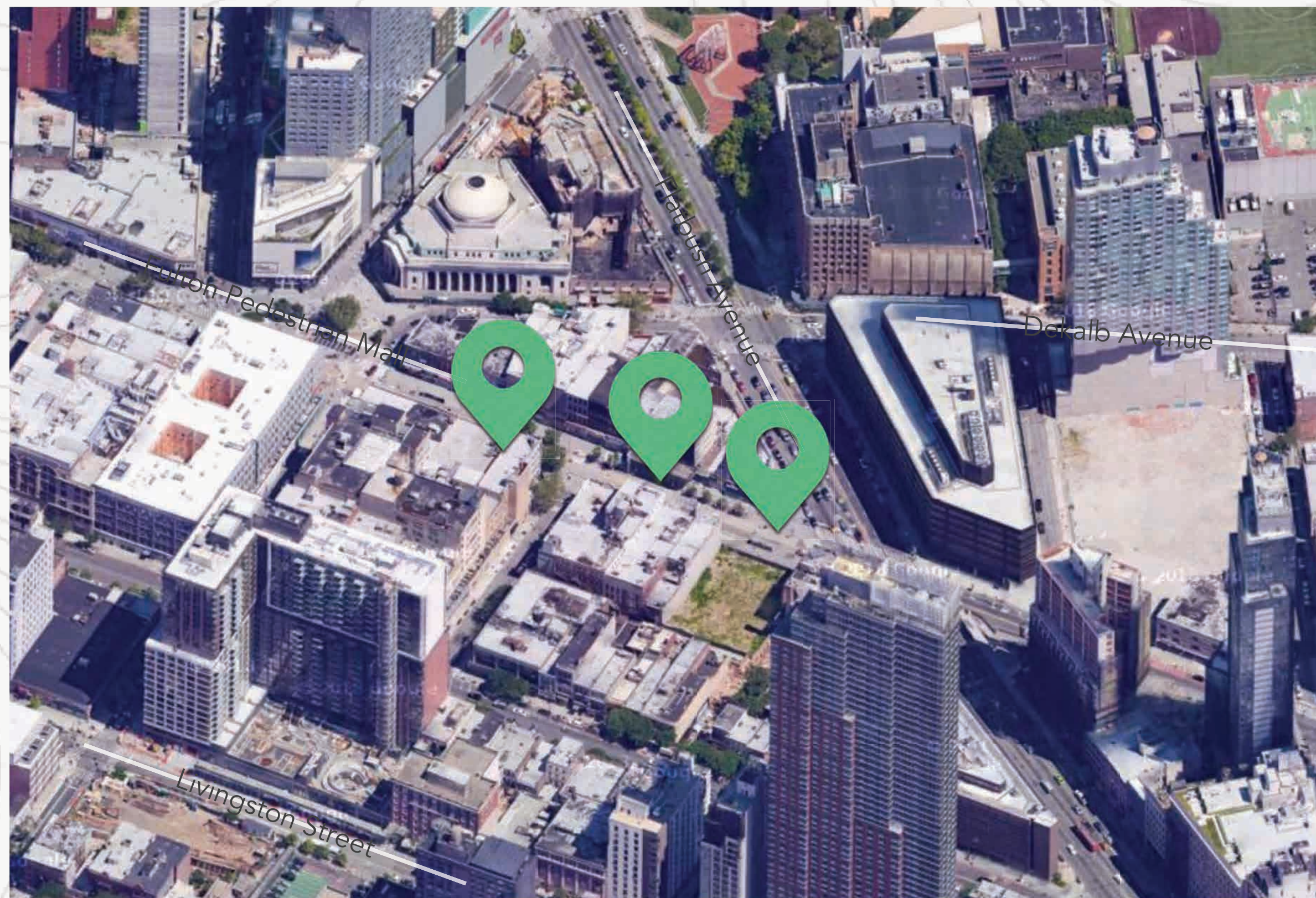
```
[{
  "class": "near-collision",
  "movements": ["470588d220e446dca40fa2613806e4cb",
    "12d1badd527b4ad6a3d83c3f1b2193f0"],
  "feed_id": "58409ebaffe95e3fa662baa1",
  "start_time": "2017-06-10T00:00:32.457679104Z",
  "end_time": "2017-06-10T00:00:57.959905024Z"
}, {
  "class": "jaywalking",
  "movements": "227df365114f45828429839d09da9314",
  "feed_id": "58409ebaffe95e3fa662baa1",
  "start_time": "2017-06-10T00:25:19.966105088Z",
  "end_time": "2017-06-10T00:25:44.466087168Z"
}, ...]
```

API /place-personalities

```
[{
  "class_id": 1,
  "class_name": "user-defined-name-1",
```



DOWNTOWN BROOKLYN





INSTALLATION

- ▶ Cost: \$291.41 / sensor
- ▶ Time: 1 hour / sensor

TECHNICAL RESULTS

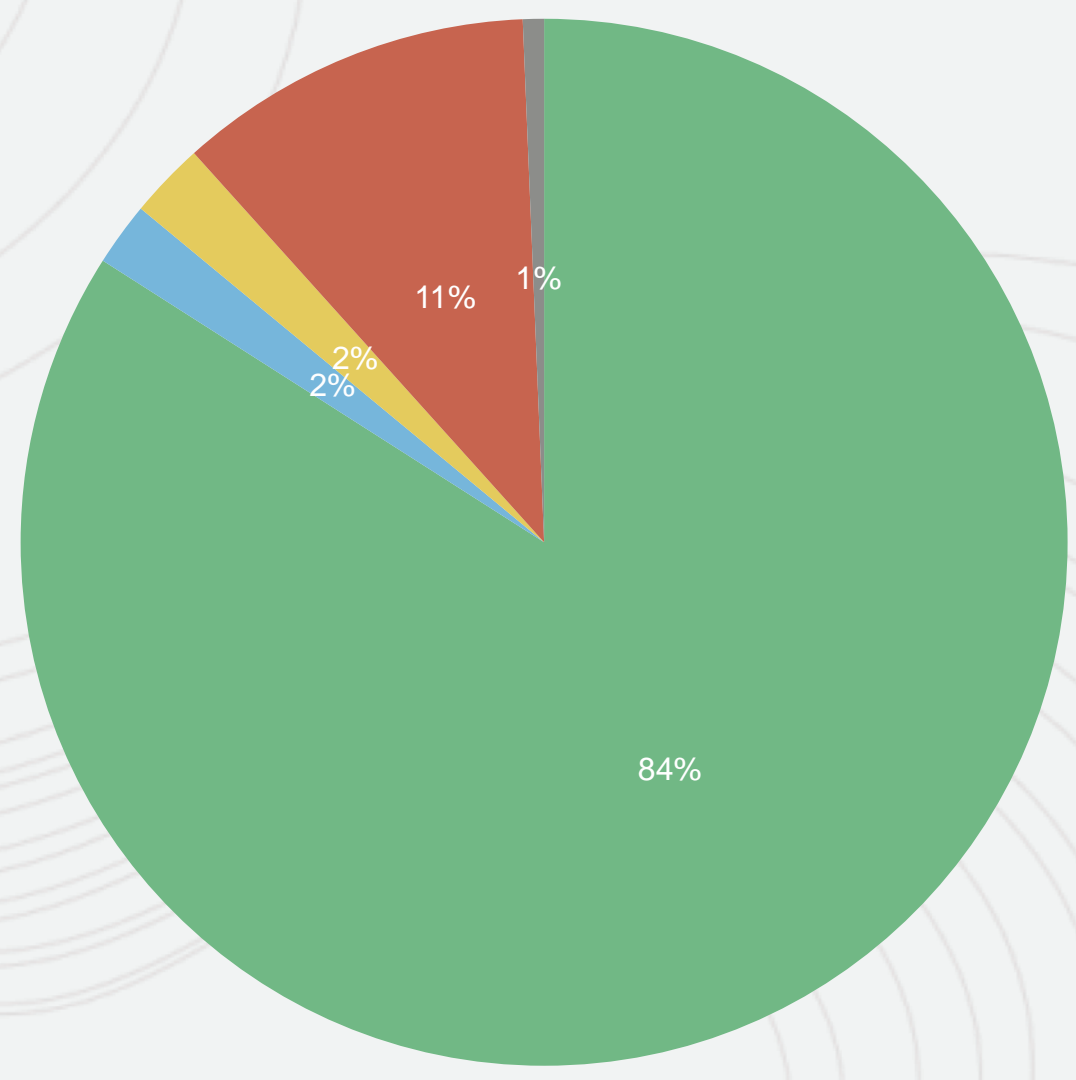
October 1, 2018 - March 6, 2019

1. 100% sensor uptime from November 4, 2018, to present.
2. Collected 408,805,344 data points about 24+ million objects.
3. Successfully detected volume counts and paths of people, bicycles, cars, trucks, buses, and bags of trash.

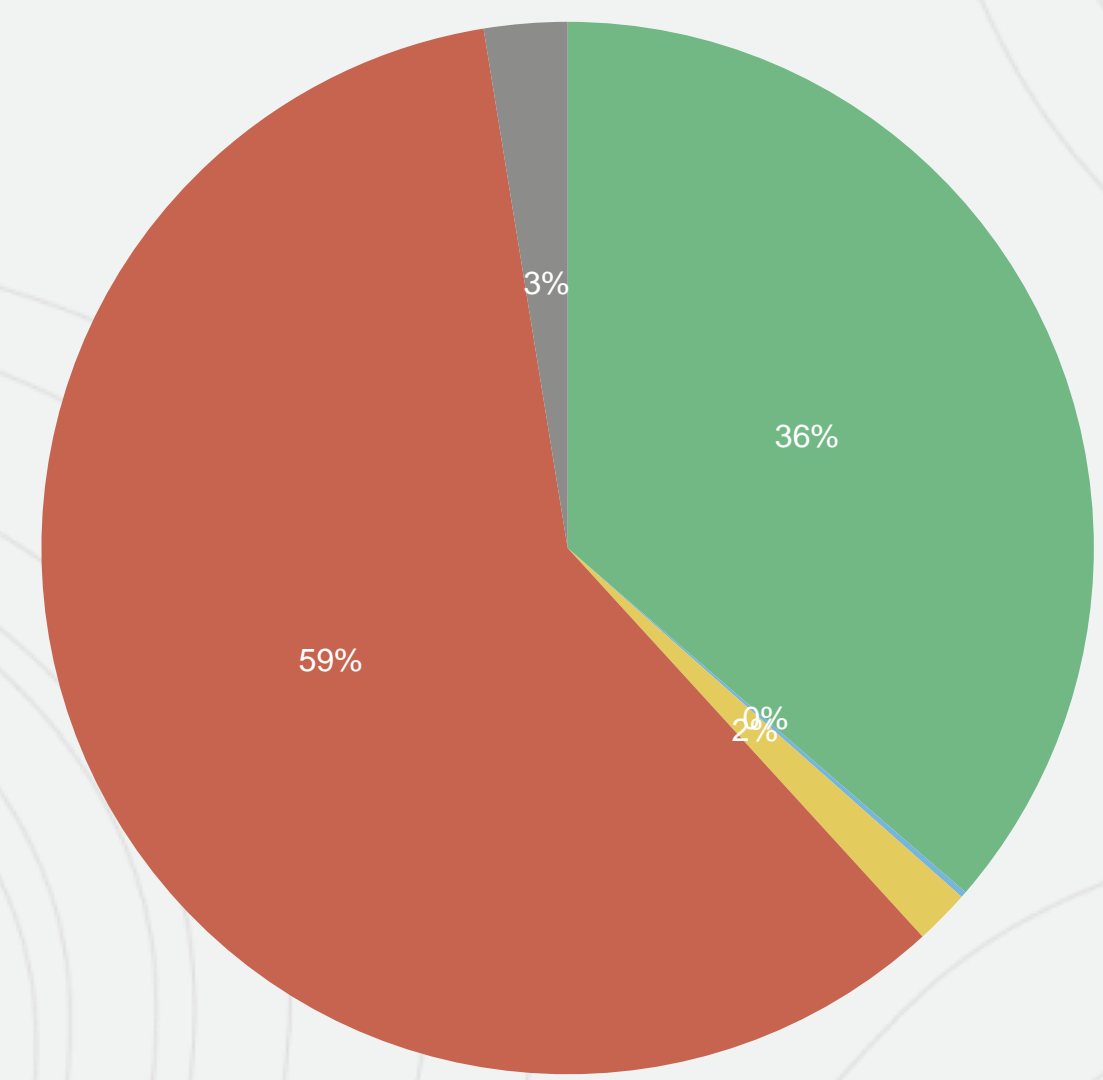
MODESHARE & VOLUMES

■ Pedestrian
 ■ Bicycle
 ■ Bus
 ■ Car
 ■ Truck

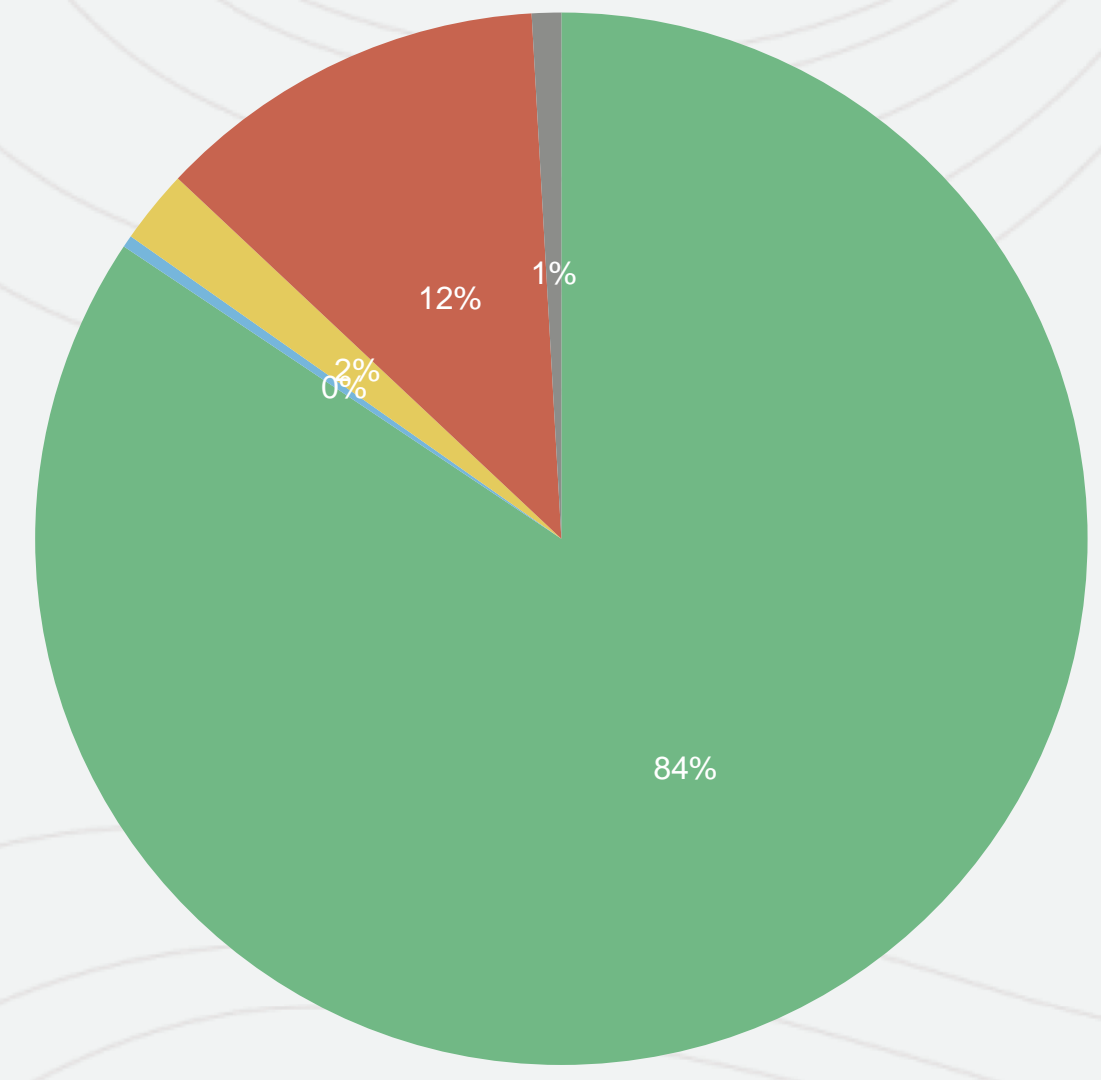
DBP-1 Mode Share



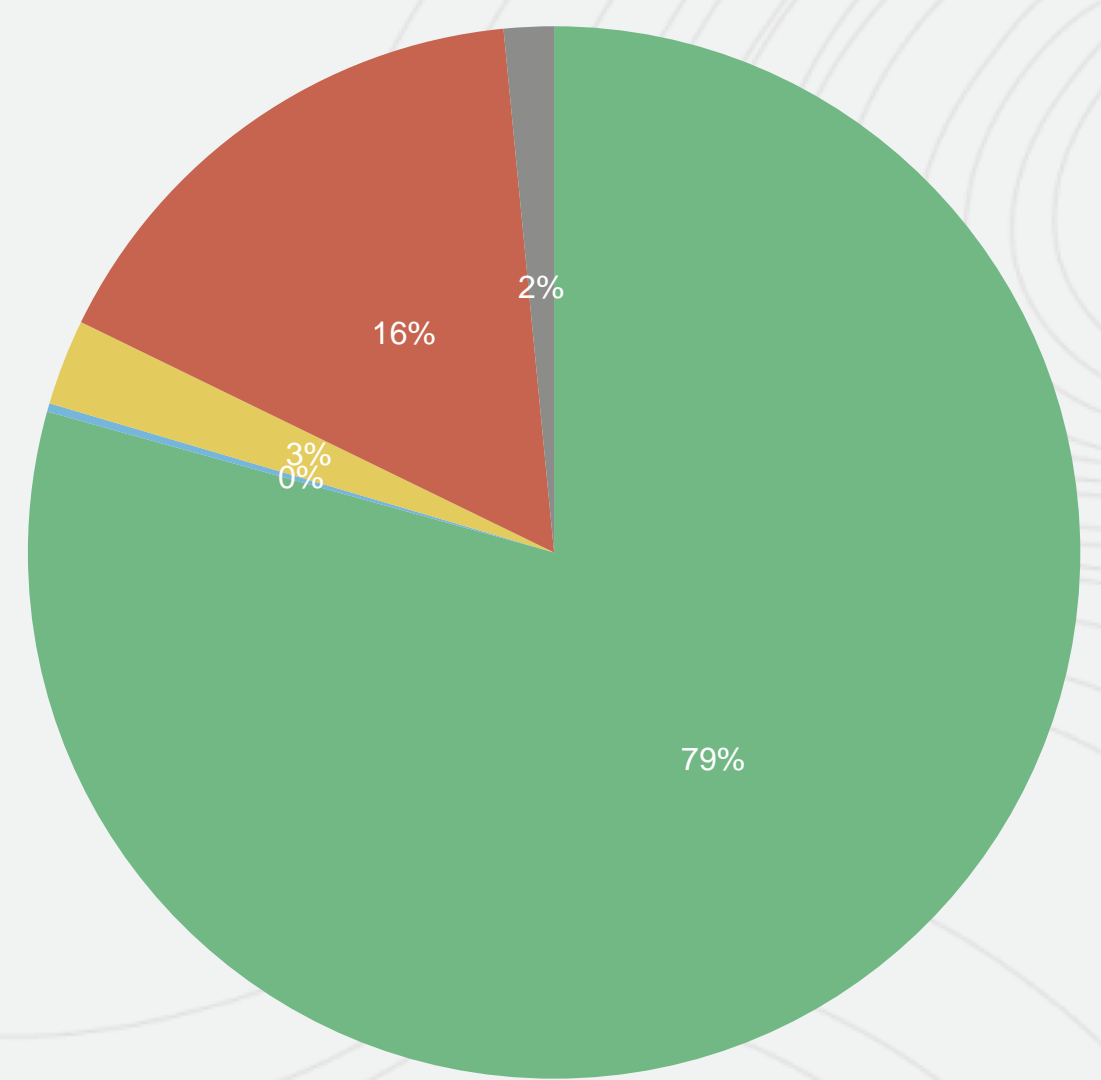
DBP-2 Mode Share



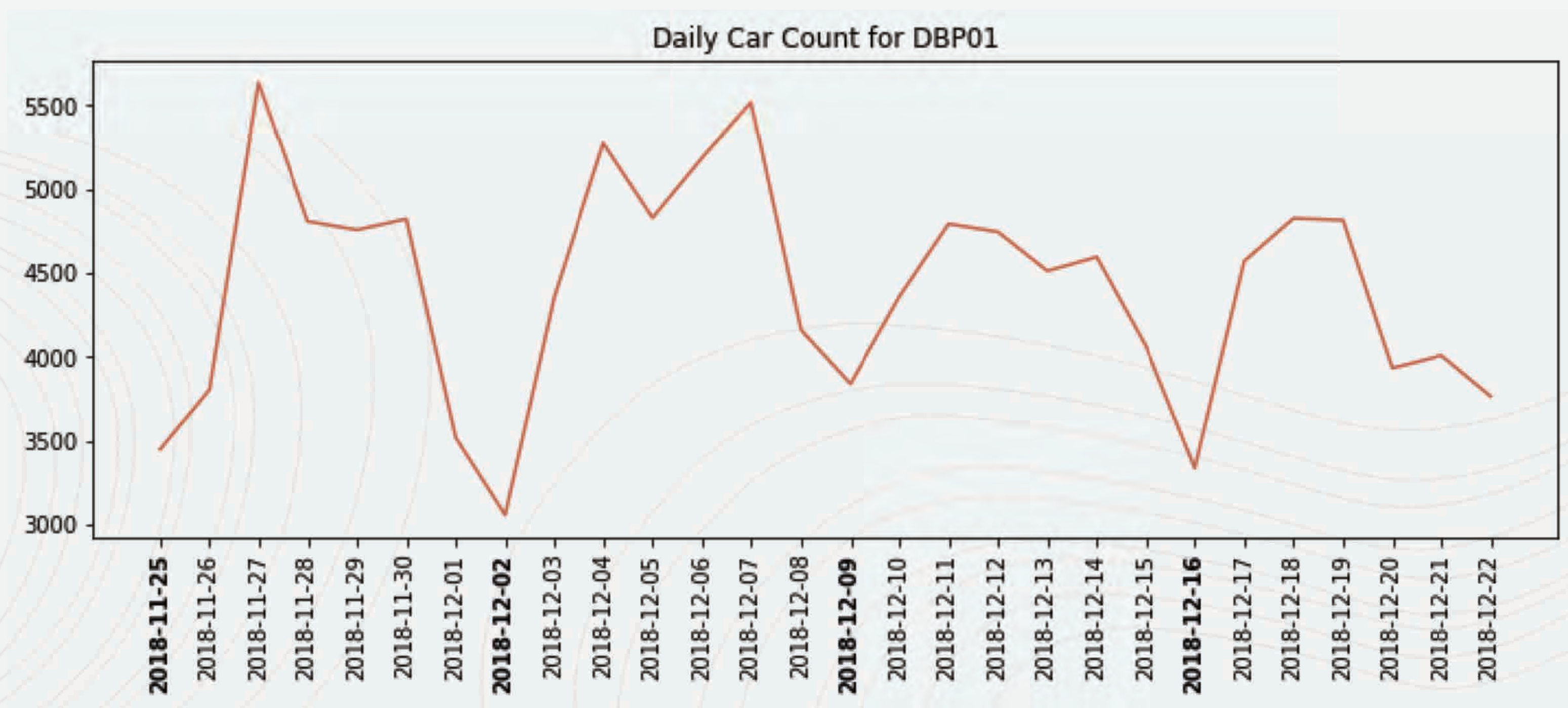
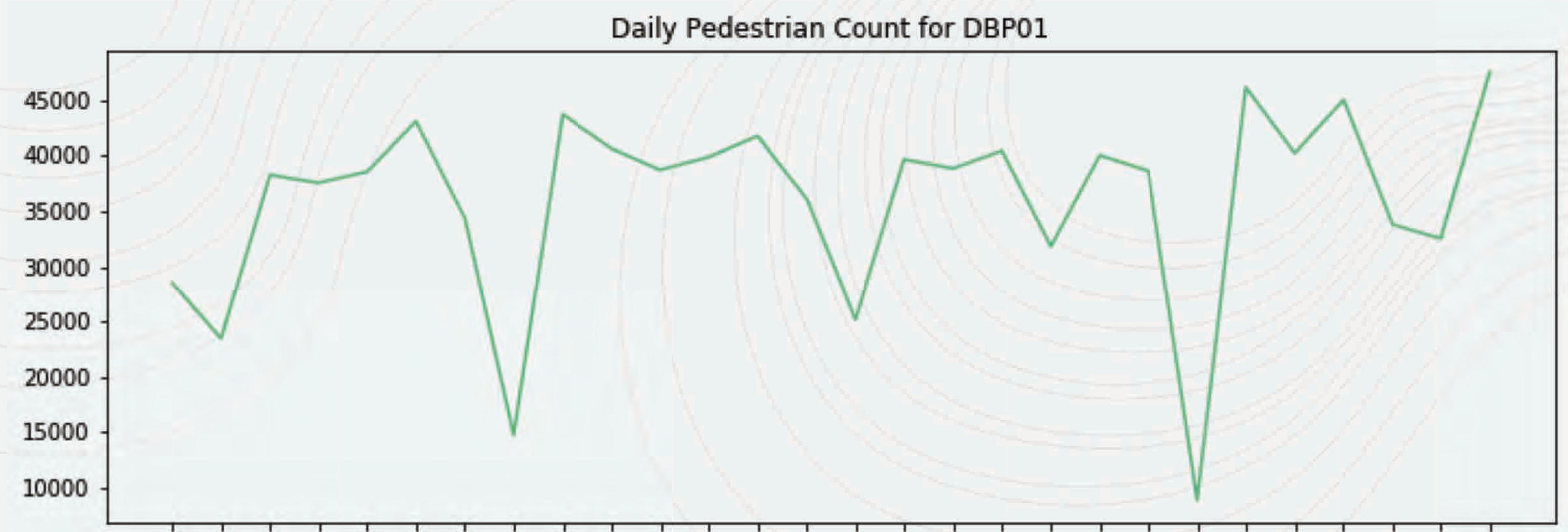
DBP-3 Mode Share



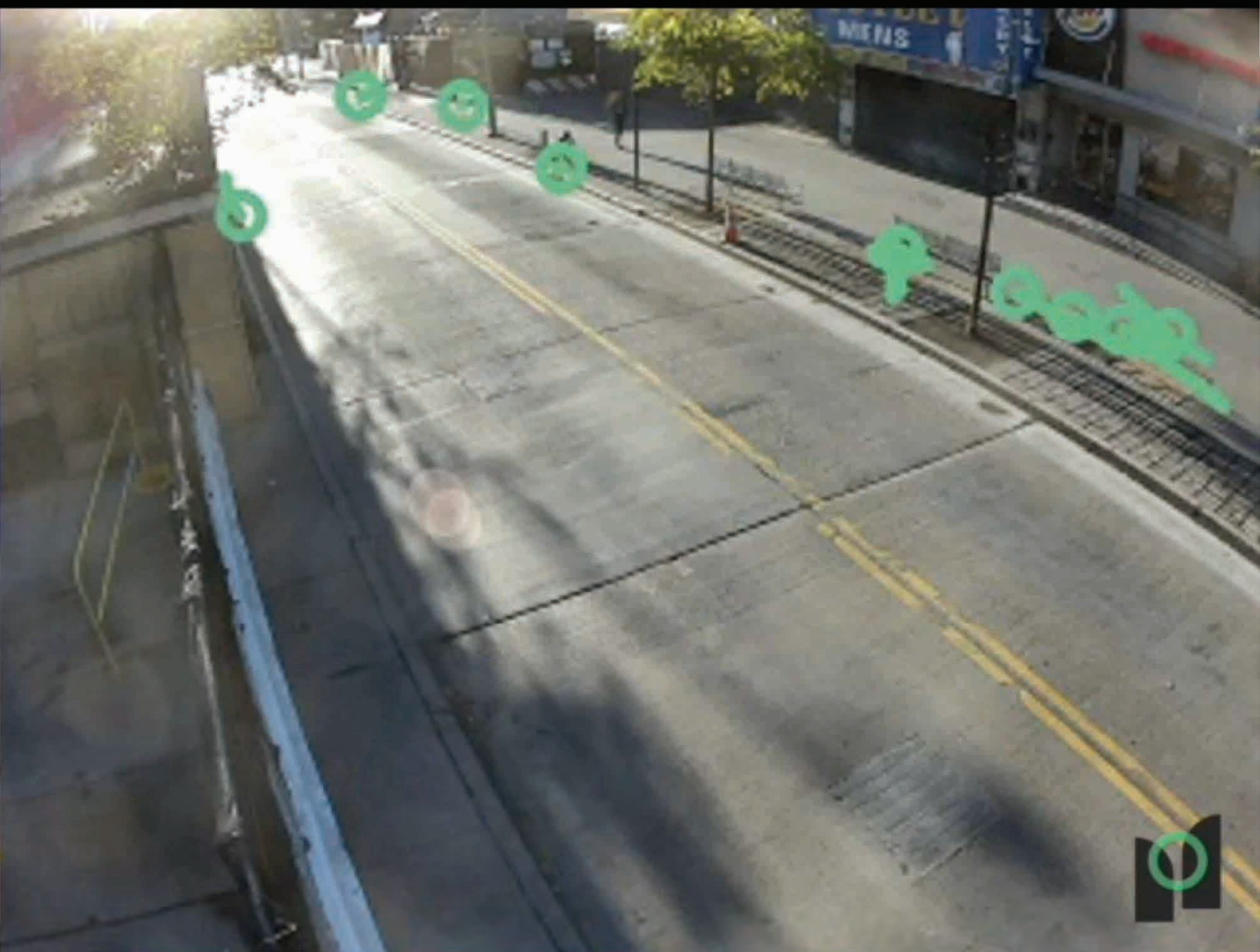
DBP-4 Mode Share



MODESHARE & VOLUMES



SCAFFOLDING & CONSTRUCTION



SCAFFOLDING & CONSTRUCTION

Ratio of Pedestrians Walking in Road to Total Pedestrians



+53.3%

Our mission:

EMPOWER CITIES WITH DATA

to become more connected, efficient, and equitable.

