

Assimilation = The process of **taking in and fully understanding** information or ideas.

The AirCasting platform is an **end-to-end solution** for recording and sharing air quality data.







Airbeam2_Firmware_8_31_18 Build_String.cpp Build_String.h Color.h Colors.cpp PMS.h PMS_readings.cpp Read_EEPROM.cpp

```
rawGt10_0um = temprawGt10_0um / pmscount;
BAMPM2_5 = 0.744 * concPM2_5_amb;
BAMPM10 = -30.436 * pow(concPM10_0_amb, 0.5) + 43.108 * pow(concPM2_5_amb, 0.5);
GRIMPM2_5 = 0.80243 * concPM2_5_amb;
GRIMPM1 = 0.75906 * concPM1_0_amb + 0.00645 * pow(concPM1_0_amb, 2);
GRIMPM10 = 6.1931 * pow(concPM10_0_amb, 0.33) - 1.1741 * concPM2_5_amb + 1.629 * concPM1_0_amb;
```

```
/*
PM10
y = 1.06Amb10
PM2.5
y = 1.33Amb2.5^0.85
PM1
y = 0.66776Amb1^1.1
*/
```

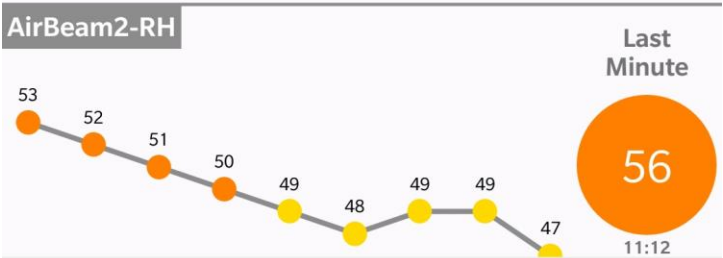
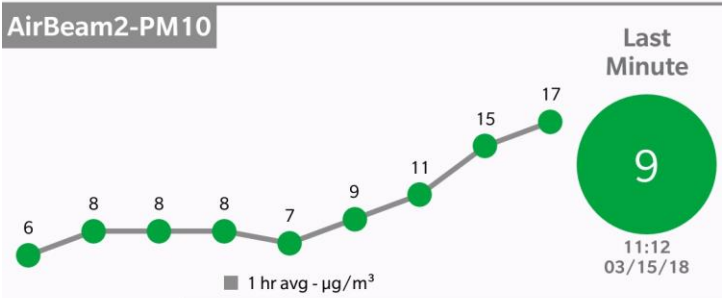
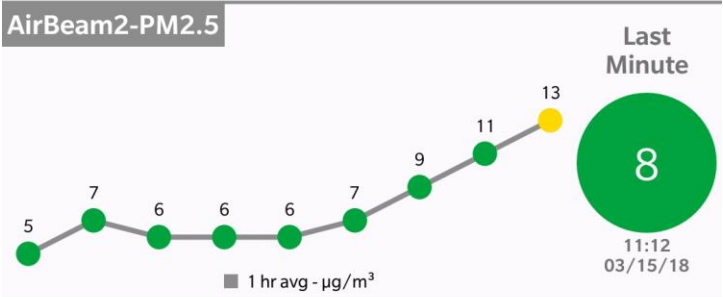
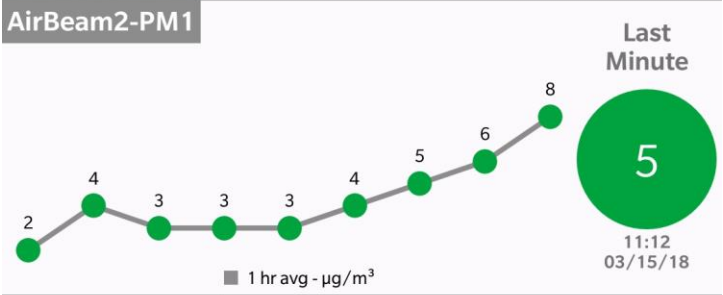
```
PM10_0 = 1.06*concPM10_0_amb;
PM2_5 = 1.33*pow(concPM2_5_amb, 0.85);
PM1_0 = 0.66776*pow(concPM1_0_amb, 1.1);
```

```
avgyears = year();
avgmonths = month();
avgdays = day();
avghours = hour();
avgmins = minute();
avgsecs = second();
```

```
/*Serial Monitor Output*/
Serial.print(F("Date: "));
Serial.print(print_Digits(avgmonths));
Serial.print(F("/"));
Serial.print(print_Digits(avgdays));
Serial.print(F("/"));
Serial.print(avgyears);
Serial.print(F(" Time: "));
Serial.print(print_Digits(avghours));
Serial.print(F(":"));
```

Dashboard

Flatbush & 6th, Brooklyn



Graph

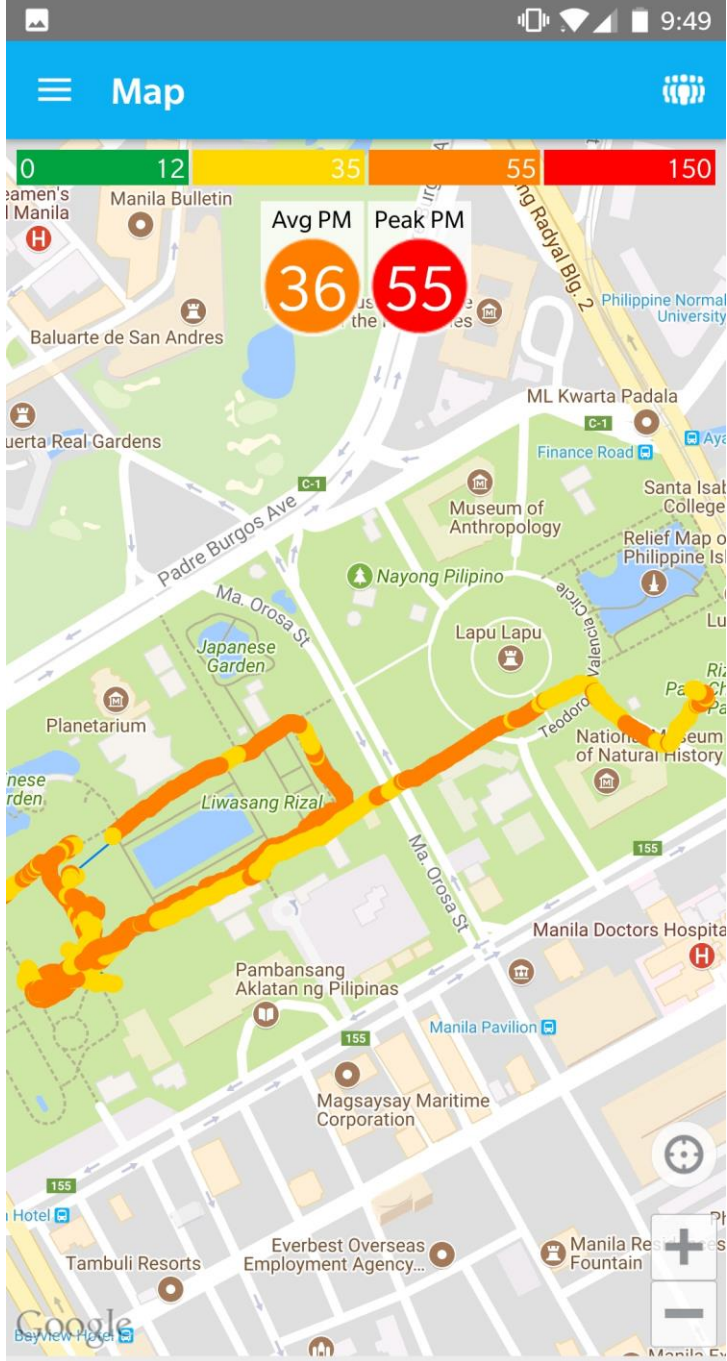


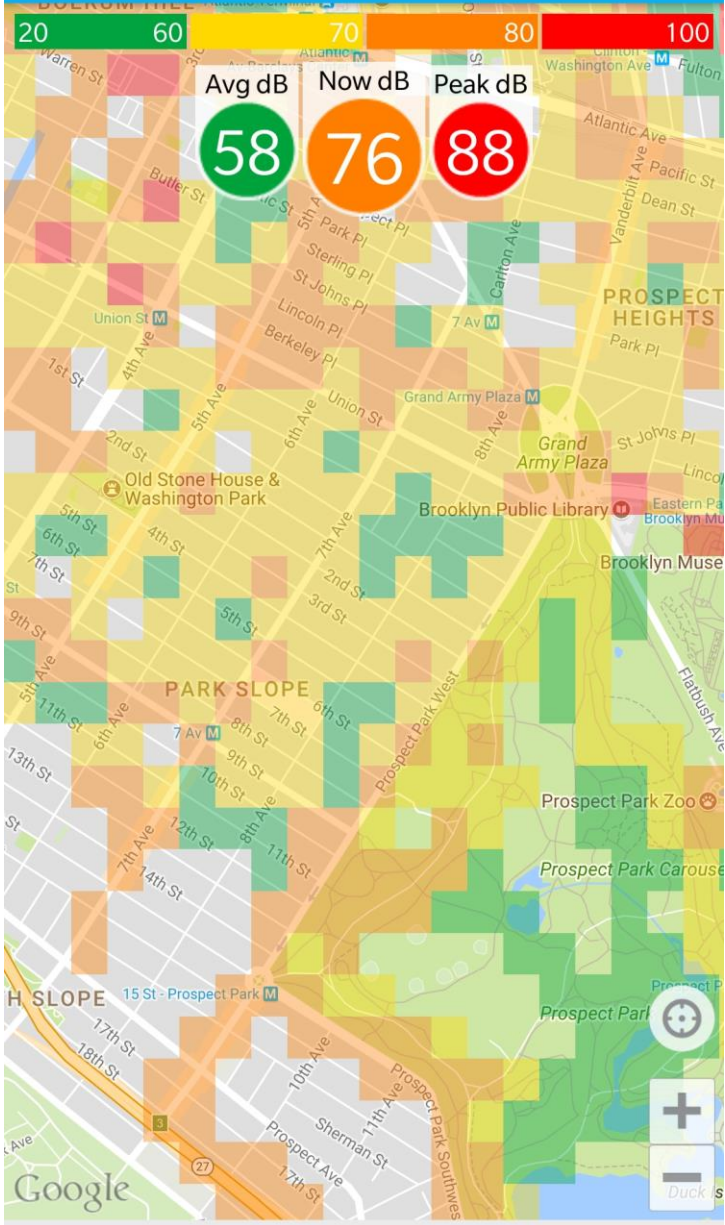
Avg PM 36
Peak PM 55



+
-

10:12:06 11:17:48







- HOME
- ABOUT
- MAPS
- BLOG
- DONATE

Sessions

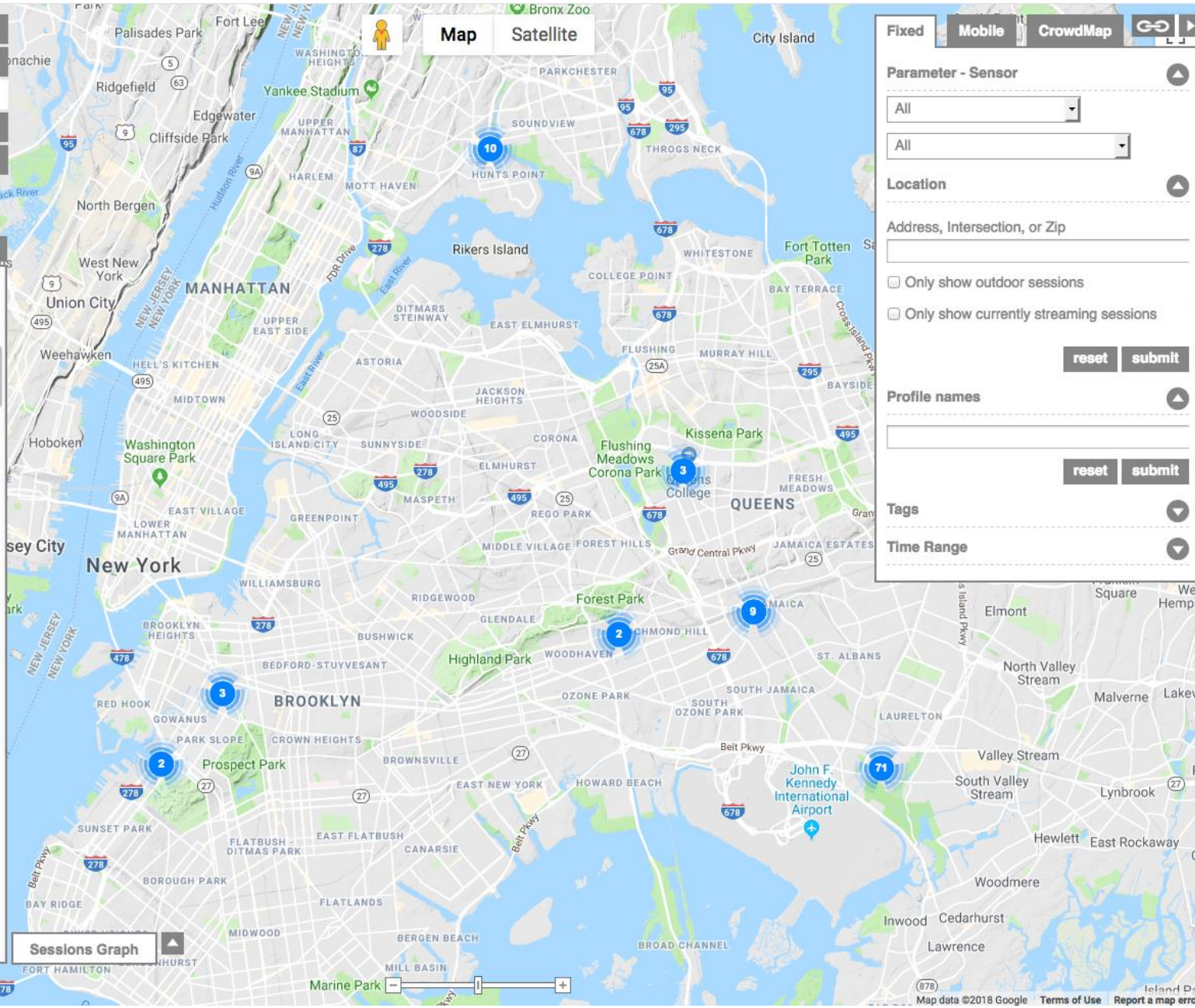
export all

- UPROSE-
NYCEJA, 08/02/2018, 11:11-13:54
F/PM/PM/PM/RH
- teddy Foley outdoor trial
JFK Airshed, 07/03/2018,
15:21-14:49 dB/F/PM/RH
- DEC AQ - Queens College
- 5033
NYCEJA, 06/27/2018, 21:53-07:44
F/PM/PM/PM/RH
- DEC AQ - Queens College
- 1017
NYCEJA, 06/27/2018, 20:48-08:22
F/PM/PM/PM/RH
- Lorena Pardo. Hillside Bus
station
JFK Airshed, 06/27/2018,
18:43-18:59 dB/F/PM/RH
- Lorena Pardo. Jamaica
center. Bus station
JFK Airshed, 06/27/2018,
15:21-15:50 dB/F/PM/RH
- sesion bus station
JFK Airshed, 06/27/2018,
12:37-12:55 dB/F/PM/RH
- Lorena Pardo.Sutphin blvd.
Bus station
JFK Airshed, 06/27/2018,
12:25-12:36 dB/F/PM/RH
- Lorena Pardo. Bus station
104 street
JFK Airshed, 06/27/2018,

Sessions Graph



Map Satellite



Fixed Mobile CrowdMap

Parameter - Sensor

All

All

Location

Address, Intersection, or Zip

Only show outdoor sessions

Only show currently streaming sessions

reset submit

Profile names

reset submit

Tags

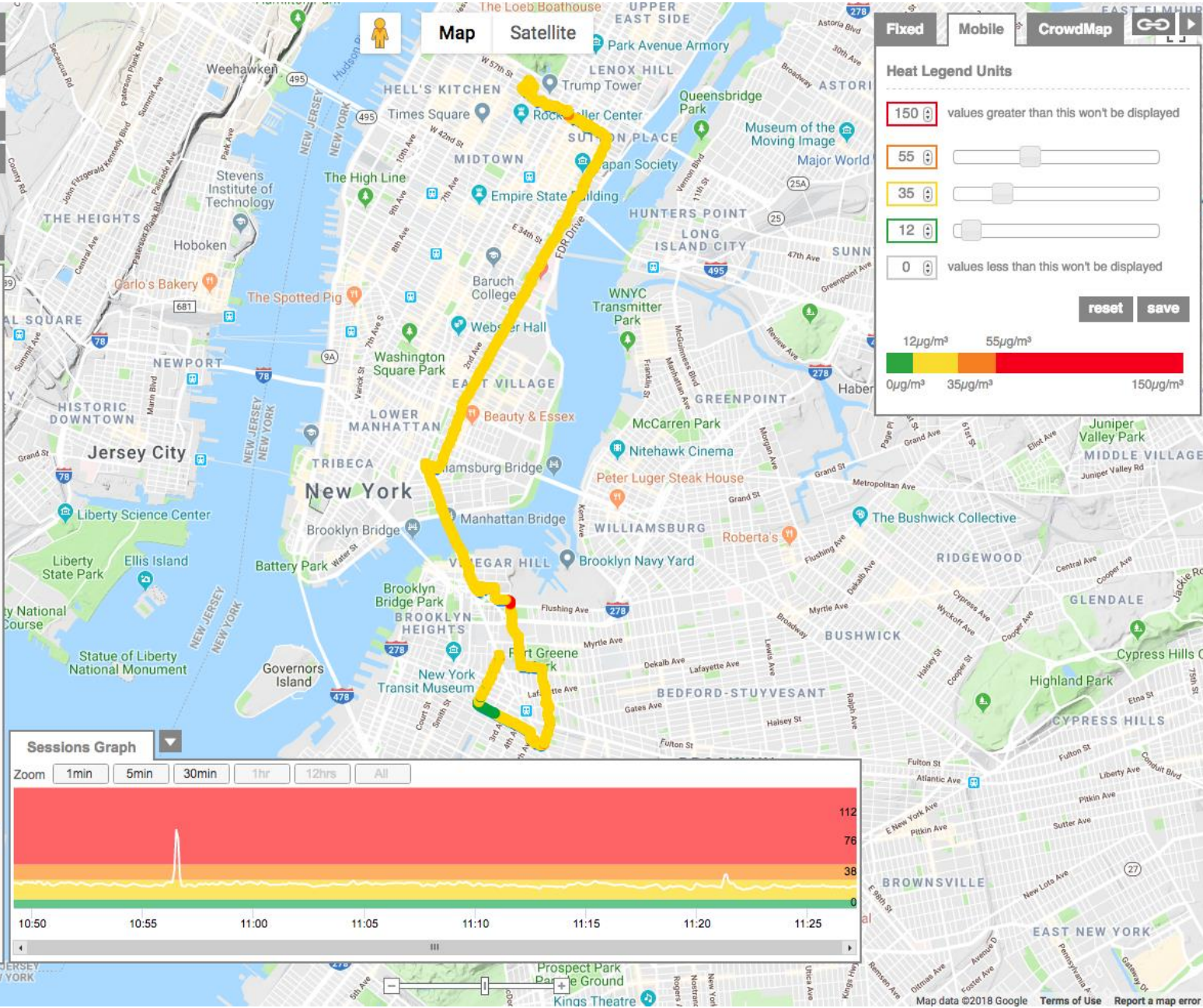
Time Range



- HOME
- ABOUT
- MAPS
- BLOG
- DONATE

Sessions **export** none

- soho to Park slope
HabitatMap, 08/28/2018,
14.08-14.34 F/PM/PM/PM/RH
- mid Town to soho
HabitatMap, 08/28/2018,
12.20-12.44 F/PM/PM/PM/RH
- Park slope to mid Town
HabitatMap, 08/28/2018,
10.49-11.27 F/PM/PM/PM/RH
- North slope to Park
HabitatMap, 05/20/2018,
13.45-15.05 F/PM/PM/PM/RH
- prospect Park
HabitatMap, 05/14/2018,
16.04-16.35 F/PM/PM/PM/RH
- Park slope to Park
HabitatMap, 05/14/2018,
15.00-16.04 F/PM/PM/PM/RH
- Park slope to downtown
HabitatMap, 05/14/2018,
11:17-11:25 F/PM/PM/PM/RH
- Park slope to Park
HabitatMap, 03/26/2018,
16.35-17.44 F/PM/PM/PM/RH
- waterfront to Park slope
HabitatMap, 03/24/2018,
15.56-16.55 F/PM/PM/PM/RH
- Brooklyn bridge Park
HabitatMap, 03/24/2018,
15.34-15.51 F/PM/PM/PM/RH
- Brooklyn bridge Park
HabitatMap, 03/24/2018,



Fixed Mobile CrowdMap

Heat Legend Units

150 values greater than this won't be displayed

55

35

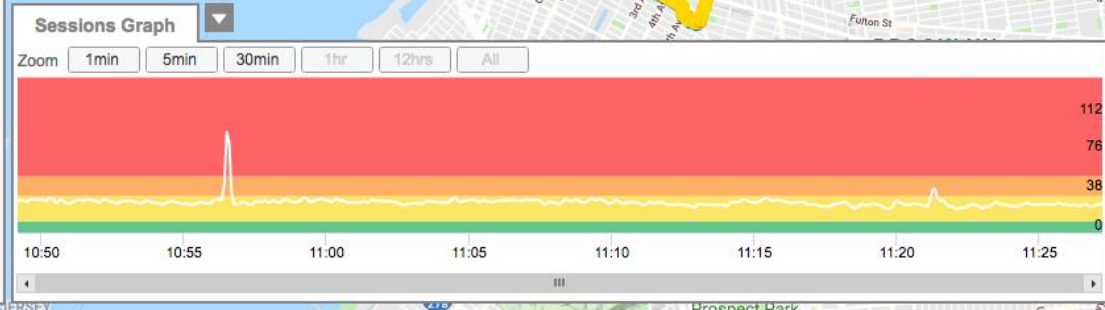
12

0 values less than this won't be displayed

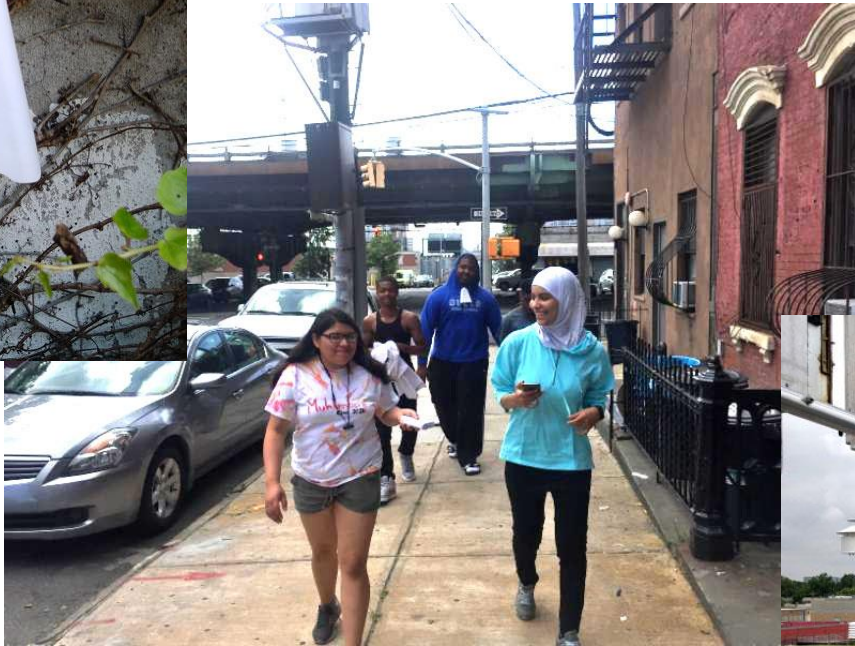
reset save

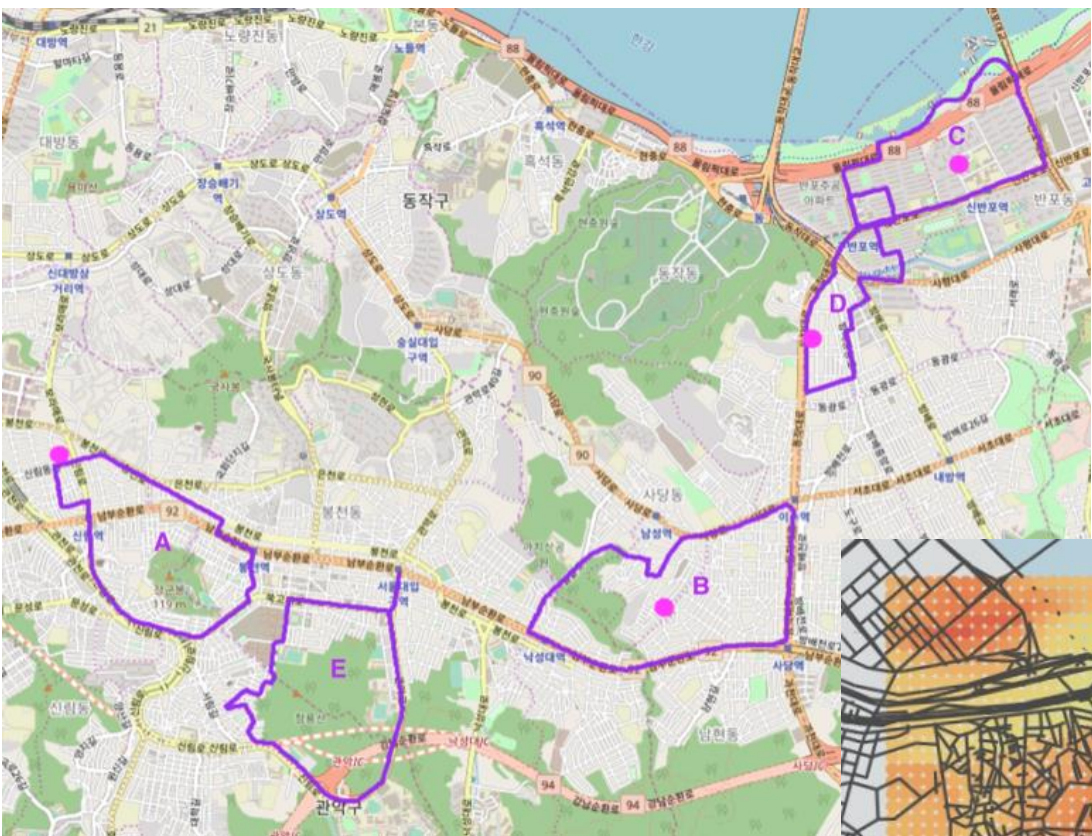
12µg/m³ 55µg/m³

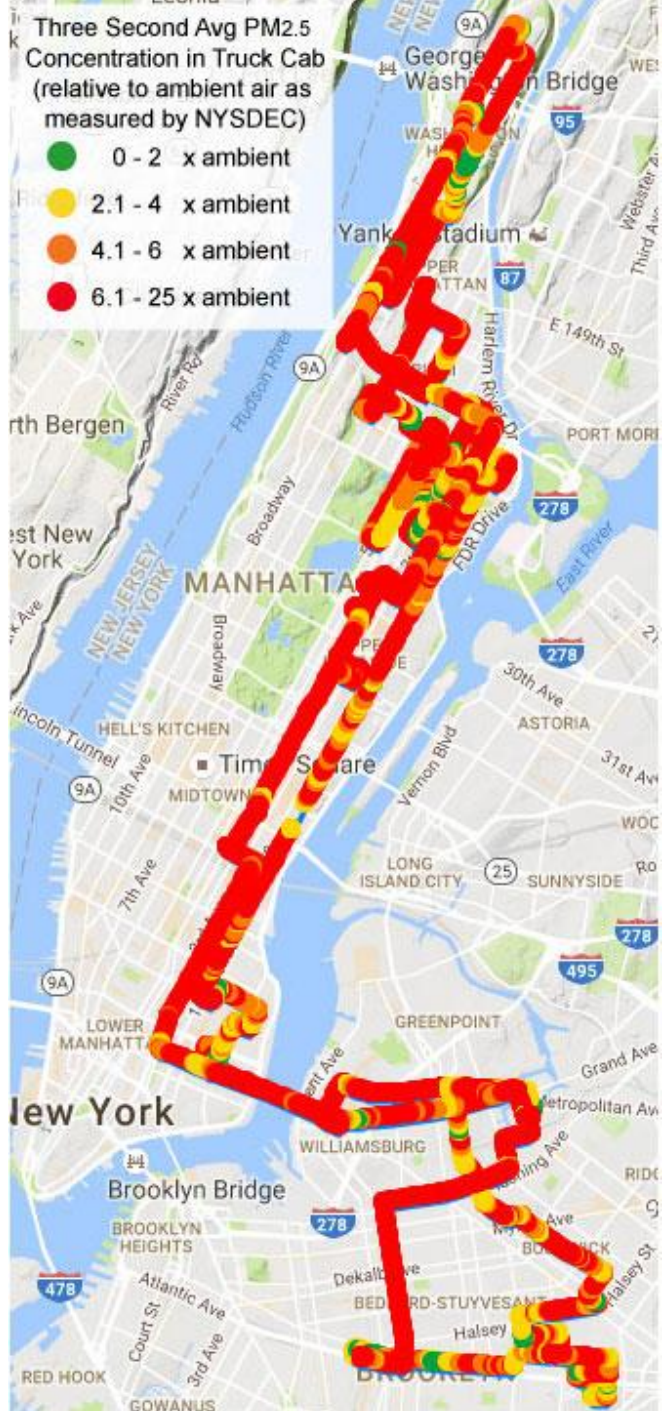
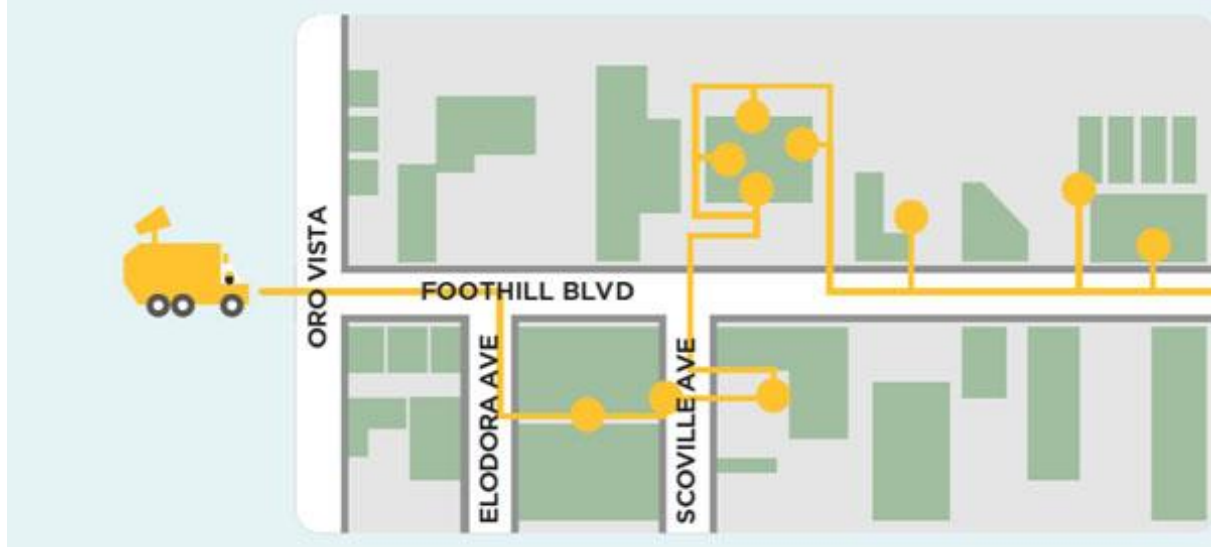
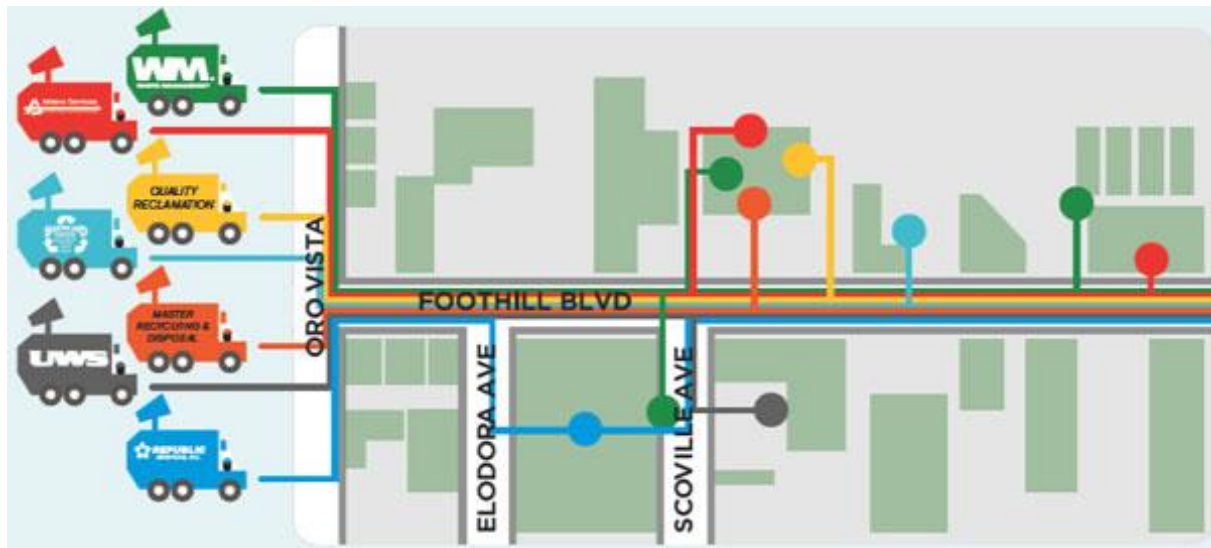
0µg/m³ 35µg/m³ 150µg/m³











UCLA medical imaging **INFORMATICS**



**Real-time Asthma and Air
Pollution Project (Asthma APP)**

Can an app make our cities more breathable?

▶ ▶ 🔊 0:14 / 2:33



info@habitatmap.org

habitatmap.org

aircasting.org

takingspace.org

twitter.com/habitatmap