COUNTY ENGINEERS ASSOCIATION OF OHIO

"ALL TRAVEL STARTS AND ENDS ON A LOCAL ROAD"

Affordable Vehicle Tracking and Sensor Logging Using GIS Software

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Butler County Engineer's Office

2016 Superintendents & Mechanics Conference & Trade Show OCTOBER 19 - 20

Butler County, Ohio

County Size – 469 Square Miles

County Maintained Roads – 267 miles

Fleet Size – 47 Vehicles

- Mower Trucks – 5
- Tractors - 8
- Snow Vehicles - 16
- Dump Trucks - 6
- Other - 12

OBJECTIVES

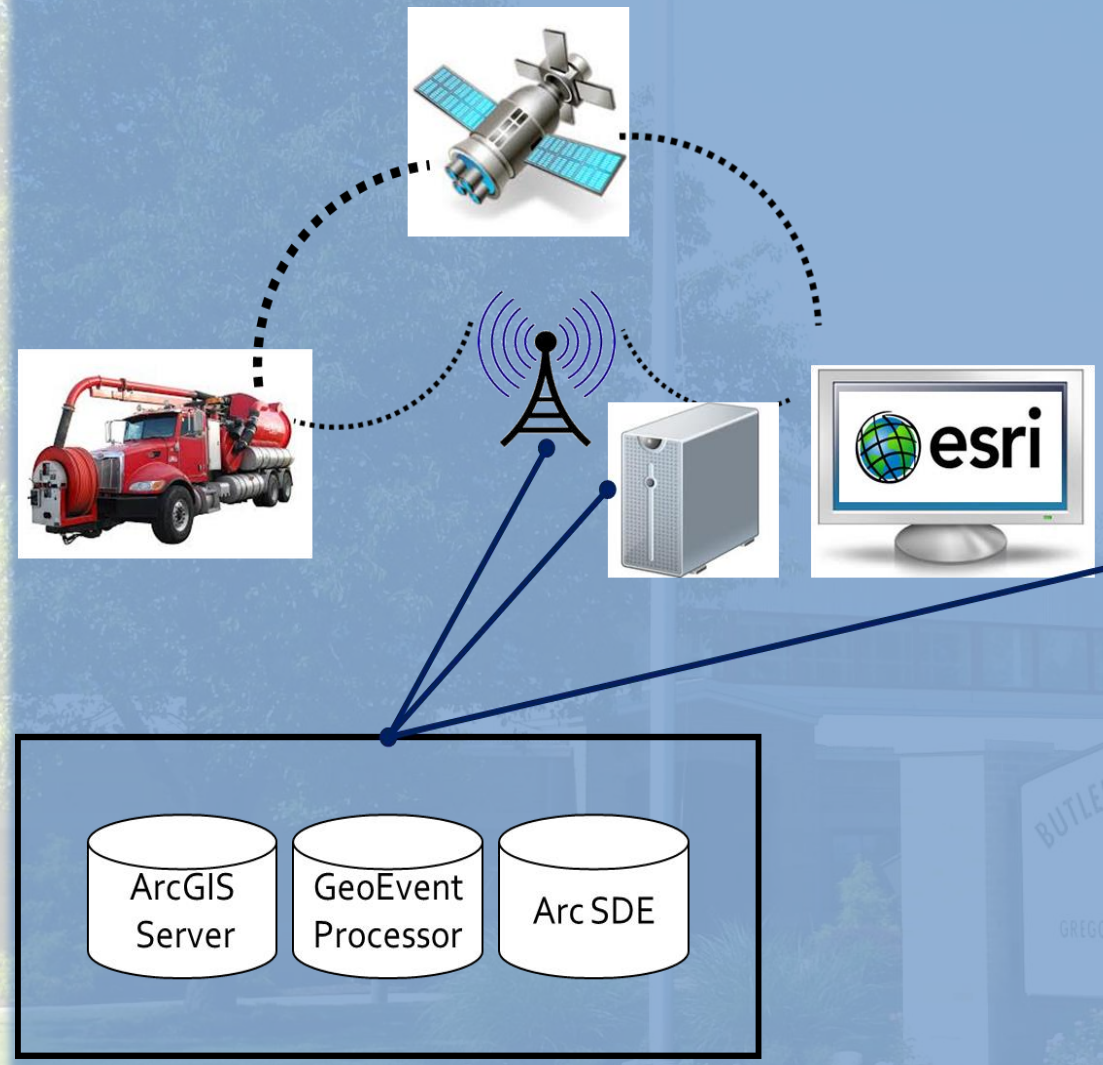
Purpose

- Report vehicle locations
- Track vehicles (snow/mowers)
- Aid in citizen inquiries

Motivating Factors

- Increase productivity
- Safety feature
- More efficient routing

How It Works



esri - Centric

- ArgGIS On-Line
- ArcGIS
- ArcGIS Server
- Arc SDE
- GeoEvent Processor
- Operations Dashboard

Development

- How can we leverage ESRI software that we already own
- Find a GPS device that works with ESRI's GeoEvent Processor (GEP)
- Find a GPS device that sends data directly to our server
- Program the devices and software to send and accept data
- Develop a database structure that gives the results that we want

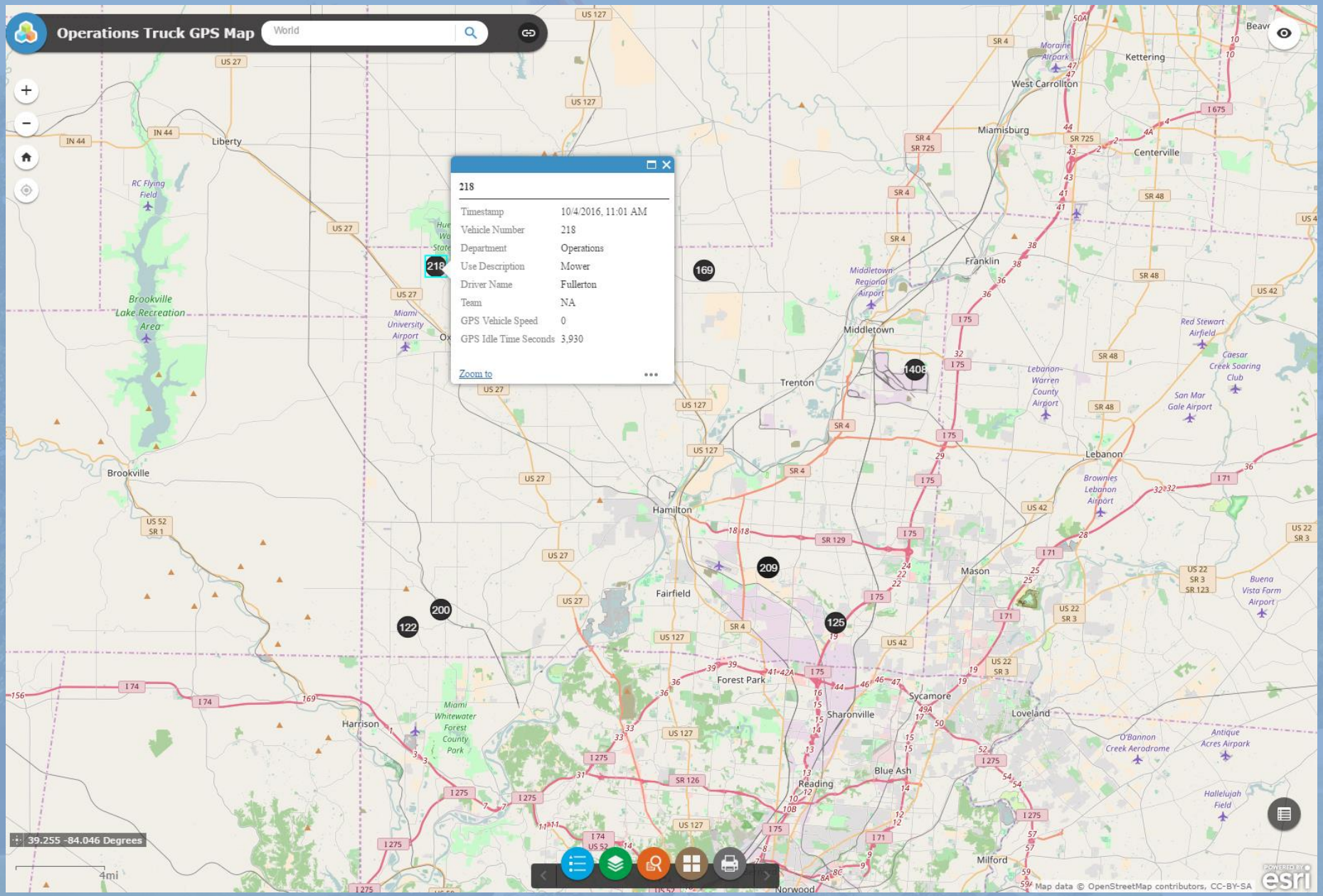
GPS Devices – Novatel Wireless

Enfora MT3050

Enfora MT4100

GPS Device Information

- Verizon Data Service
- GPS devices send data every 30 seconds (this can be changed)
- Turn off vehicles that are not in service temporarily (snow trucks in summer/mower in winter)
- Average price for devices $120.00
- Data contains GPS location information and vehicle engine information (OBD)



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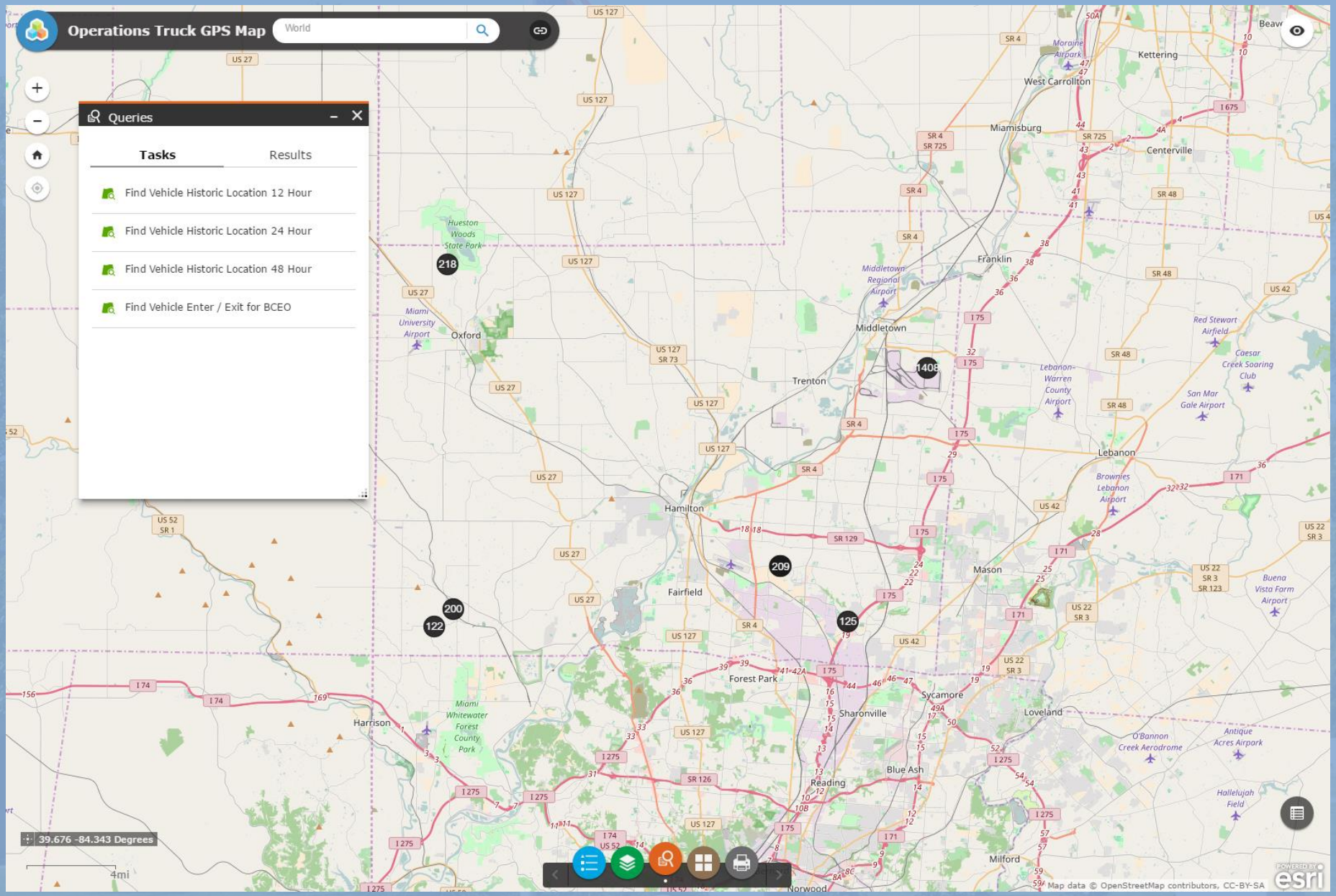

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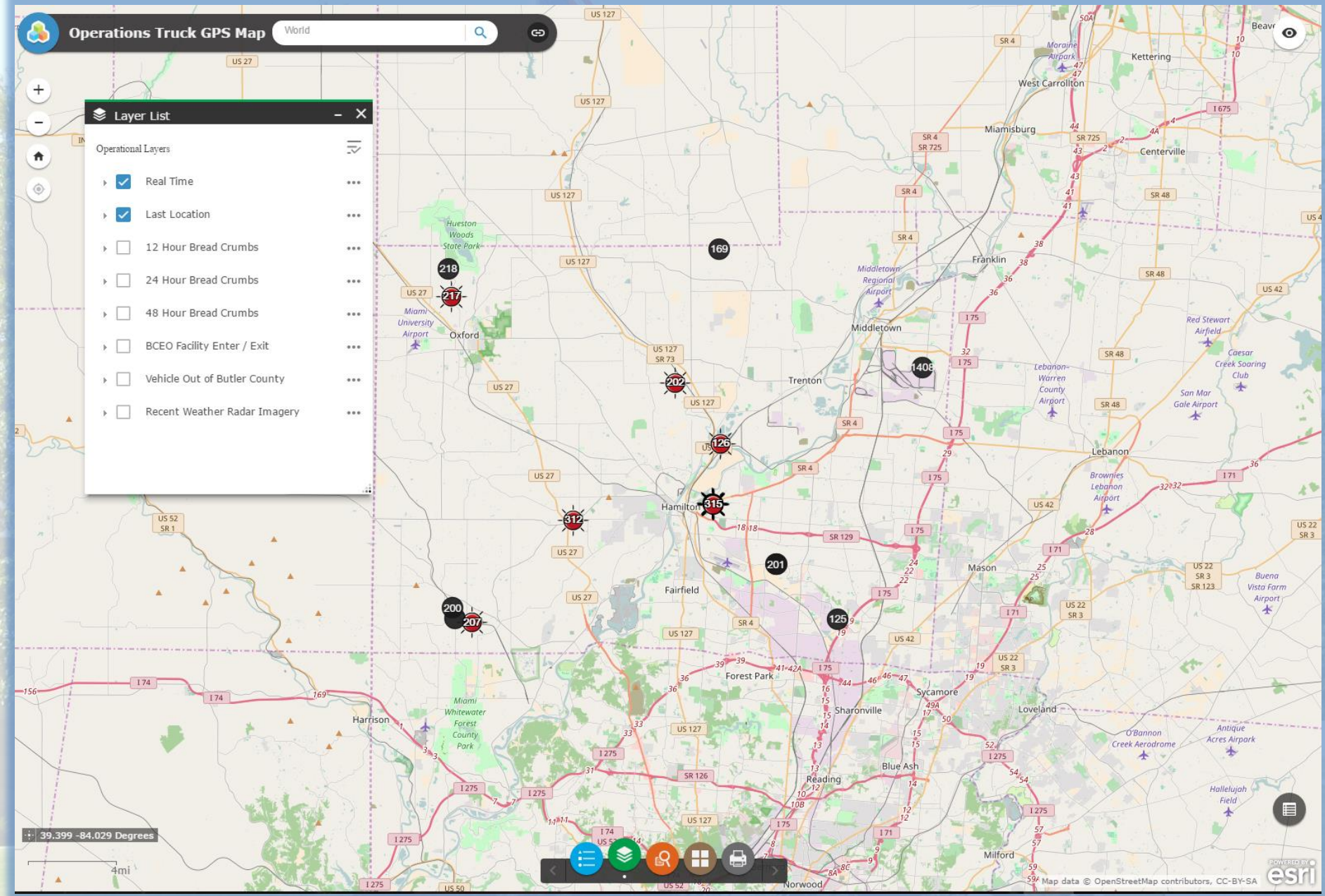

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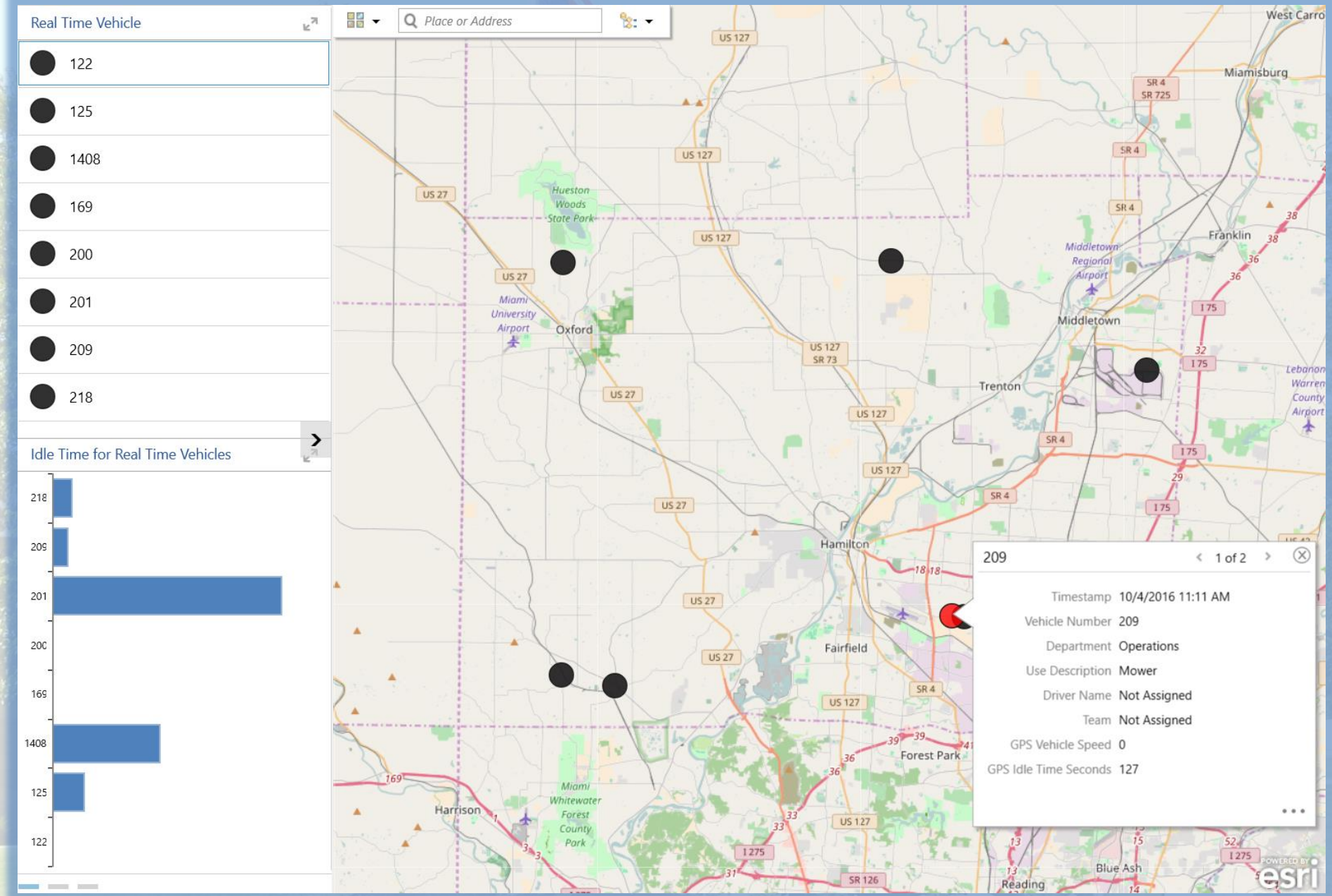
Real Time Vehicle
122
125
1408
169
200
201
209
218
Idle Time for Real Time Vehicles
218
209
201
200
169
1408
125
122
Place or Address
US 127
US 27
SR 4
SR 725
SR 73
I 75
I 275
SR 126
Hueston Woods State Park
Miami University Airport
Oxford
Middletown Regional Airport
Middletown
Franklin
Miamisburg
West Carro
Trenton
Lebanon Warren County Airport
Hamilton
Fairfield
Forest Park
Harrison
Miami Whitewater Forest County Park
Blue Ash
Reading
209
1 of 2
Timestamp 10/4/2016 11:11 AM
Vehicle Number 209
Department Operations
Use Description Mower
Driver Name Not Assigned
Team Not Assigned
GPS Vehicle Speed 0
GPS Idle Time Seconds 127
esri

Benefits

- No third party reporting softu
- Same as current GIS data
- Open and configura
- High level of SE
- Data conta al for analysis
  and ctivity to other systems

YOU OWN YOUR DATA

Live Web Application

BCEO Vehicle GPS Map Link

BCEO Vehicle GPS Map Video

Resources

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