



**Session 5: The Evolving World of Telematics  
Real-Time Information for Fleet Performance**

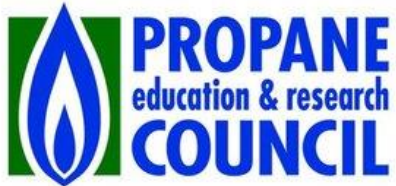
**August 26, 2020**



<https://www.sustainablefleetexpo.com/>

# Our Sponsors

## Platinum Sponsors



## Gold Sponsor



## Silver Sponsors



## Bronze Sponsors





## Next Series Dates & Topics:

**September 09:** Green Fleet Award Winners 2020  
Announcement

**September 23:** Best Practices & Lesson Learned in  
Charging Infrastructure Deployment

**October 07:** Electric Vehicle Options for Fleets

# Format

- **Q&A at the end**
- **Submit questions and comments to “Panelists”**
- **Scheduled for 2:00p-3:30p**
- **Slide handout**
- **Recording**

# The Evolving World of Telematics

## Real-Time Information for Fleet Performance

### August 19, 2020

- 2:00-2:05 **Rick Sapienza, NC Clean Energy Technology Center**—Welcome & Introduction
- 2:05-2:20 **Chuck Ebbets, ViriCiti**—ViriCiti Telematics Solutions and Applications
- 2:20-2:34 **All Curtis, Cobb County GA**—Fleet Telematics Shaping the Future of Mobility
- 2:34-2:42 **Mike Domin, Sourcewell**—Cooperative Purchasing The Power of Partnership
- 2:42-2:56 **David Dunn, City of Orlando FL**—Join Fleets Across the Nation Go Biobased!
- 2:56-3:10 **Drew Newstrom, City of Fort Lauderdale FL**—Solutions for Sustainable Disinfection
- 3:10-3:30 **Q&A**





Rick Sapienza

[resapienza@ncsu.edu](mailto:resapienza@ncsu.edu)

Phone: 919-515-2788

- **Clean Transportation Program Director NC Clean Energy Technology Center at NC State University**
- **8 years with NC State**
- **30+ years experience including General Motors, Draper Lab and Great Lakes Pulp & Fibre in both engineering and business management roles**





Chuck Ebbets  
c.ebbets@viriciti  
.com  
404-578-0729

- Senior Account Executive with ViriCiti
- Started career working with father at family owned Ford Dealership
- More than 20 years working with software as a service and big data
- Passion for using technology in problem solving
- MBA from Georgia Tech





ViriCiti

**Electric and non-electric fleet management made easy**



# Our mission

To accelerate the adoption of commercial electric transportation globally



## Market leaders in North America and Europe



**1200**  
charger sockets

**2500**  
vehicles

**8**  
years of experience

**70**  
employees

**3**  
offices in Europe & US

**200**  
operators & OEMs





## We work with 200+ operators and OEMS worldwide



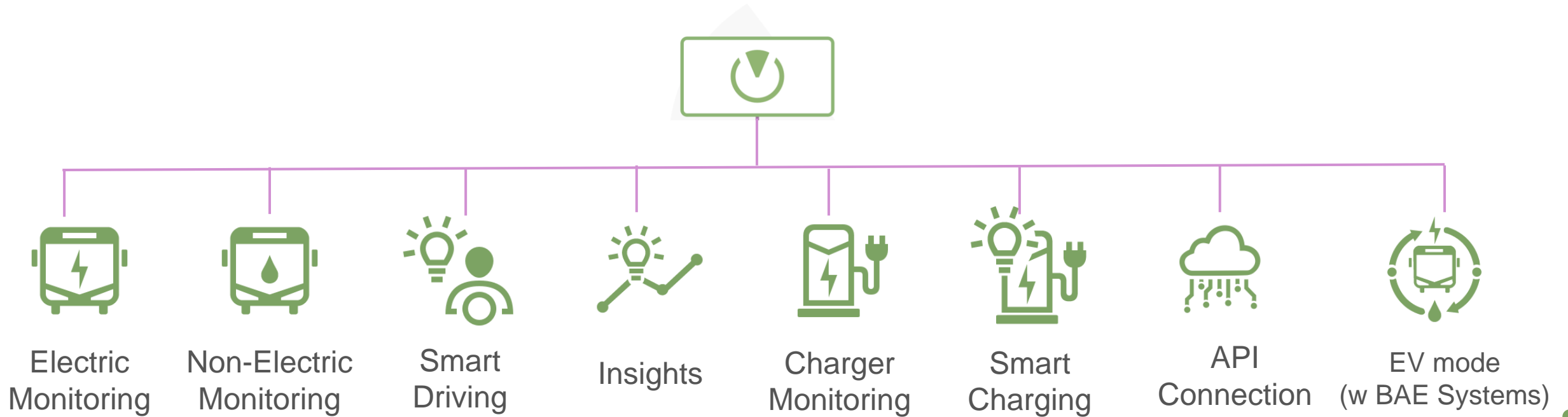


# OEMs and Agencies in the Southeast United States





# Complete solutions for the modern vehicle fleet





# Top challenges



Energy management

! Range anxiety



Maintenance

! Battery warranty  
! Fault codes  
! Charger issues



Power management

! Avoid peak demand  
! Day/Night tariffs

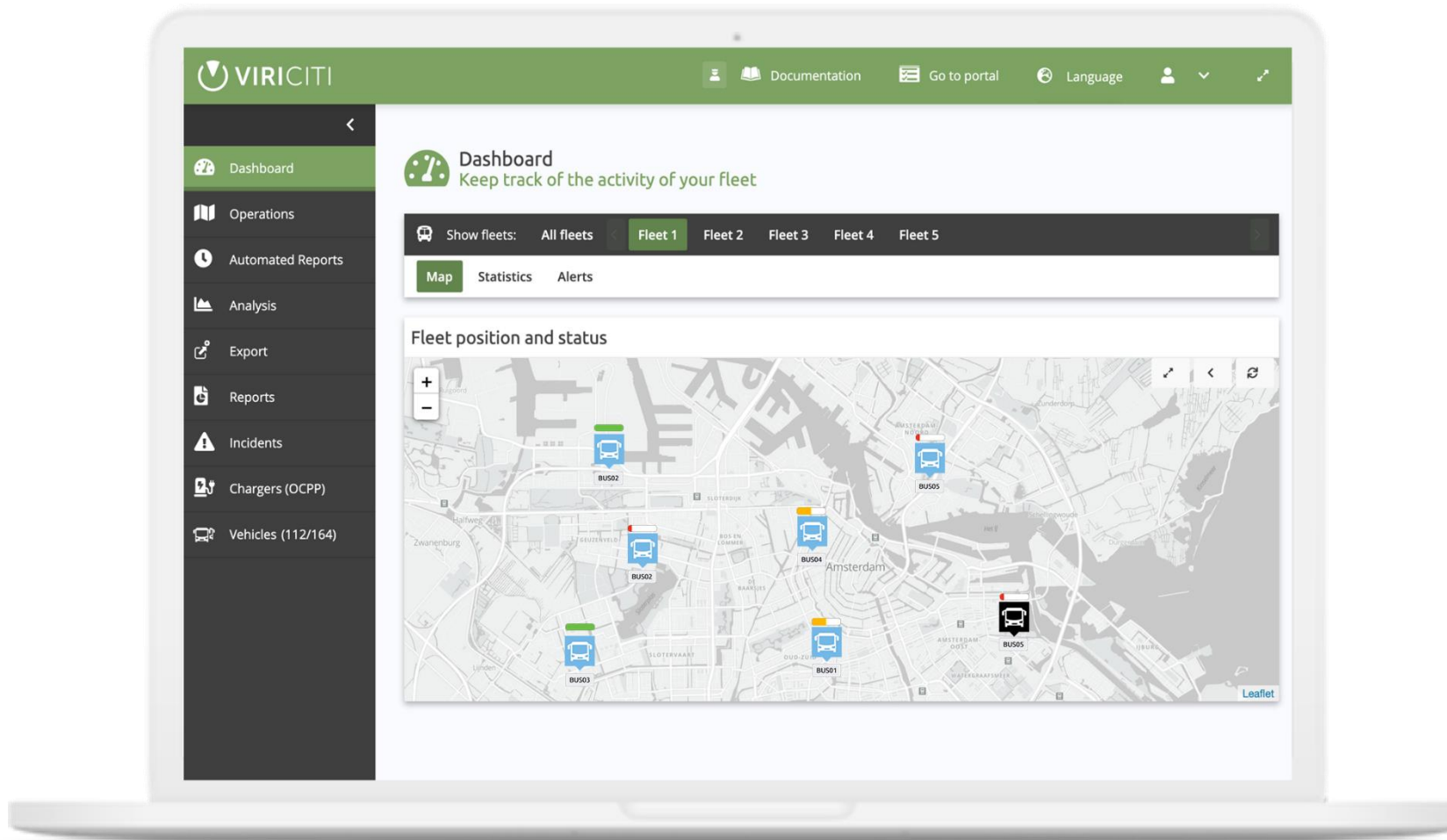


Data Analysis

! Efficiency  
! Distance driven  
! Uptime



# Vehicle Management: Electric & Non-Electric



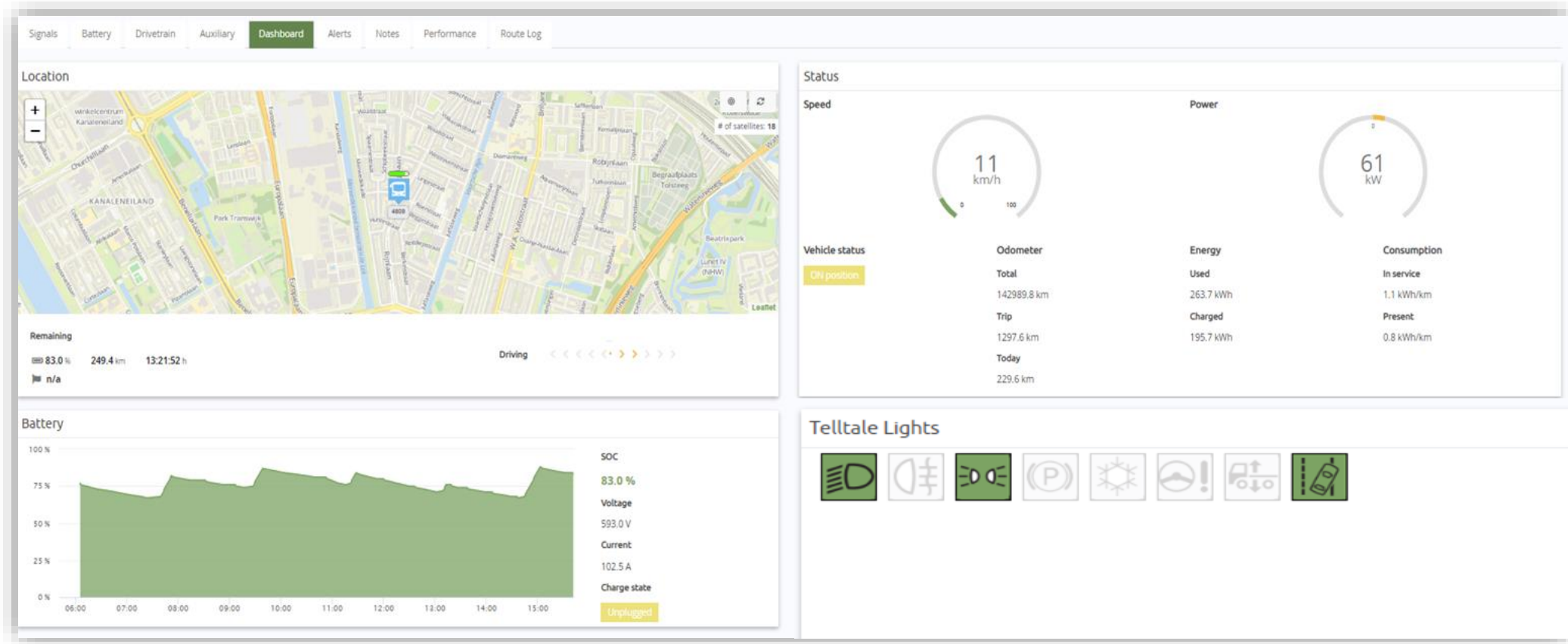
## Key Features

- ▶ Real-time position
- ▶ FMS & Basic battery data
- ▶ Vehicle statistics
- ▶ Basic battery statistics
- ▶ (Automatic) reports
- ▶ Manual Route log
- ▶ Live Dashboard lights
- ▶ Incidents
  - ▶ Sent via E-Mail / SMS / SDK
  - ▶ Triggered by Parameters or Location





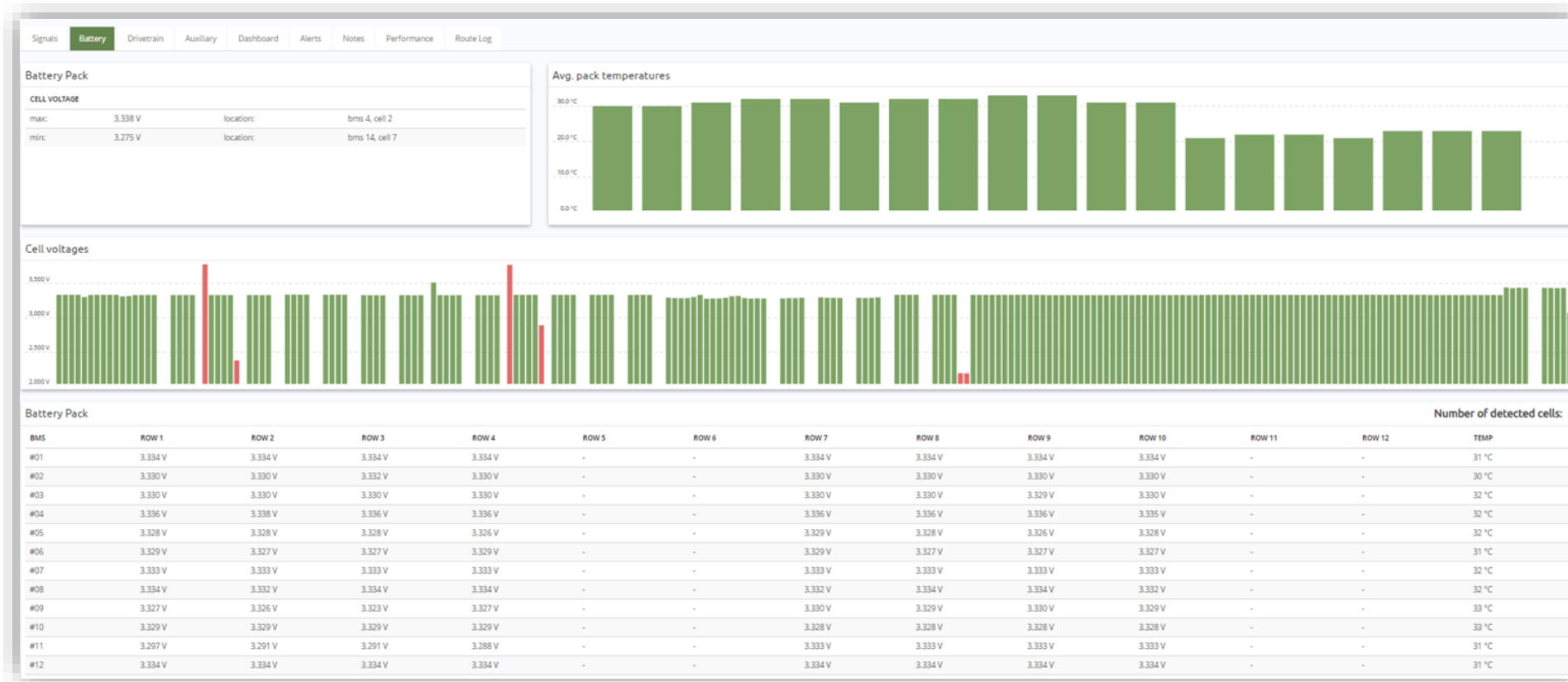
# Vehicle Dashboard



- Real-time overview of essential parameters: current state of charge, state of charge over time, remaining range, current speed, current power, energy used today, energy charged today, energy consumed (kWh per mile)



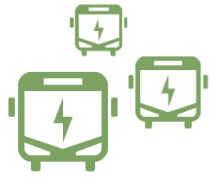
# In-Depth Battery Analysis



- ▶ Detect unbalanced (underperforming) batteries – min/max cell voltage difference
- ▶ Protect your batteries by actively monitoring the average battery/cell temperature



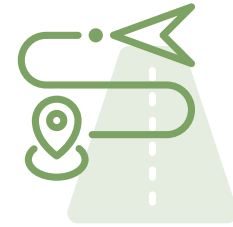
## Benefits: Vehicle management



Increase fleet utilization



Process complex data



Reduce range anxiety



Reduce fuel costs



Improve visibility



Optimize operations



Decrease TCO



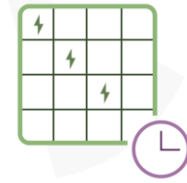
# Benefits: Charger management



Lower infrastructure costs



Reduce maintenance time/cost



Lower charging costs



Increase uptime



Charge according to schedule



Better insights



Identify critical issues



## References

Qbuzz monitors mixed fleet of **430 electric and non-electric buses** via ViriCiti, which allows them to see data from all 6 different bus OEMs in one dashboard. In addition, Qbuzz use ViriCiti to also monitor 300 depot and on-route chargers.

**Qbuzz**

“ We have been working with the ViriCiti system for quite some time now. With their Mixed Fleet solution, we now have a complete overview of our entire fleet – in one dashboard. We believe this has the potential to really accelerate our transition to a fully zero-emissions fleet.”



Gerrit Spijksma  
CEO Qbuzz



Thank you

Contact us

USA Offices in  
Greenville SC || Irvine CA  
[www.viriciti.com](http://www.viriciti.com)

Chuck Ebbets

Senior Account Manager Southeast

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404-578-0729





Al Curtis

[al.curtis@cobbcounty.org](mailto:al.curtis@cobbcounty.org)

Phone: 770-528-1114

- Fleet Services Director Cobb County GA (2,500+ vehicle fleet)
- More than 27 years fleet experience in public & private sectors
- Top fleet leader, integrating technology and sustainability practices into fleet operations
- Implemented numerous sustainability and safety efforts for the county increasing efficiency, saving money and reducing emissions
- Continually recognized fleet leader by The 100 Best Fleets, Green Fleet Awards, and Inductee to Public Fleet Hall of Fame, . . .



*Cobb County...Expect the Best!*

# FLEET TELEMATICS

SHAPING THE FUTURE OF MOBILITY



FLEETS



# IOT CONNECTED DEVICES FLEET REAL TIME DATA FLEET MOBILITY





# CONNECTED GPS DEVICES TO DRIVE EFFICIENCY/SAVINGS



# FREE TELEMATICS THROUGH EV-WATTS

- DOE-FUNDED PROGRAM (2019-2022)
- **DATA SHARING:** FLEETS WITH TELEMATICS PROGRAM
- **DATA COLLECTION:** FLEETS WILL RECEIVE FREE GEOTAB DATA LOGGERS
- DATA COLLECTION PERIOD ~ 18-24 MONTHS
- FLEETS CAN KEEP DATA LOGGERS AFTER PROJECT END (PAY THROUGH GEOTAB) OR RETURN THEM TO DOE FOR FREE



**Interested in participating?**

**GA fleets:** [Jennifer@CleanCitiesGeorgia.org](mailto:Jennifer@CleanCitiesGeorgia.org)

**Non-GA fleets:** [EVWATTS@energetics.com](mailto:EVWATTS@energetics.com)

# CASE STUDY ON THE DEPLOYMENT OF TELEMATICS

- **Challenge**

To deploy a telematics solutions that would minimize risk, cost effective, plug and play technology, expandable open API, customizable, that improves productive, and lower our carbon foot print, while lowering fuel and operational costs.

- **Solution**

238 SyncUP/GEOTAB FLEET units were installed in electric, hybrids, and gas cars & trucks.

Units deployed in following Departments: Juvenile Court, Tax Assessors Office, Water Department, DOT, and Senior Services.

- **Results**

Implementing the telematics help our departments improved the amount of accidents and speeding violations by an average 15%. This reduced accidents, lowered the number of high risk drivers and improved overall driver safety in the departments.

During the implementation stage we had over 20 incidents where a vehicle was in motion without a seatbelt fastened. After just 4 weeks of coaching in action, 100% of all employees were using their seatbelts.

Cost savings was another benefit of telematics deployment. Maintenance/repair cost were cut approximately 15%. With a Fleet that travels over 5 million miles a year we had to address excessive idling. Telematics has allowed us to reduce over 1 1/2 hour idle time per vehicle. Equates to over 20,000 gallons of fuel saves and \$50,000 in cost savings. The reduction in fuel usage has directly impacted our overall operational cost and has reduced over 342,000 lbs. of CO2 emissions.

**AL CURTIS**  
DIRECTOR, FLEET MANAGEMENT  
MARIETTA, GA



*Cobb County...Expect the Best!*



Mike Domin

Contract Administrator

218-895-4148

[mike.domin@sourcewell-mn.gov](mailto:mike.domin@sourcewell-mn.gov)

- Contracts Administrator at Sourcewell
- Managed Portfolio includes EVs, charging infrastructure & many other fleet solutions
- Contributor to the Climate Mayors' Collaborative

# The Power of Partnership

August 26, 2020

Sourcewell   
Formerly NJPA





# Who is Sourcewell?



Sourcewell is a leading, independent government agency.

- Sourcewell is a unit of government of the state of Minnesota
- Our staff members are public employees

[www.sourcewell-mn.gov](http://www.sourcewell-mn.gov)

# Legal Authority & Responsibility



Sourcewell facilitates a competitive solicitation & awards process on behalf of our members' needs and expectations throughout the U.S. and Canada.

- Sourcewell is its own lead agency with legislative authority to establish contracts.
- Acceptance and use always comes down to local policy and interpretation.

# Sourcewell satisfies your competitive process



# Who are our Sourcewell Members?



## State and Local Government Entities

- Cities
  - Counties
  - States and state agencies
  - Special and water districts
  - Native American tribes
  - Port and transportation authorities
- 



## Public and Private Education

- K-12
  - Special Education Districts
  - Charter schools
  - Higher education/universities
- 



## Nonprofits (tax exempt organizations)

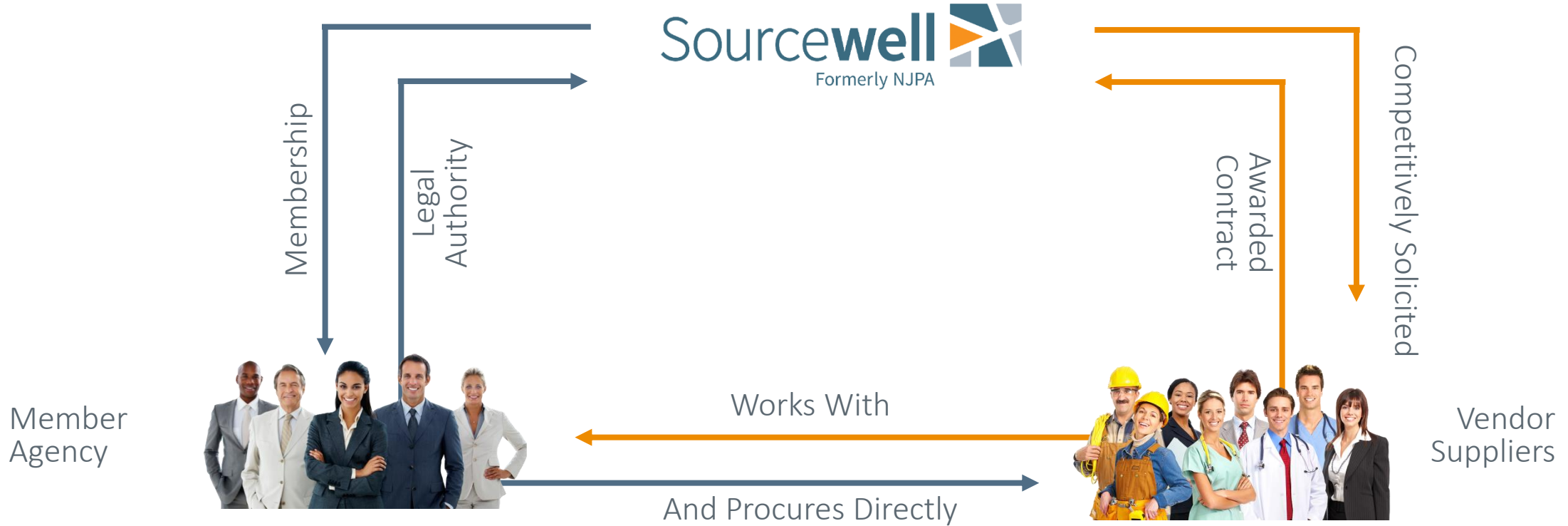
- Hospitals and nursing homes
- Rural power cooperatives
- Housing authorities
- Member associations and cooperatives

# Value of Sourcewell Membership

- Membership is at no cost, no obligation and no liability
- Choose from 300+ contracts
- Streamlines the purchasing process
- Sourcewell membership establishes the necessary paper trail

No need to duplicate the process

# How it Works



A legal contracting pathway between buyers and suppliers

# Electric Vehicle Solutions



## Electric Vehicles



#120716-NAF

## Leasing



#032615-NCL

## Charging Infrastructure Solutions



#051017-CPI



#051017-ZSI



#051017-SIE



#051017-LPE



#051017-AEV

# Summary

- Contracts competitively solicited on your behalf
- Save time and money by combining the buying power of more than 50,000 government, education, and nonprofit organizations
- CHOICE, choose from a wide array of products and services to find the solutions that fit your needs
- Value of membership



# Don't Hesitate to Reach Out



Mike Domin

Contract Administrator

218-895-4148

[mike.domin@sourcewell-mn.gov](mailto:mike.domin@sourcewell-mn.gov)

Thank you!



David Dunn  
david.dunn@cityoforlando.net

- Division Manager, Fleet & Facilities Management Division
- City of Orlando since 2006
- 23 years prior experience in the aerospace industry with NASA/Space Shuttle Program
- Leader in technology deployment in fleet and operations, helping Green Works goals
- Participation in several professional association, numerous professional certifications and industry recognition awards
- US Navy Veteran
- Pastor & Advocate for those diagnosed with mental illness



# The Evolving World of Telematics Real-Time Information for Fleet Performance



Fleet & Facilities Management  
A service support Division in the  
Office of Business and  
Financial Services  
David L. Dunn, CFM  
Division Manager

**SERVICE  
WRITER**  
**NO SMOKING**



FLEET MANAGEMENT  
WILL NOT BE  
RESPONSIBLE  
FOR ITEMS LEFT  
IN VEHICLES



SERVICE WRITER  
HOURS:  
9:00 A.M. - 3:00 P.M.  
OFFICE: 407-246-2507  
CELL: 407-844-6090  
ORLANDO

100 Best Fleets  
in North America  
**100  
BEST FLEETS**  
Awarded to  
City of Orlando

- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019

**SUSTAINABLE  
FLEET  
TECHNOLOGY**  
VIRTUAL CONFERENCE 2020

We knew you were coming and your mechanic will see you now in Bay 43.

# Evolving Telematics that provide Real-Time Information for Fleet Performance is changing the way the industry works.....

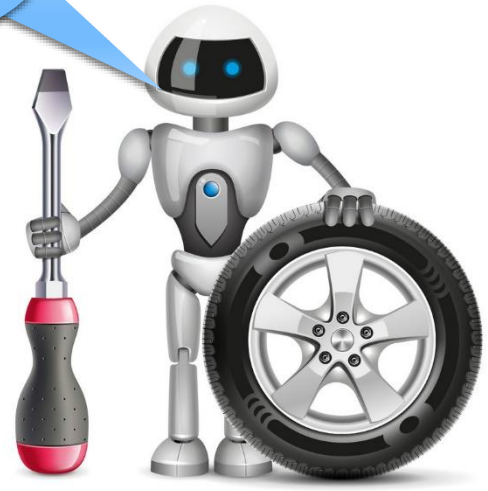
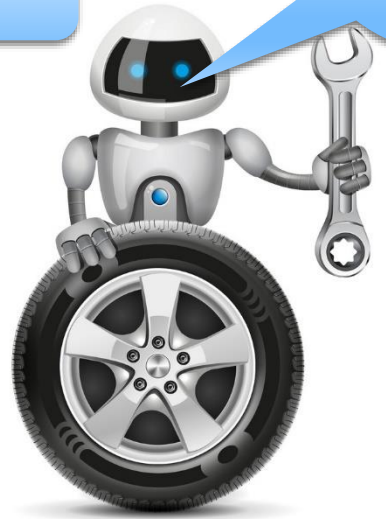
**Anticipate Service Needs!**

Parts are ready!

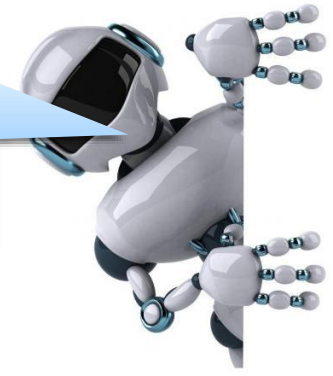


Please pull into Bay 43 and we will be happy to service your assigned Fleet Asset.

We know you need tires.



Hey, I have that shifter boot here for install too.



I'm ready to tackle that sticking throttle



# Connected car Leadership Landscape

**Telematics**

**Autonomous Driving Systems**

**Cloud Service**

**ADAS**



**Infotainment**

**Navigation Systems**

**Vehicular Comms. Systems**

Consider the evolution of Telematics!



City of Orlando



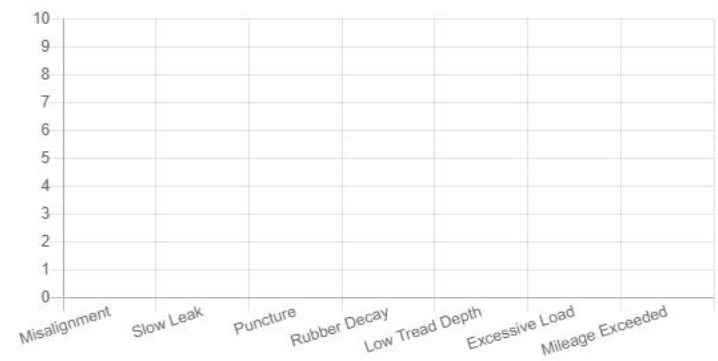
**“With connected cars and smart traffic comes ever more data. With data as the new oil, the questions over vehicle data ownership, access and purpose increase”**



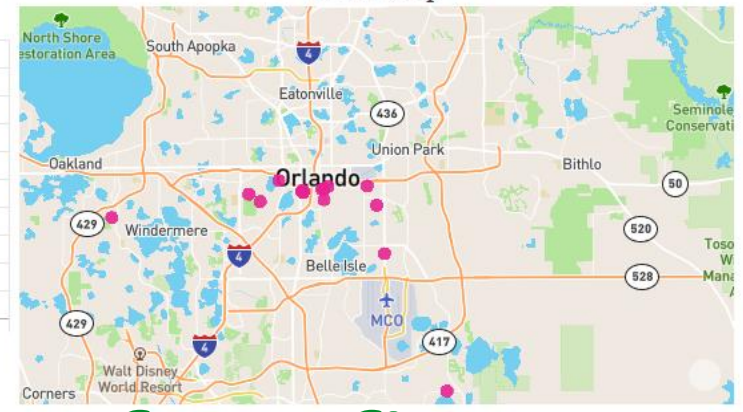
Vehicles Needing Service



Tires Needing Service



Fleet Map



Showing all 38 vehicles

40 more in process of up-fit!

REVVO is our latest investment!

|  |   |   |
|--|---|---|
| <p>9445<br/>2016 Ford Transit</p> <p>71.0 PSI<br/>10/32"<br/>4 minutes ago</p> <p>72.0 PSI<br/>10/32"<br/>7 months ago</p> <p>71.4 PSI<br/>6/32"<br/>a month ago</p> <p>71.6 PSI<br/>6/32"<br/>a month ago</p> | <p>9985<br/>2016 Ford F250</p> <p>78.0 PSI<br/>11/32"<br/>7 months ago</p> <p>46.4 PSI<br/>12/32"<br/>a month ago</p> <p>79.1 PSI<br/>9/32"<br/>3 months ago</p> <p>79.7 PSI<br/>9/32"<br/>5 months ago</p> | <p>10264<br/>2018 Ford Explorer</p> <p>44.4 PSI<br/>7/32"<br/>6 months ago</p> <p>41.5 PSI<br/>8/32"<br/>6 months ago</p> <p>42.7 PSI<br/>9/32"<br/>6 months ago</p> <p>43.7 PSI<br/>9/32"<br/>6 months ago</p> |
| <p>9854<br/>2017 Toyota Tundra</p> <p>38.7 PSI<br/>10/32"<br/>4 days ago</p> <p>40.1 PSI<br/>10/32"<br/>4 days ago</p>   | <p>10651<br/>2019 Ford F150</p> <p>38.3 PSI<br/>10/32"<br/>9 minutes ago</p> <p>-14.2 PSI<br/>10/32"<br/>2 hours ago</p>  | <p>9503<br/>2016 Ford Explorer</p> <p>37.2 PSI<br/>10/32"<br/>14 hours ago</p> <p>36.1 PSI<br/>9/32"<br/>14 hours ago</p>   |



Accounts



Vehicles



Sensors



Tires



Transceivers



Options



🔍 📄 🖨️ ☰ ☰

| MAC Address       | Vehicle ID           | Tire ID              | Sensor Location      |
|-------------------|----------------------|----------------------|----------------------|
| C0:56:26:57:77:57 | -MDwViK0VoqaLdVhkWuY | -MDwViJuQUD2mlh_p-ZP | Right 3rd Axle Outer |
| C1:EB:93:FB:90:7A | -MDwVM-drk-msW1_LaD8 | -MDwVLxwDvke_JkyZiDT | Left 3rd Axle Outer  |
| C2:70:AE:E8:F4:6D | -MDwX5VslidC2oml0uM3 | -MDwX5UBd5SG6XQDBSke | Right 2nd Axle Inner |
| C2:91:F8:13:7B:28 | -MDwWAo6CyugphHD8tY2 | -MDwWAmmrTf5h4GangVi | Right 3rd Axle Inner |
| C2:9B:31:53:34:5E | -LsVgkds0-Ezpmrt6RGZ | -LsVgkb3xClbw7AqsGMu | Right 3rd Axle Inner |
| C2:B9:9A:2F:D6:BA | -Ls4nsBSJmcVT0hI-cY4 | -Ls4ns7Vv4ozjSA0LUWG | Left 1st Axle        |
| C3:07:F3:03:98:18 | -MDwZTBjJt2ma_0X6mp_ | -MDwZT8H2F3iM5izDdti | Right 1st Axle       |
| C3:18:0D:75:3F:50 | -MDwQrSEgCnSTMkbS8L6 | -MDwQrNaxpuNZTHfGC7w | Left 1st Axle        |
| C3:63:EB:CA:13:D3 | -MDwXrHW0nq17hGJmQRg | -MDwXrHR-0acZPHb1Neo | Right 3rd Axle Outer |
| C3:EF:30:AC:FB:F4 | -MDwYU7UVs8N93h9DY4g | -MDwYU4PazilAweeck8R | Left 2nd Axle Outer  |
| C4:0C:7C:24:5B:2D | -MDwYU7UVs8N93h9DY4g | -MDwYU6ArdQBewxiOOfh | Right 3rd Axle Inner |
| C4:5E:E4:60:FD:5D | -MDwX5VslidC2oml0uM3 | -MDwX5Vk-vKrrNSSLQHx | Right 3rd Axle Outer |
| C4:AC:AE:95:78:3F | -Ls4nsMa1GaalzXt7IPo | -Ls4nsHLtlhEHtbOHxh0 | Left 2nd Axle        |
| C4:C2:8A:92:56:62 | -MDyOtnf-zJWcyKm6S3N | -MDyOtm-5rc3okLFX75m | Right 2nd Axle Inner |
| C5:05:1F:52:75:60 | -MDwQrSEgCnSTMkbS8L6 | -MDwQrPHQS3YSgWPtQiF | Right 2nd Axle Outer |
| C5:55:87:71:F0:33 | -MDwViK0VoqaLdVhkWuY | -MDwViGnRti8-33hQOE4 | Right 1st Axle       |
| C6:10:59:EC:75:F3 | -Ls4nrxyF4xSbVW015sn | -Ls4nrvPOzlpjSNX5n_w | Right 2nd Axle       |

## Transceivers

| Transceiver ID       | Manufacturer | Model    | IMEI           | Vehicle                               | Display Name | Logs |
|----------------------|--------------|----------|----------------|---------------------------------------|--------------|------|
| -LsOkzqp2pxh47PcGfc1 | Google       | Pixel    | 35253108197423 | <a href="#">-LsOluB-fuj-5jairTI2</a>  | Revvo 13     |      |
| -LsOzk_ewLsvhOQe7zq1 | Google       | Pixel    | 35253108506350 |                                       | Revvo 10     |      |
| -LsPgSZuqLWi-6vdQ-Zp | LGE          | Nexus 5X | 35362607091586 |                                       | Revvo 1      |      |
| -Lsb7HR_WfTKmgFHaabm | Google       | Pixel    | 35253108107917 | <a href="#">-LsYA307DOajOtgDTIIZP</a> | Android 14   |      |
| -LsbXqyagoO6_IWVx3NE | Google       | Pixel    | 35253108369910 | <a href="#">-Ls4nsMa1GaalzXt7IPo</a>  | testapp      |      |
| -LsblmHFNKjXSWhtuYKh | Google       | Pixel    | 35253108369893 | <a href="#">-Ls4nsMa1GaalzXt7IPo</a>  | Revvo15      |      |
| -LzDiaGa1DHOpN8wn5Sf | Google       | Pixel    | not_supported  |                                       | Revvo11      |      |
| -M7JUUi6eXmh8AvLtZd  | Google       | Pixel 3  | not_supported  |                                       | [none]       |      |
| C0:5E:C3:90:11:AC    |              |          |                | <a href="#">-MDwYGycjhebPSbhR5</a>    | 1002794420   |      |
| C0:68:C1:E2:A1:85    |              |          |                | <a href="#">-MDyOYVoFmRynLYpL2w5</a>  | 1005651944   |      |
| C0:7F:86:A1:73:24    |              |          |                | <a href="#">-Ls4nrxyF4xSbVW015sn</a>  | T2R2.10      |      |
| C2:EC:DB:F7:F3:8F    |              |          |                | <a href="#">-MDyKvqCX9z6pB7uaXbZ</a>  | 1005127890   |      |

Fleet

Vehicles

Tires

Admin

Log Out

fleetId: -LMhs6sJVff55FkOwc2y  
vehicleId: -LsYA307DOajOtgDTIZP

| Property | Value |
|----------|-------|
|----------|-------|

|              |       |
|--------------|-------|
| licensePlate | 10672 |
|--------------|-------|

|     |                   |
|-----|-------------------|
| VIN | 1FTEX1CP8KKC58225 |
|-----|-------------------|

|      |      |
|------|------|
| make | Ford |
|------|------|

|       |      |
|-------|------|
| model | F150 |
|-------|------|

|      |      |
|------|------|
| year | 2019 |
|------|------|

|                    |       |
|--------------------|-------|
| vehicleDisplayType | Truck |
|--------------------|-------|

|                     |         |
|---------------------|---------|
| axleConfigurationId | default |
|---------------------|---------|

[Edit](#)

## Vehicles

| Vehicle ID           | VIN               | License Plate | Make    | Model    | Year | Display   |
|----------------------|-------------------|---------------|---------|----------|------|-----------|
| -Ls4nmS5EQ0MuCPwpIb  | 1FTYR2YV4GKA22022 | 9445          | Ford    | Transit  | 2016 | VAN       |
| -Ls4nrxyF4xSbVW015sn | 1FTBF2BT3GEB29275 | 9985          | Ford    | F250     | 2016 | TRUCK     |
| -Ls4ns5T4iTWQkGCq2ox | 1FM5K8B8XJGB85406 | 10264         | Ford    | Explorer | 2018 | SUV       |
| -Ls4nsBSJmcVT0hI-cY4 | 5TFRM5F15GX106826 | 9854          | Toyota  | Tundra   | 2017 | TRUCK     |
| -Ls4nsMa1GaalzXt7IPo | 1FTEX1EP5KKC18729 | 10651         | Ford    | F150     | 2019 | TRUCK     |
| -Ls4nsoTb3nlssGg-ZFG | 1FM5K7B85HGB15915 | 9503          | Ford    | Explorer | 2016 | SUV       |
| -LsVgkdso-Ezpmrt6RGZ | 5VCACRCE3KC227548 | 10052         | AUTOCAR | Xpeditor | 2019 | CARGO_VAN |
| -LsYA307DOajOtgDTIZP | 1FTEX1CP8KKC58225 | 10672         | Ford    | F150     | 2019 | TRUCK     |
| -MDQYmRdoHjEj1_XHXqA |                   |               |         |          |      | CARGO_VAN |
| -MDwQrSEgCnSTMkbS8L6 | 5VCACRCE4KC227574 | XH0619        | AUTOCAR | Xpeditor | 2019 | CARGO_VAN |
| -MDwVM-drk-msW1_LaD8 | 5VCACRCE6KC227561 | XF5062        | AUTOCAR | Xpeditor | 2019 | CARGO_VAN |
| -MDwViK0VoqaLdVhkWuY | 5VCACRCE3KC227565 | XF5072        | AUTOCAR | Xpeditor | 2019 | CARGO_VAN |
| -MDwWAo6CyugphHD8tY2 | 5VCACRCE5KC227549 | XF5073        | AUTOCAR | Xpeditor | 2019 | CARGO_VAN |
| -MDwX5VslIDC2oml0uM3 | 5VCACRCE3KC227551 | XF5074        | AUTOCAR | Xpeditor | 2019 | CARGO_VAN |
| -MDwXrHW0nql7hGJmQRg | 5VCACRCE1KC227564 | XF5067        | AUTOCAR | Xpeditor | 2019 | CARGO_VAN |
| -MDwYGycjchepPSbhr5  | 5VCACRCE8KC227562 | XF5061        | AUTOCAR | Xpeditor | 2019 | CARGO_VAN |
| -MDwYU7UVs8N93h9DY4g | 5VCACRCE4KC227557 | XG8636        | AUTOCAR | Xpeditor | 2019 | CARGO_VAN |
| -MDwZTBJJtma_0X6mp_  | 5VCACRCE5KC227566 | XF5068        | AUTOCAR | Xpeditor | 2019 | CARGO_VAN |
| -MDwZowDotB35MuFU8NT | 5VCACRCE2KC227556 | XF5066        | AUTOCAR | Xpeditor | 2019 | CARGO_VAN |

- Fleet
- Vehicles
- Tires
- Admin
- Log Out

| Tire ID                              | Brand                  | Tire Code | Tire Diameter (in.) | Reports |
|--------------------------------------|------------------------|-----------|---------------------|---------|
| <a href="#">-Ls4nrS6kSF5b1mVZdbe</a> | General Grabber HD     | 235/65R16 | 28.0275590551181    |         |
| <a href="#">-Ls4nrkndh9SqDWXzXm1</a> | General Grabber HD     | 235/65R16 | 28.0275590551181    |         |
| <a href="#">-Ls4nrli_JqzkDbs7Trd</a> | General Grabber HD     | 235/65R16 | 28.0275590551181    |         |
| <a href="#">-Ls4nrmatpCfSV7qYQg5</a> | General Grabber HD     | 235/65R16 | 28.0275590551181    |         |
| <a href="#">-Ls4nrUvCEGwq2DGlk0</a>  | Goodyear Wrangler      | 245/60R18 | 29.5748031496063    |         |
| <a href="#">-Ls4nrSbbVEbz3CyxZpy</a> | Goodyear Wrangler      | 245/60R18 | 29.5748031496063    |         |
| <a href="#">-Ls4nrU3Rp6CpiUAWcVI</a> | Goodyear Wrangler      | 245/60R18 | 29.5748031496063    |         |
| <a href="#">-Ls4nrVPOzlpjSNX5n_w</a> | Goodyear Wrangler      | 245/60R18 | 29.5748031496063    |         |
| <a href="#">-Ls4ns1HnMXojQI1OGAL</a> | Michelin Latitude Tour | 245/60R18 | 29.57480315         |         |
| <a href="#">-Ls4ns2TPD4tvD558jOR</a> | Michelin Latitude Tour | 245/60R18 | 29.57480315         |         |
| <a href="#">-Ls4ns3T6flKACKyXPBr</a> | Michelin Latitude Tour | 245/60R18 | 29.57480315         |         |
| <a href="#">-Ls4ns4cGYBjzgNaFYrw</a> | Michelin Latitude Tour | 245/60R18 | 29.57480315         |         |

# Tire Management

General Grabber HD 235/65R16

## Override Tire Mileage

Mileage in mi

Log Measurement

## Tread Measurement Form

Groove

Inner ▾

Tread in mm

Tread in mm

Tread in mm

Tread in mm

Tread in mm



Log Tread

## Current Status

Vehicle: 9445

Location: LEFT\_1

## Tire History

| Timestamp | Type | Vehicle ID | New Location |
|-----------|------|------------|--------------|
|-----------|------|------------|--------------|

## Vehicle History

| Timestamp            | Type                    | Location(s) | Value |
|----------------------|-------------------------|-------------|-------|
| 10/28/19 20:16:48 pm | TRANSCIEVER_REPLACEMENT |             |       |
| 10/30/19 0:13:27 am  | TRANSCIEVER_REPLACEMENT |             |       |
| 11/1/19 9:46:38 am   | TRANSCIEVER_REPLACEMENT |             |       |
| 1/22/20 14:28:48 pm  | TRANSCIEVER_REPLACEMENT |             |       |
| 1/22/20 14:41:27 pm  | TRANSCIEVER_REPLACEMENT |             |       |

# Tire Management

General Grabber HD 235/65R16

## Override Tire Mileage

Mileage in mi



Inner

Inner Center Measurement Form

Center

Outer Center

Outer



Log Tread

Tread in mm



Tread in mm



Tread in mm



Tread in mm



## Current Status

Vehicle: 9445

Location: LEFT\_1

## Tire History

Timestamp

Type

Vehicle ID

New Location

## Vehicle History

Timestamp

Type

Location(s)

Value

10/28/19 20:16:48 pm

TRANSCIEVER REPLACEMENT

10/30/19 0:13:27 am

TRANSCIEVER REPLACEMENT

11/1/19 9:46:38 am

TRANSCIEVER REPLACEMENT

1/22/20 14:28:48 pm

TRANSCIEVER REPLACEMENT

So many options you can monitor.

Fleet knows about low tire pressure, wear issues, wear patterns and so much more in advance of vehicle PM's or Demand Work.

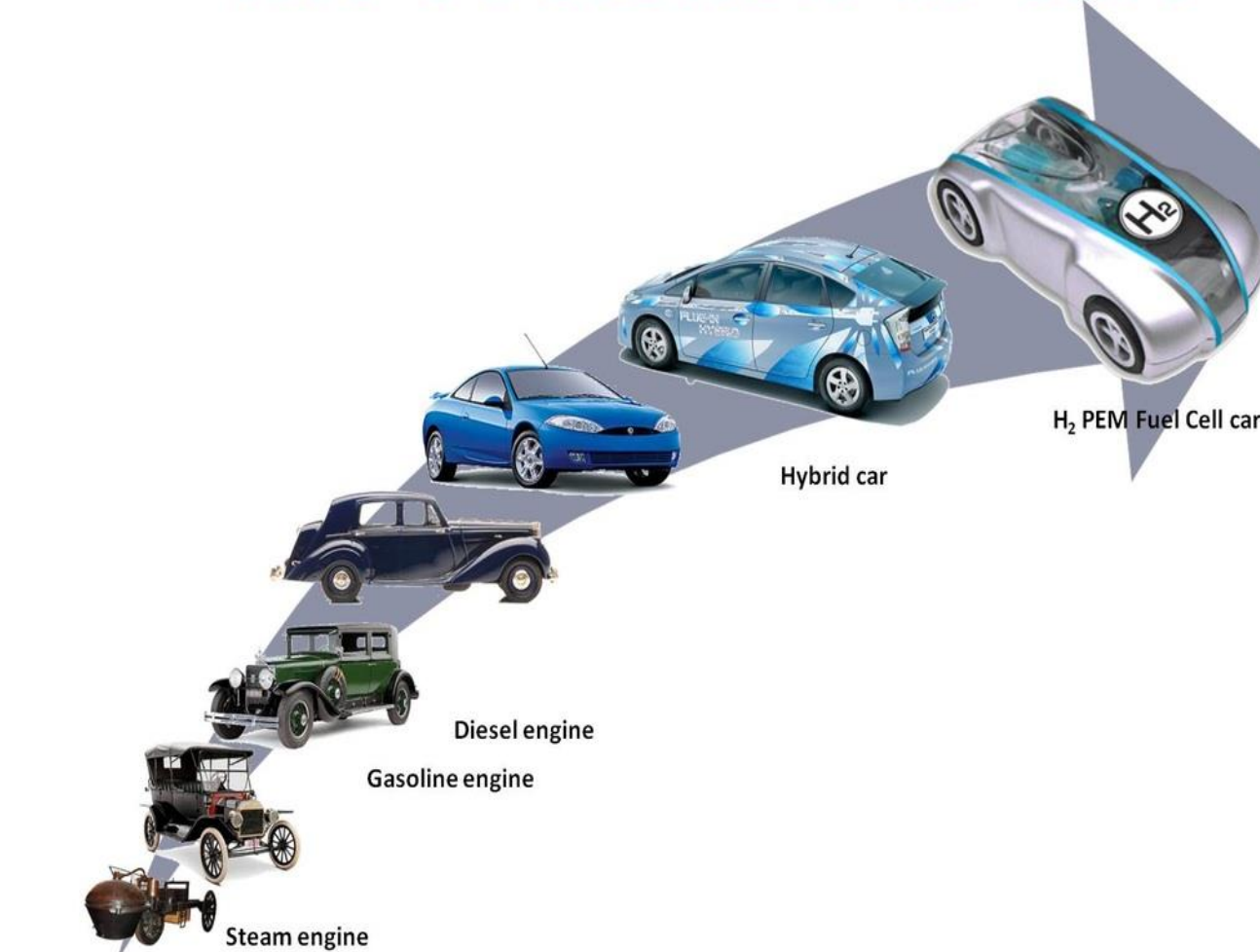
This helps us determine other issues associated with vehicles and where to look for diagnosis of worn parts, often before the drivers notice.

to George Jetson

# Consider The evolution of cars



with a stop in  
Dubai via an  
Autonomous  
Flying Taxi



## The future has Arrived!



from Fred & Barney



City of Orlando



**Fleet & Facilities Mgmt**  
A service support Division  
in the Office of Business  
and Financial Services



1010 S. Westmoreland Drive  
Orlando, Florida 32805  
407.246.3873 Office  
321.231.2904 Cell  
david.dunn@cityoforlando.net



**David L. Dunn, CFM**  
**Division Manager**



There is so much  
more...



[www.cityoforlando.net/greenworks/](http://www.cityoforlando.net/greenworks/)





Drew Newstrom

[Dnewstrom@FortLauderdale.gov](mailto:Dnewstrom@FortLauderdale.gov)

954-828-5710

- Automotive & Equipment Specialist, City of Fort Lauderdale
- Previously worked at Enterprise in Rental, Fleet Maintenance, and Fleet Management
- BS in Biochemistry from University of Nebraska



CITY OF FORT LAUDERDALE

CITY OF FORT LAUDERDALE

# How to Improve Fleet Sustainability

Sandy Leonard, CAFM  
Program Manager, Fleet Services

Drew Newstrom  
Automotive & Equipment Specialist

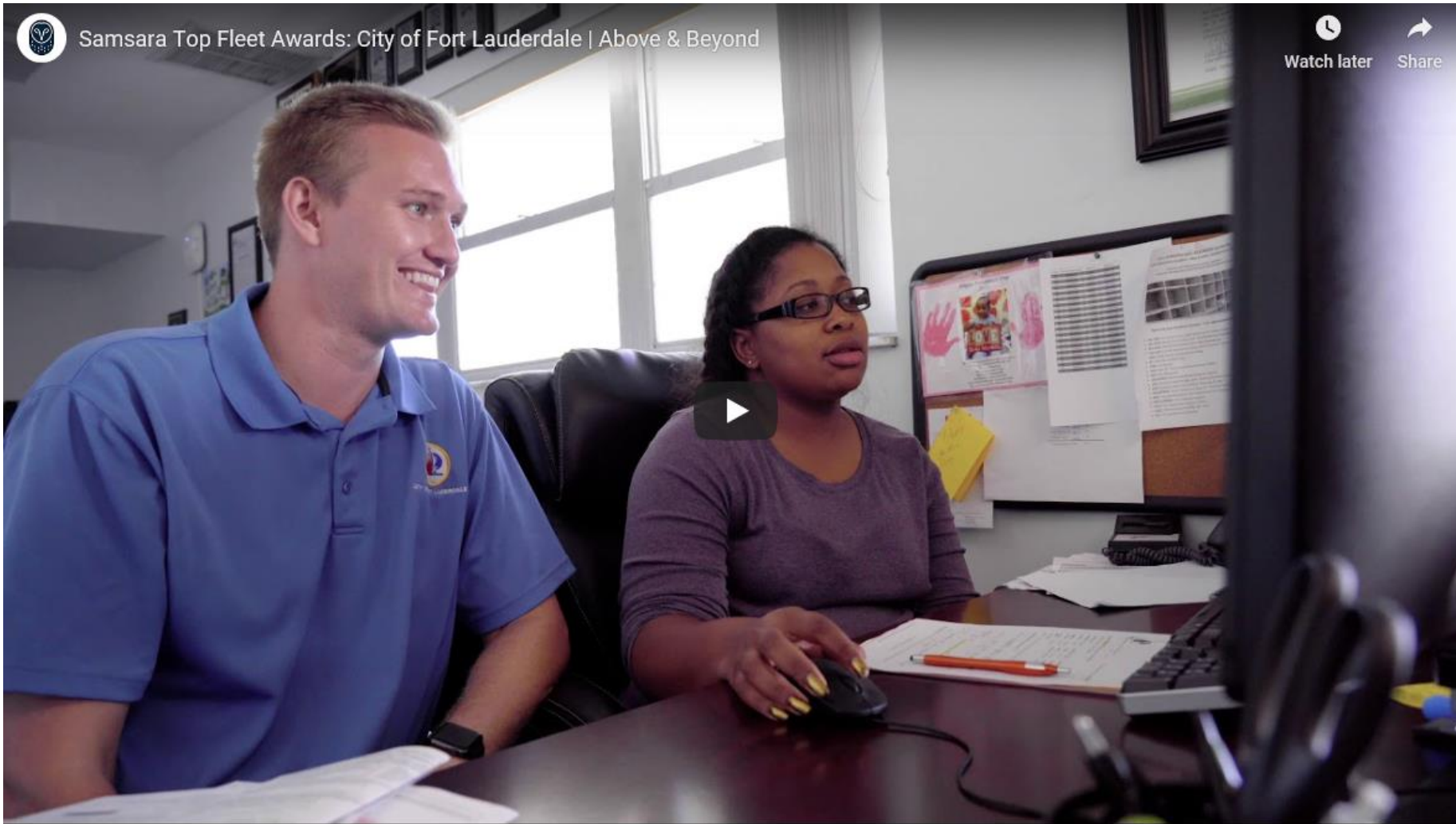




# Quick facts

- ▶ 180,000 citizens
- ▶ Over 12 million visitors annually
- ▶ Fleet of 1,700+ vehicles including public works, police, fire, and more
- ▶ 115 hybrids
- ▶ 17 electrics

# “Above & Beyond” Award



## TOP FLEET AWARD 2019

ABOVE & BEYOND  
City of Fort Lauderdale

### ACHIEVEMENT HIGHLIGHTS

20%  
reduction  
in idling

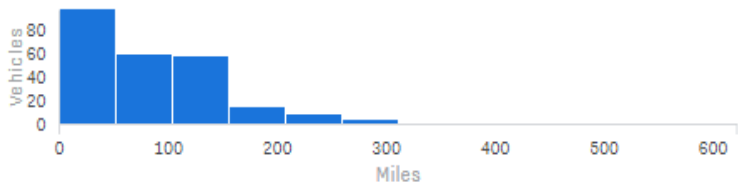
28%  
reduction  
in downtime

24%  
fewer vehicles  
out of service



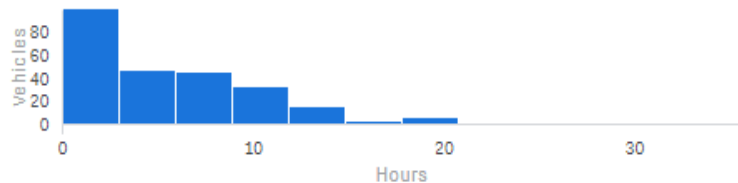
samsara

Avg Distance Driven  
81.4 mi

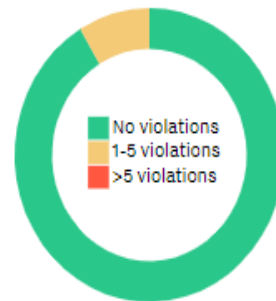


| TOP VEHICLES  | MILES    |
|---|----------|
| <a href="#">V10375 2017 F550 EC 4X2</a>             | 622.3 mi |
| <a href="#">V10003 2016 F550 EC 4X2 DRW</a>         | 328.2 mi |
| <a href="#">V6856 2015 F550 EC 4X2 DRW</a>          | 286.9 mi |
| <a href="#">V10774 2019 International 4300 Dump</a> | 271.3 mi |
| <a href="#">V10472 2018 Ford T250 cargo</a>         | 270.6 mi |

Avg Hours Driven  
5.4 h



| TOP VEHICLES   | HOURS  |
|--|--------|
| <a href="#">V10375 2017 F550 EC 4X2</a>                      | 35.6 h |
| <a href="#">V6952 2015 Int'l 4300 Johnston VT651 Sweeper</a> | 26.1 h |
| <a href="#">V10003 2016 F550 EC 4X2 DRW</a>                  | 20.7 h |
| <a href="#">V6991 2016 CHEVROLET COLORADO CC 4X2</a>         | 19.4 h |
| <a href="#">V10769 2018 Nissan Frontier</a>                  | 19.3 h |

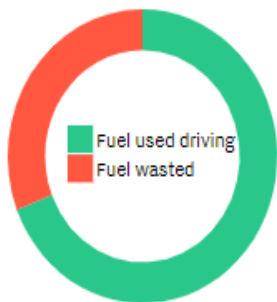


Avg Violations  
0.1

| LEAST SAFE VEHICLES                              | VIOLATIONS |
|--|------------|
| <a href="#">V7097 2016 F550 EC 4X2 DRW</a>       | 3.0        |
| <a href="#">V10443 2017 Int'l 7400 12CY Dump</a> | 3.0        |
| <a href="#">V10318 2017 F650 5 CY DUMP</a>       | 2.0        |
| <a href="#">V10947 - 2019 Nissan Leaf</a>        | 2.0        |
| <a href="#">V6423 2010 Int'l 4300</a>            | 2.0        |

## Fuel Usage

[View Details](#)



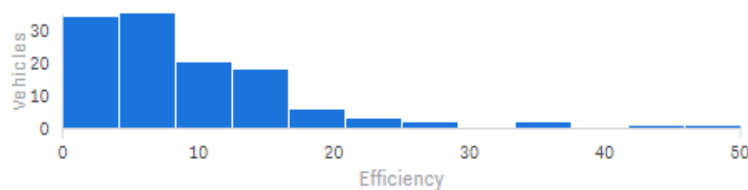
Total Fuel Used  
2057.6 gal

| TOP FUEL CONSUMERS                     | FUEL USED | FUEL WASTED |
|--|-----------|-------------|
| <a href="#">V6254 2009 F450 RC 4X2</a> | 124.6 gal | 8.5 gal     |
| <a href="#">V10269 2017 Int'l</a>      | 89.0 gal  | 23.6 gal    |

## Fuel Efficiency

[View Details](#)

Avg Efficiency  
9.6 mpg



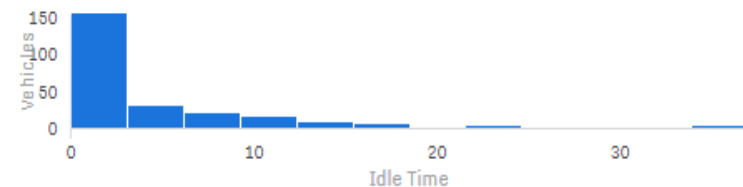
| MOST EFFICIENT VEHICLES                       | EFFICIENCY |
|---|------------|
| <a href="#">V6437 2010 TOYOT PRIUS HYBRID</a> | 50.1 mpg   |
| <a href="#">V7099 2016 TOYOTA PRIUS</a>       | 45.6 mpg   |

## Idle Hours

[View Details](#)

Total Idle Hours  
994.4 h

Estimated Cost  
\$1909.27



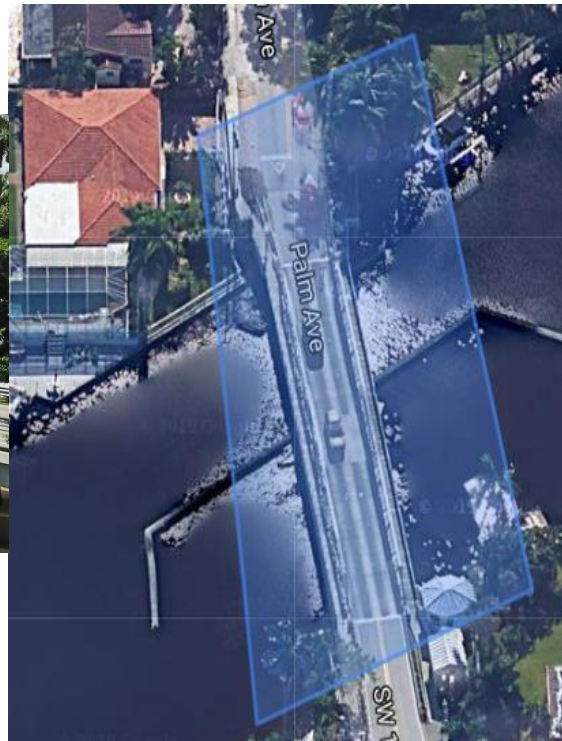
| TOP IDLERS  | IDLE TIME | FUEL WASTED |
|---|-----------|-------------|
| <a href="#">V10269 2017 Int'l AquaTech Vac/Jetter</a> | 37.0 h    | 23.6 gal    |

# Tracking Over-Weight Limit Vehicles

- ▶ Geofences and alerts for increased visibility
- ▶ Reduced over-weight vehicles crossing historic bridge by 90%



Historic Snow-Reed Swing Bridge



# Improved Citizen Response

- ▶ Real-time fleetwide GPS tracking
- ▶ Power Take-Off (PTO monitoring)
- ▶ Enhanced clean-up after natural disasters
- ▶ Improved dispatch & communication with residents





# Tracking of Real Time Operation

- ▶ Lack of information about fleet performance and operation
- ▶ Visibility into the tractors cleaning the seaweed off the beach each morning
- ▶ We know where, when, and how fast the streetsweepers were traveling as they clean
- ▶ See when claw trucks picked up debris at each house
- ▶ Used in Accident Review Committee to verify accidents and to learn ways to mitigate accidents



V6978 2014 Int'l 4300 Wayne Gladiator Sweeper

Sweeper

4h 55m

6

45%

29 mi

## V6978 2014 Int'l 4300 Wayne Gladiator Sweeper

2016 INTERNATIONAL MA025

1345 Middle Street, Fort Lauderdale, FL [Street View](#)

[Live Share](#)

2 mph (25 limit)

Connected hotspot clients 0

VIN 1HTMMAAN7GH001358

Fuel  59%

Engine check light Off

Odometer 20,109 mi

Engine Running

Ambient Air Temp 122°F

Barometer 14.72 Psi

Battery Voltage 13.85 V

Coolant Temp 181.4°F

Engine Load 37 %

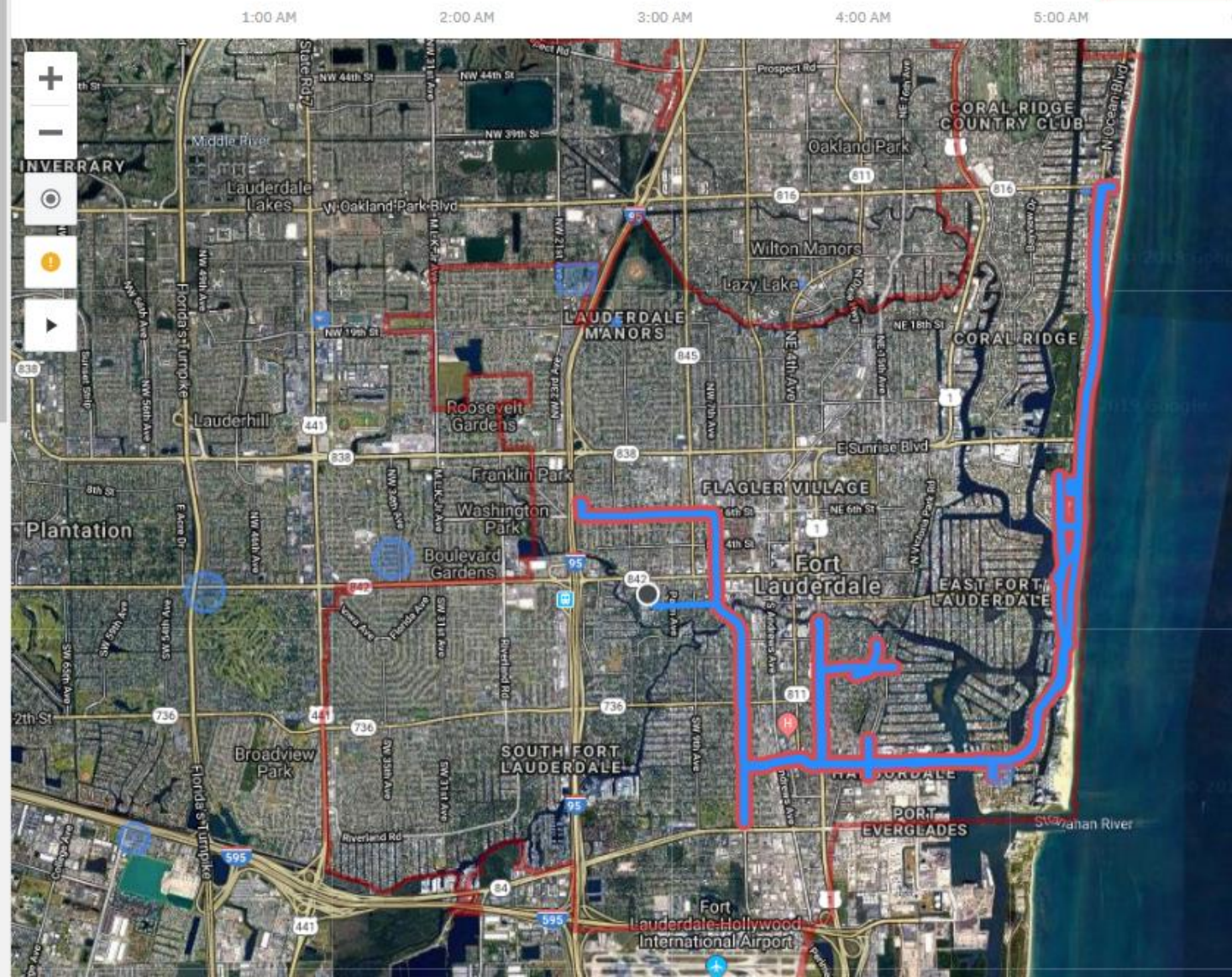
Engine Speed 703 RPM

Manifold Temp 228.2°F

Oil Pressure 24.95 Psi

Sweeper Off

Gateway GG4A-A2N-ZUW



# Temperature Sensors

- ▶ Alert the officer before we have a “hot dog”
- ▶ Used in Ambulances to keep medications at the proper temperature
- ▶ Check temperatures across the city (pending)



# Maintenance

- ▶ Allows us to be proactive
- ▶ We can see if dealers are really working on our vehicles.
- ▶ Reduced downtime by 28%
- ▶ 24% fewer vehicles are out of service



## V6089 2008 WORKHORSE W42



Plant A

[Street View](#)

[Live Share](#)

Connected hotspot clients 0

VIN 5B4KPD27483431849

Fuel  95%

Engine check light Stop, Warning, Protect, and Emissions

Odometer 41,555 mi

Engine Off

Gateway G9KJ-YVY-PAA

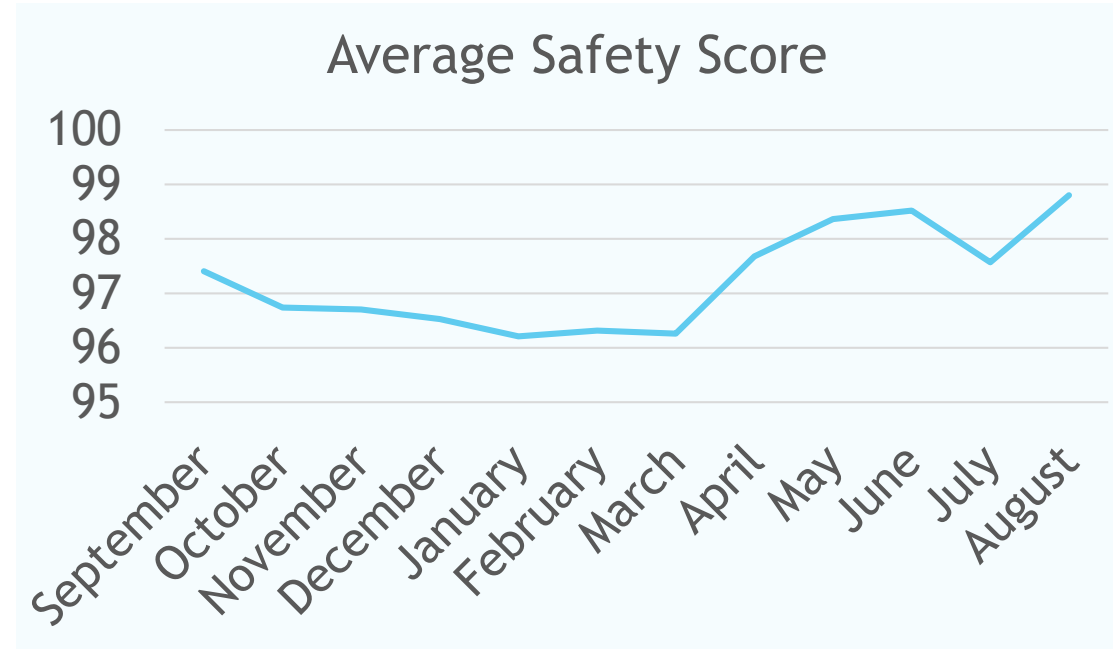
### 1 ENGINE FAULT

- TxId: 33 SPN: 98 - Engine Oil Level FMI: 1 (Low-most severe) Count: 1

# Safety Improvements

## ▶ Safety Score Includes:

- ▶ Total Harsh Events
  - ▶ Breaking
  - ▶ Turns
  - ▶ Acceleration
- ▶ Total Miles Driven
- ▶ Total Time Driven
- ▶ Time Over Speed Limit



# Unforeseen Benefits

- ▶ Recovered stolen vehicle
- ▶ Saved a life

## FW: Samsara Saves a life

To Drew Newstrom

Sandy,

I just wanted to let you know that last Friday, Samsara helped us save a life. One of my Meter Shop staff was late for a meeting with his supervisor. We were unable to reach him by phone. The supervisor used Samsara to locate his City vehicle and went to investigate. Upon arrival, the supervisor found the employee unconscious in his vehicle and called 911. He was taken to Holy Cross hospital where he was admitted.

It is frightening to think what may have happened to him if we couldn't locate him with Samsara.

Thanks!

**Rick Johnson** | Utilities Distribution & Collection Systems Manager

# Looking Ahead

- ▶ Tracking Electric Vehicle charge and diagnostics
- ▶ Monitor temperatures throughout city
- ▶ Fix “dead spots” around city
- ▶ Driving sustainability initiatives
- ▶ Live Sharing links for public tram
- ▶ Add Waze Beacon through tunnel to allow continual GPS tracking



# Questions?

- ▶ Sandy Leonard: [SLeonard@FortLauderdale.gov](mailto:SLeonard@FortLauderdale.gov)
  - ▶ 954-828-5781
- ▶ Drew Newstrom: [Dnewstrom@FortLauderdale.gov](mailto:Dnewstrom@FortLauderdale.gov)
  - ▶ 954-828-5710





**Session 5: The Evolving World of Telematics  
Real-Time Information for Fleet Performance**

**August 26, 2020**