Traffic Monitoring and Analysis Dashboards

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Traffic Monitoring and Analysis Dashboards

Dashboard Goals

• The Traffic Monitoring and Analysis Dashboards were created as a resource to monitor current and recent traffic volumes and vehicle crashes, as well as changes to each as a result of Covid-19.

• This application was created in March 2020 utilizing ESRI Cloud based platforms.
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Dashboard Users

• Central Office Traffic Engineers and Managers
• District Traffic Engineers and Managers
• Executive Leadership Team
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Interactive Map

Companion Live Traffic Map
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1- SunGuide Traffic Data Dashboard
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1- SunGuide Traffic Data Dashboard

Speed Gauge

Vehicle per Hour Bar Chart
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1- SunGuide Traffic Data Dashboard

The SunGuide Traffic Data Dashboard has several selectors that allow for filtering of the data.

- District Selector – Allows for user to filter data by district.
- MVD Site – Allows user to search and zoom to specific site.
- Contract ID – A specific construction project can be found and zoomed to on the map.
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2- SunGuide Crash Data Dashboard

Data Health Tab
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2- SunGuide Crash Data Dashboard

Total Crashes by District Bar Charts

Crashes per Day Bar Chart
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**3-TTMS Volume Data Dashboard**

*FDOT Traffic Monitoring and Analysis Dashboards*

Traffic Performance Metrics

**Bay**
- Site: 3198 3R-20, 2.1 mi. W of US 221, Bay Co. (E)
- Total Volume: 1,124
- Seasonal Average Volume: 1,387
- Average Volume Change: 25%

**Bay**
- Site: 5198 3R-20, 2.1 mi. W of US 221, Bay Co. (W)
- Total Volume: 1,124
- Seasonal Average Volume: 1,387
- Average Volume Change: 25%

**Bay**
- Site: 3198 3R-20, 2.1 mi. W of US 221, Bay Co. (E)
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**Bay**
- Site: 5198 3R-20, 2.1 mi. W of US 221, Bay Co. (W)
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Active Construction Projects

**District 08 E0818**

**District 08 E0816**

**District 08 E0817**
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3-TTMS Volume Data Dashboard

The Vehicles per Day bar chart

Percent Change from Seasonal Average bar charts
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Dashboard Data
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Data Sources/Structures - SunGuide Volume Data
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Data Sources/Structures - SunGuide Crash Data

Data Process for SunGuide

District TMC → State ITS Network → Spatial Database → Dashboard Application
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Data Sources/Structures - **TTMS Data**

**Data Process for TTMS**

- Oracle Database
- Spatial Database
- Dashboard Application
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Dashboard - Application Software
Traffic Monitoring and Analysis Dashboards
Dashboard - Application Software

The Benefits of the ArcGIS Dashboards

- Easy to understand
- Ready to use
- Interactive
- Flexible
- Configurable
- Easy to integrate with existing FDOT resources
Lessons Learned
Traffic Monitoring and Analysis Dashboards
Lessons Learned - Data

There will be discrepancies in data collected from multiple operating environments.
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Lessons Learned - Data

We need a more robust data delivery mechanism
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Lessons Learned - Environment

Identifying end users before beginning development
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Lessons Learned - Next Steps

What we would like to share with you from our dashboard development experience?

- Clearly define audience before development
- Utilize more stable data connection for sending/receiving district data
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Resources

SunGuide documentation, including releases descriptions, list of supported devices, interface control documents, and software design details

http://sunguidesoftware.com

Transportation Data and Analytics Office This site provides statistical traffic information for Florida's State Highway System, including links and documentation for TTMS data

https://www.fdot.gov/statistics/trafficdata/default.shtm

Esri ArcGIS Online, Portal, and Dashboard documentation

https://www.esr.com/en-us/home
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Questions?

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