Signal Four Analytics

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Overview

• Signal Four Analytics is a statewide interactive, web-based geospatial crash analytical tool

• Developed by and hosted at University of Florida, Geoplan Center

• Main site: http://s4.geoplan.ufl.edu/
Target Audience

• Developed for Florida government agencies in:
  – Law Enforcement,
  – Traffic Engineering,
  – Transportation Planning,
  – School Transportation,
  – Injury Prevention,
  – Universities
  – Any organization related to traffic safety

• And private Contractors/Consultants contracted by Florida public agencies
Support & Funding

• Funded by the State of Florida
• Through Florida Traffic Records Coordinating Committee (TRCC) (search for Florida TRCC)
• TRCC mission is to improve traffic information systems in the state
• TRCC manages federal funds available for this purpose
Support & Funding – cont.

• TRCC representatives:
  – Department of Transportation
  – Department of Health
  – Department of Highway Safety & Motor Vehicles
  – Agency for Health Care Administration
  – Florida Highway Patrol
Support & Funding – cont.

- To learn more go to TRCC website:
  - http://www.dot.state.fl.us/safety/2A-Programs/Traffic-Crash-Data.shtm
- An easy way to get to it:
  - Google search for “Florida TRCC”
S4 Analytics Focus

• **Accessibility**
  – Makes it easy to get to the data, no special software required

• **Timeliness**
  – Crash data is up to date as reported by law enforcement to DHSMV

• **Utilization**
  – Web-based simple to use intuitive tools, minimal or no training required

• **Geospatial Analytics**
  – Various functions to look at the data spatially
Incident Database

- 3.6 million crash records (2006-present) provided by DHSMV
- 3.5 million citations - FHP only (2011 to present)
GIS Roadway Database

• GIS Streets
  – Uses Navteq Florida unified basemap

• Some Local Data
  – Measured traffic volumes on local roads for selected counties
Update Frequency

• Crash Database Update
  – Daily, twice a day, provided by DHSMV
  – Mapping conducted by
    • University of Florida
    • FDOT shapefiles
Features

• Interface panels
  – Map-centric, resizable query, chart, tabular

• Map Navigation
  – Zoom, pan, drill down, map overview, crash visualization modes, several base maps, street view
  – Tabular Information
  – Colors, crash type, crash reports, data export
Features - cont

• Interface panels
  – Map-centric, resizable query, chart, tabular

• Map Navigation
  – Zoom, pan, drill down, map overview, crash visualization modes, several base maps, street view,
  – Crash point symbology: color and symbol by crash type

• Data export
Features cont

• Bar charts
  – Several attributes

• Query panel
  – Geographic area
  – Crash severity, bike/ped, etc
  – Network (Intersection, Street, Custom, Route)
Features cont

- Custom Geographic Area
- Export to GIS
- Network Extent
- 2D Charts & Collision Diagrams
- Selections
- Location and Attribute Editing
- Crash Types
Examples of Query Filters

**Crash Severity**
- All
- Property Damage Only
- Injury - All
- Injury - Not Using Seat Belt
- Injury - Incapacitating

**Fatality - All**
- Fatality - Not Using Seat Belt

**Weather Condition**
- All
- Clear
- Cloudy
- Rain
- Fog, Smog, Smoke
- Sleet/Hail/Freezing Rain
- Blowing Sand, Soil, Dirt
- Severe Crosswinds
- Other

**Crash Type**
- All

- Bicycle
- Pedestrian

- Head On
- Rear End
- Left Entering
- Left Leaving
- Left Rear
- Right Angle
- Right/Left
- Right/Through
- Right/U-Turn
- Opposing Sideswipe
- Same Direction Sideswipe
- Off Road
- Rollover
- Other
- Unknown

**Common Violations**
- Any
- Unlawful or Unsafe Speed
- Ran Red Light

- Failed to Yield Right of Way
- Failed to Obey Traffic Control Device
- Careless Driving

**Mode of Travel**
- All
- Pedestrian
- Bicycle
- Moped
- Motocycle

**Behavioral Factors**
- Any
- Aggressive Driving
- Distracted Driving

**Alcohol Involved**

**Drugs Involved**

**Road Jurisdiction**
- All
- DOT
- Other
Users Summary

• Over 1500 users
• Over 230 agencies
Utilization: Quarterly Statistics

- 10,000 unique logins
- 25,000 queries issued
- 50,000 crash reports reviewed/downloaded
Road Ahead

• Update GIS database to 2014 unified basemap
• Complete citations query interface
• Finalize Network Analysis
• Enhanced analytics and usability
• Inclusion of location of traffic signals, red light running camera locations, schools etc.
Access

• Access is free – the state support it

• To get access: go to http://s4.geoplan.ufl.edu/ and select Request Access link

• Access is typically provided within 24-48 hours

• Accept User Agreement regarding access to personal information