Hollywood, FL

June 13-14, 2024

2024 TRANSPORTATION SYMPOSIUM

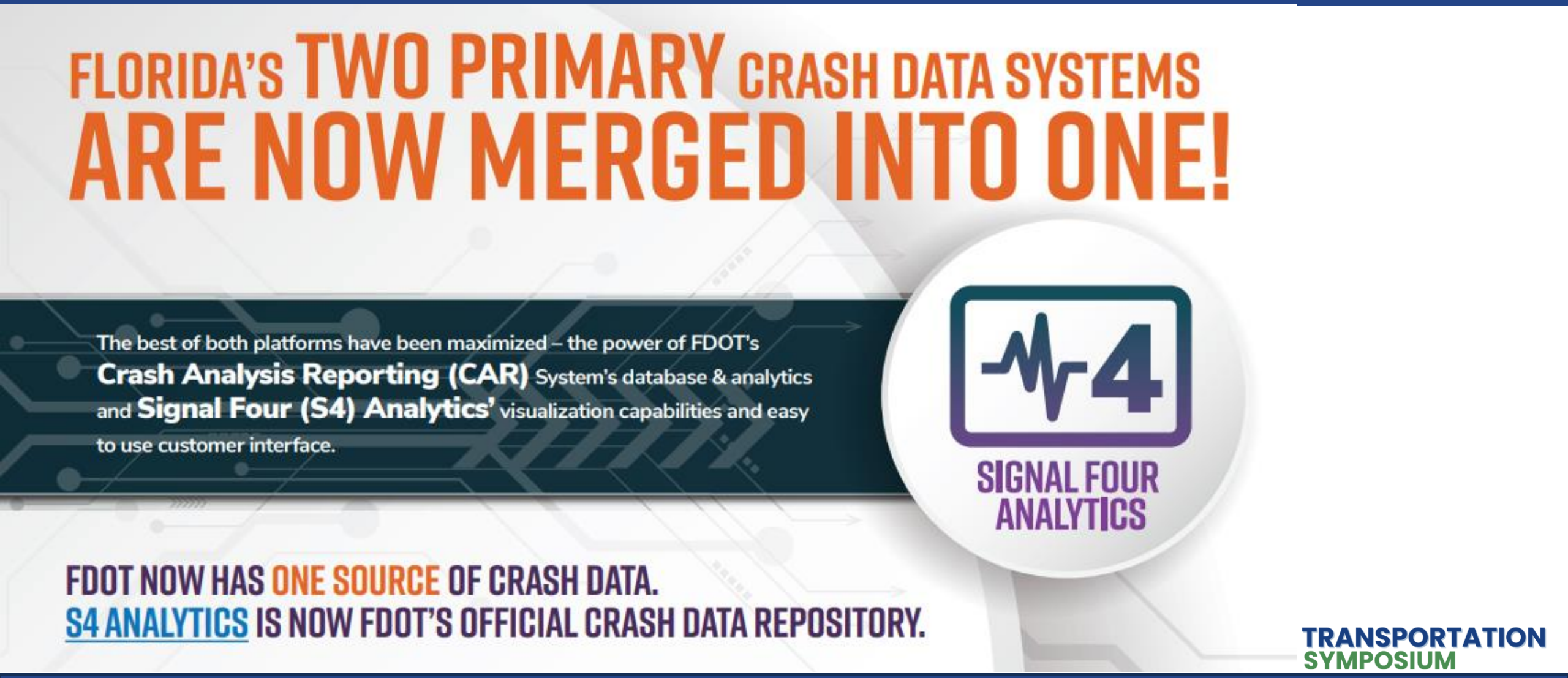
Signal4 Analytics for Safety Analysis

Benjamin Jacobs, Crash Records and Research Administrator

FDOT State Safety Office, Crash Records and Research Section

FDOT

Signal4 Analytics for Safety Analysis



Objectives:

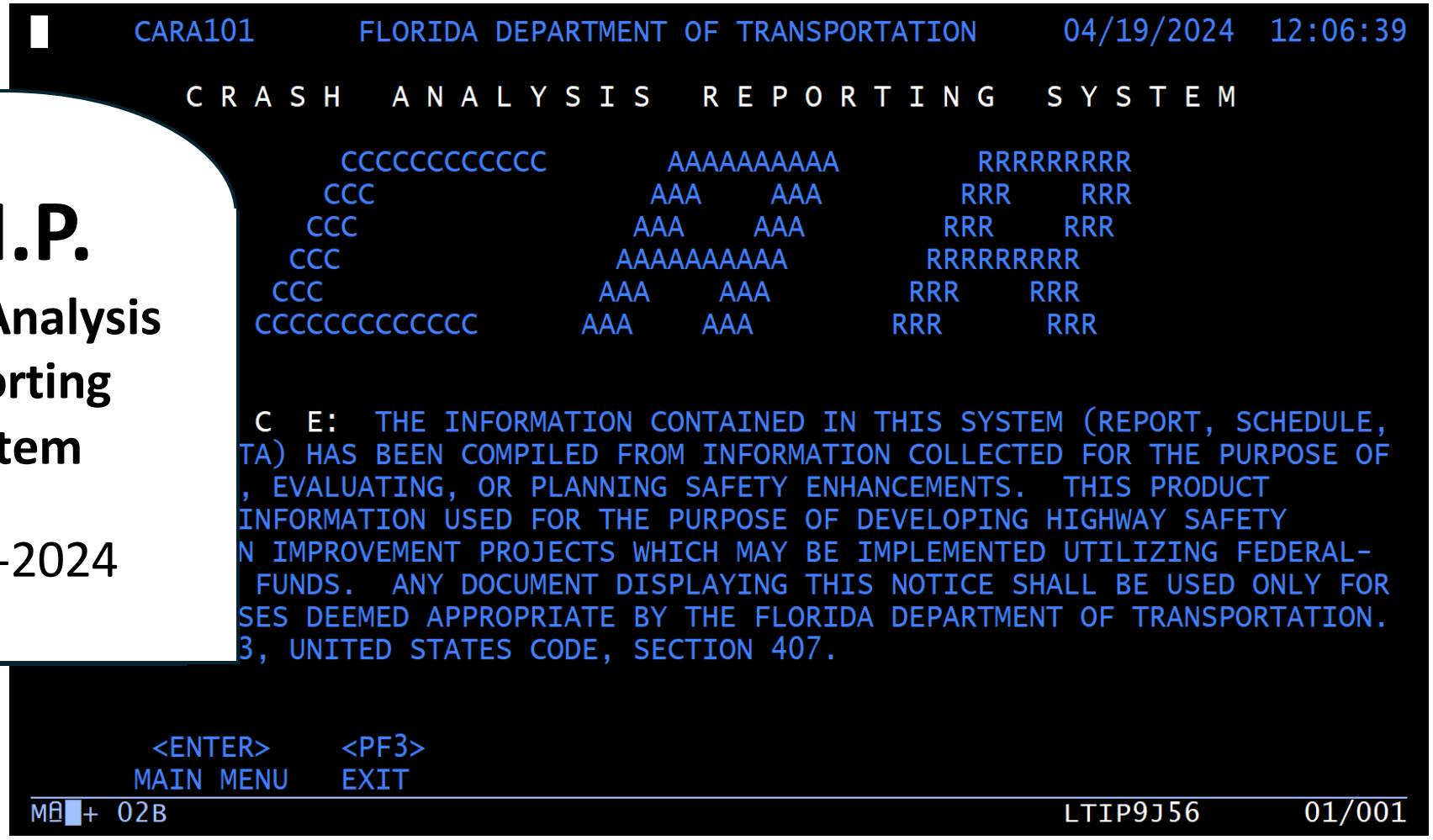
- Overview
  - CAR System Legacy
  - Signal4 Analytics
  - Merging of databases
  - Who can use Signal4?
  - Public dashboard
  - Tools inside the log-in
    - Crash data query and filtering
    - Network analyses
- Examples:
  - Overview
    - Planning
    - PD&E
    - Design
    - Construction
  - Data Guidance and Steps

CAR System Legacy

R.I.P.

Crash Analysis Reporting System

1995-2024



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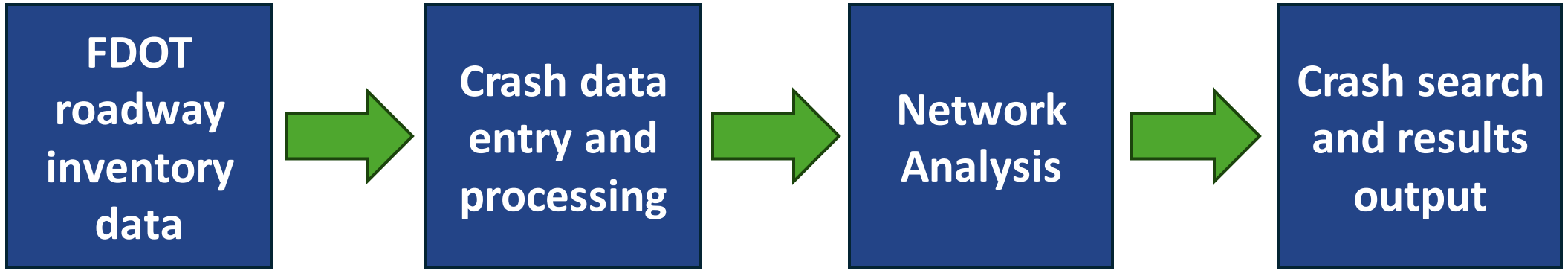
CAR System Legacy

Patrick Brady, P.E. 1950-2008



Signal4 Analytics: What is it?

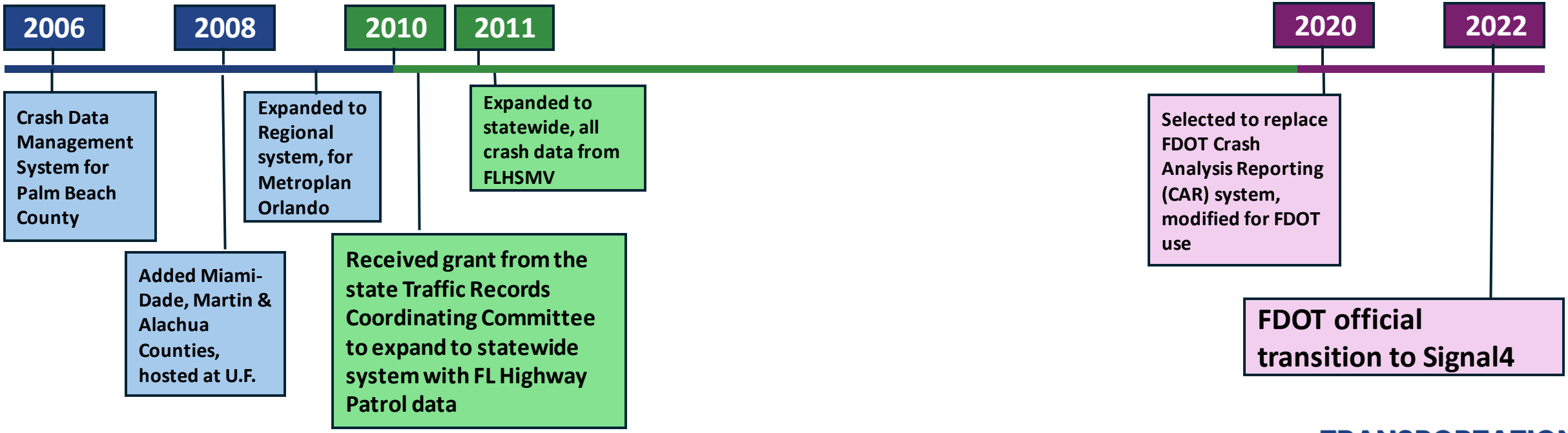
Integrates crash data through an interactive web-based platform developed by and hosted at University of Florida, Geoplan Center.

Creates both spatial and non-spatial data downloads for users.

Supports the crash mapping and analysis needs of law enforcement, traffic engineering, transportation planning agencies, and research institutions in the state of Florida.

Signal4 Analytics: Developed through TRCC

Signal4 Analytics was created to improve accessibility and utilization of crash data in Florida by creating a web-based GIS analytical system for analysis and reporting of traffic crashes statewide.



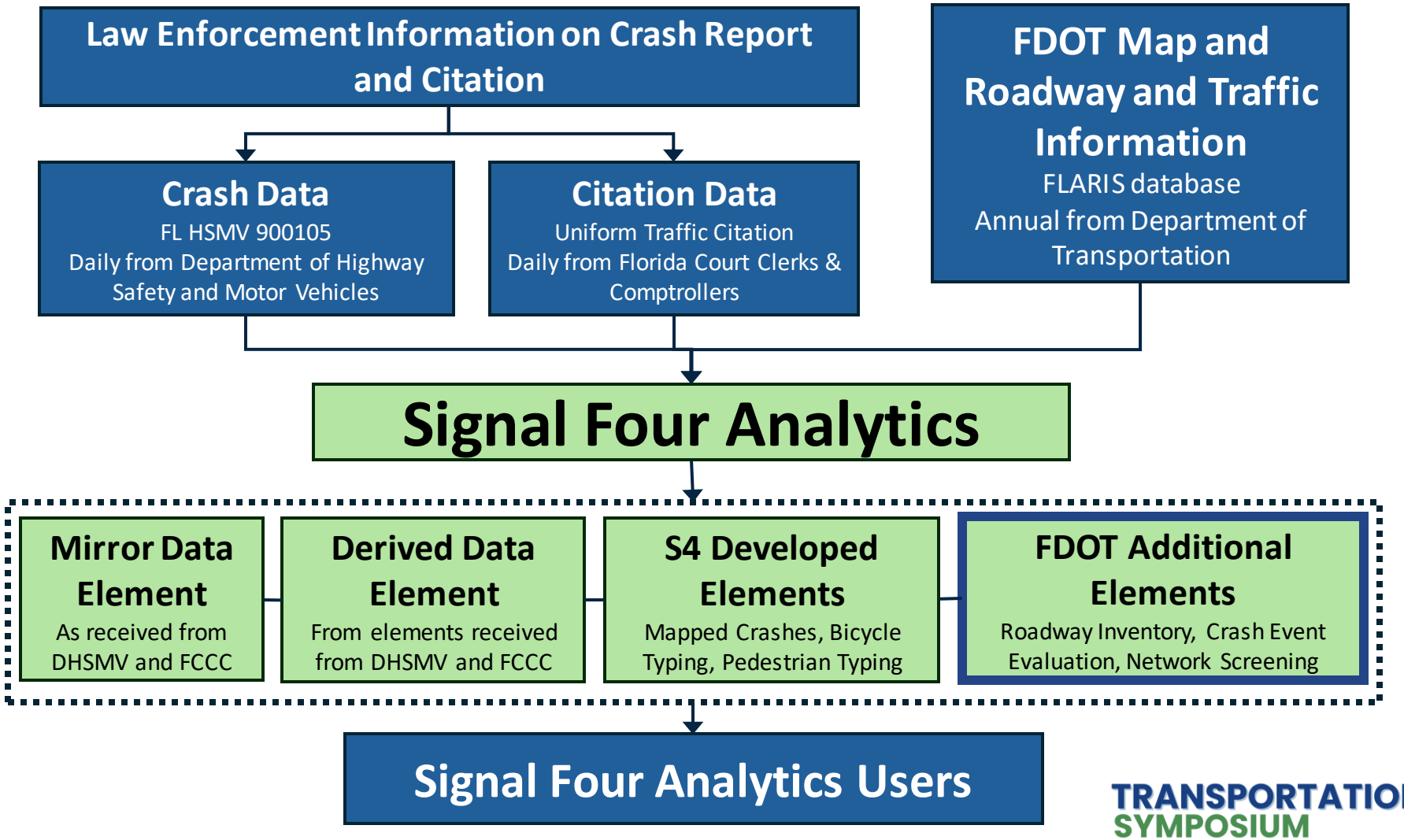
S4 and CAR: Merging of databases

FDOT data fields and historical data from the Crash Analysis Reporting database have been transferred to the Signal4 database

Signal4 is now the database of record for FDOT crash data

Signal4 Analytics : FLHSMV data loaded to S4

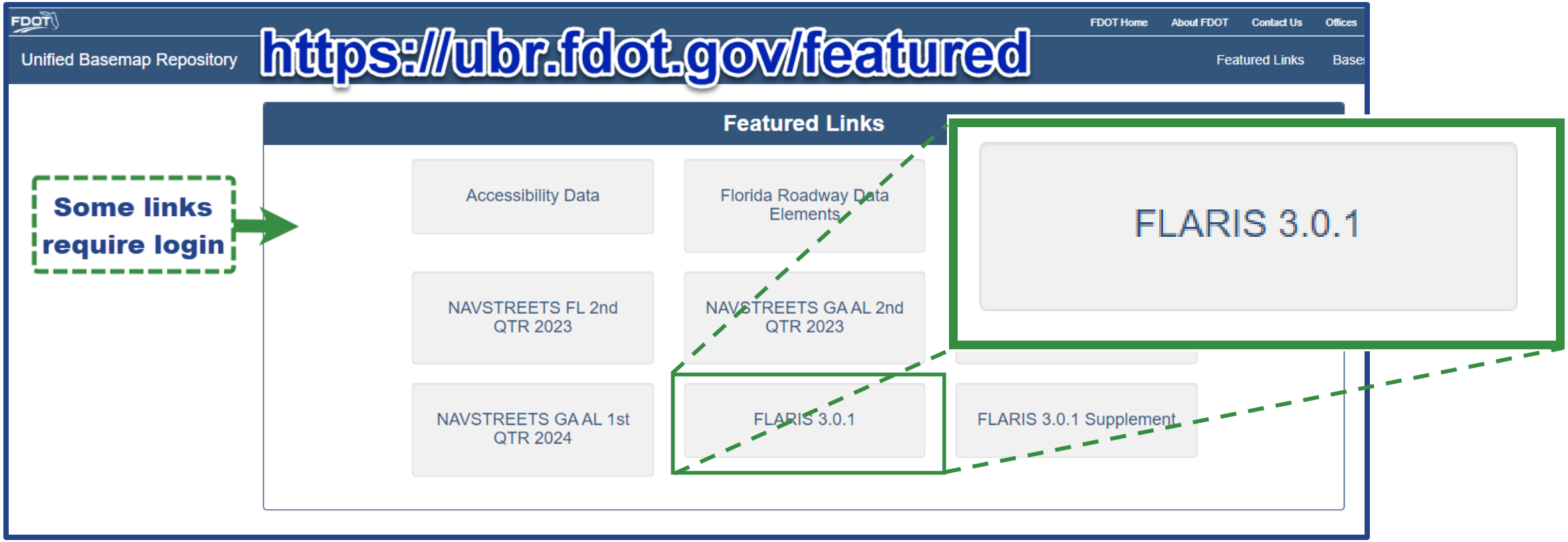
- New and updated crash data are transferred **daily** from FLHSMV
- **Preliminary** locations are completed and reportable within 24 hours
- FDOT changes become visible within 24 hours of update



S4: FDOT reference map – FLARIS & ARBM

FDOT Map and Roadway and Traffic Information
FLARIS database
Annual from Department of Transportation

FLARIS: **Fl**orida **A**ll **R**oads, **I**ntersections, and **S**treets database



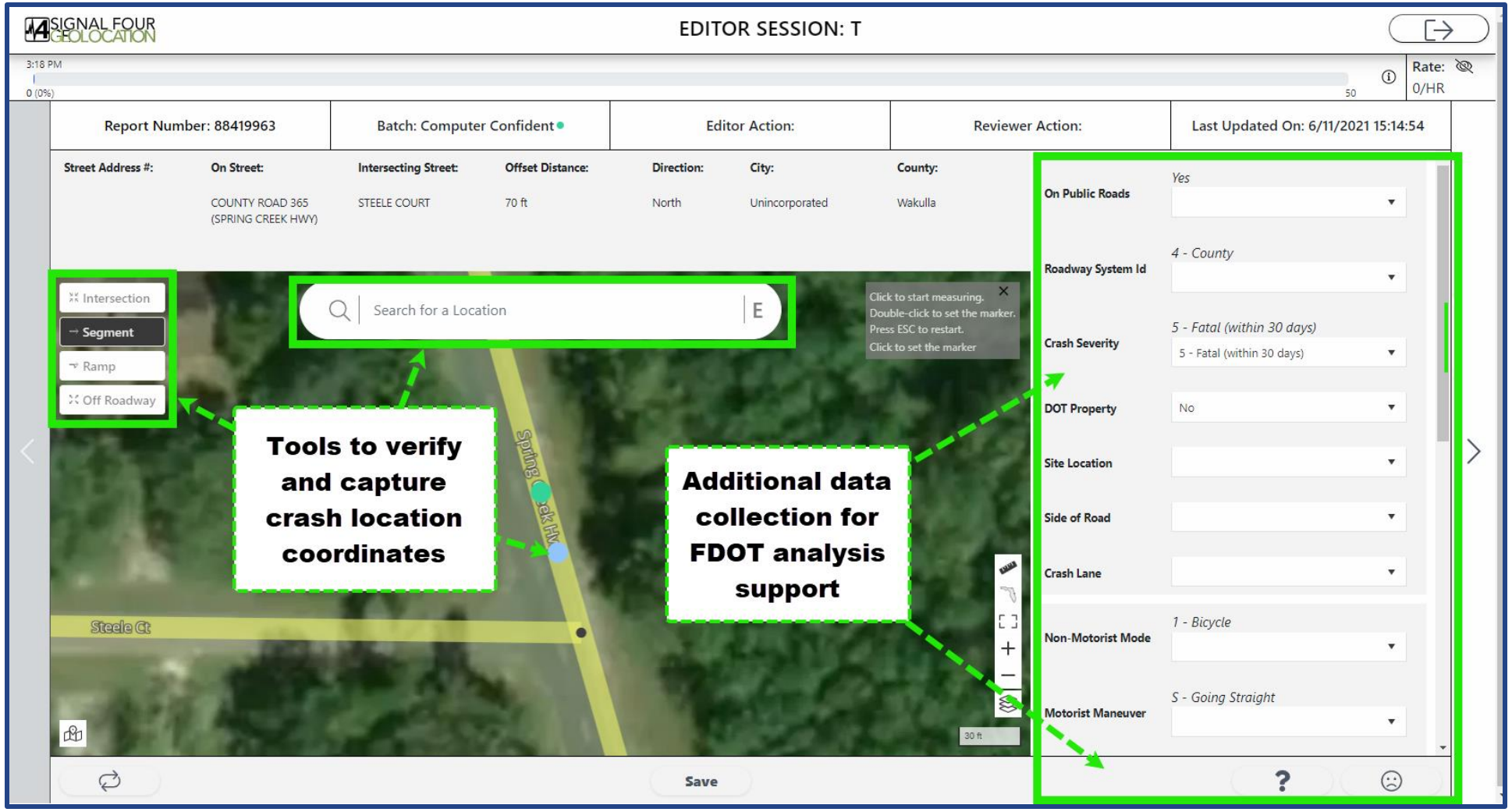
ARBM: **A**ll **R**oads **B**ase**M**ap dataset

TRANSPORTATION SYMPOSIUM

S4: Adapted for FDOT needs

FDOT Additional Elements

Roadway Inventory, Crash Event Evaluation, Network Screening



S4 Geolocation tools adapted for FDOT data collection

S4 post-processing: FDOT value-added data

FDOT Additional Elements
Roadway Inventory, Crash Event Evaluation, Network Screening

FDOT

- analyzes each crash report
- collects additional data – added to the Signal4 database for each crash

Updated or added for all crashes

On Public Roads	*Yes*
Roadway System Id	*5 - Local*
Crash Severity	*5 - Fatal (within 30 days)* 5 - Fatal (within 30 days)
DOT Property	No
Site Location	
Side of Road	
Crash Lane	

Updated or added for ped & bike crashes

Non-Motorist Mode	*2 - Pedestrian*
Motorist Maneuver	*S - Going Straight*
Non-Motorist Maneuver	
PBCAT Basic:	N/A
PBCAT Detail:	N/A

Updated or added for fatal crashes

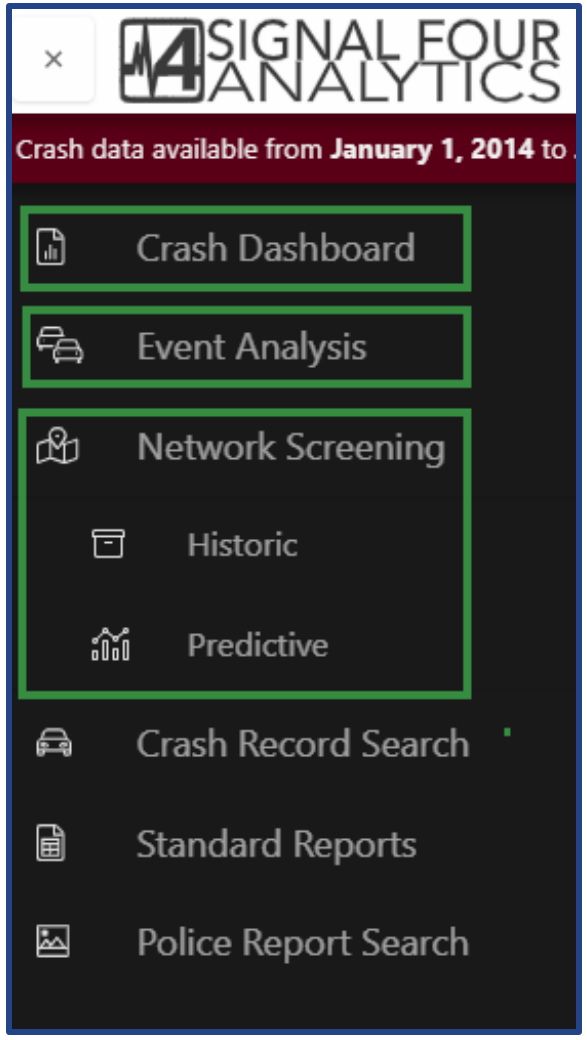
Num. of Lanes	*2*
Posted Speed Limit	*30*
Functional Class	
NHS	
Route Signage	
FARS Ownership	
US/Interstate Route	
State Route	

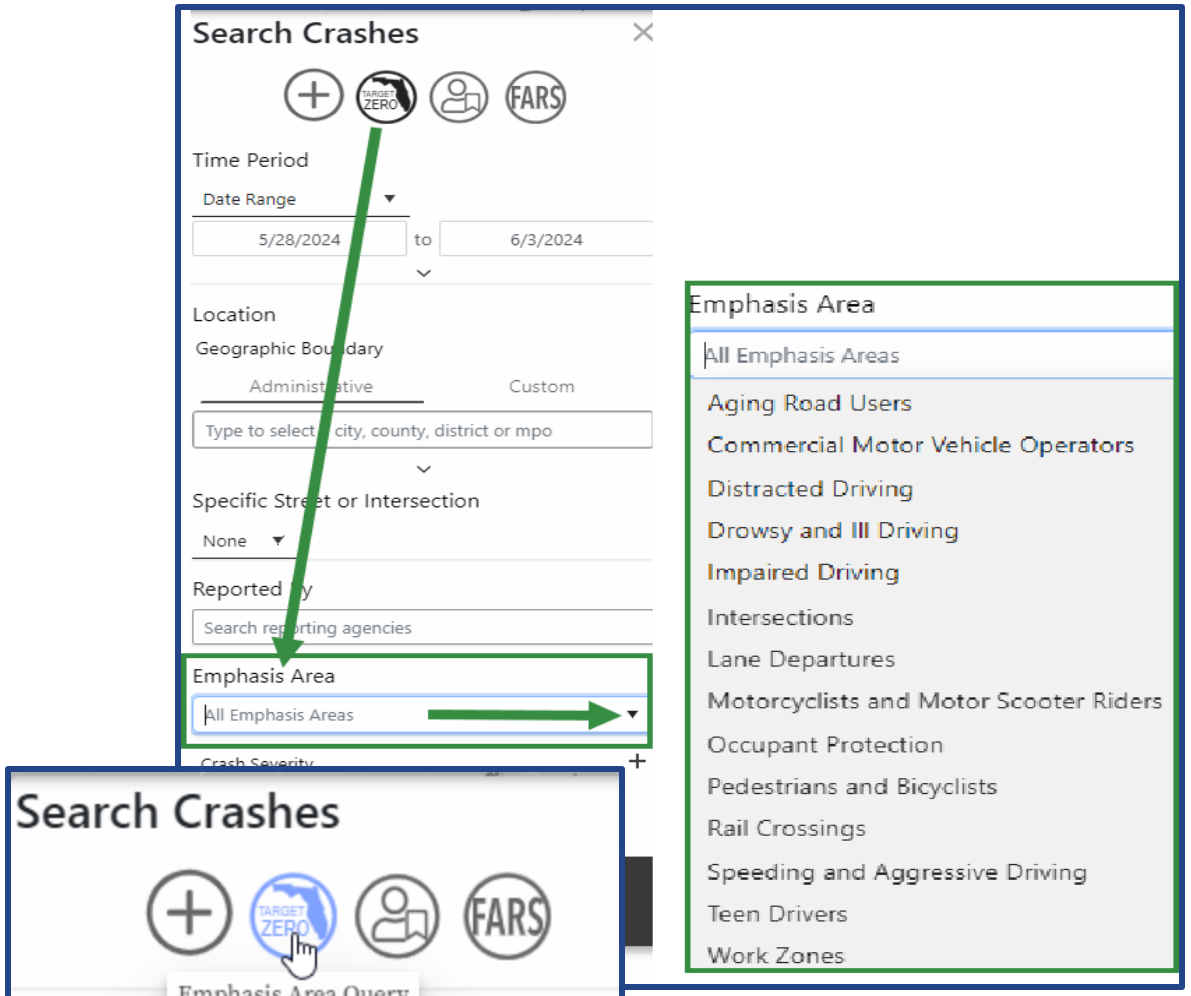
TRANSPORTATION SYMPOSIUM

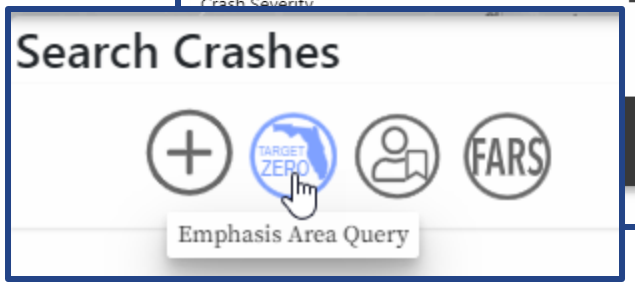
S4 post-processing: FDOT value-added data

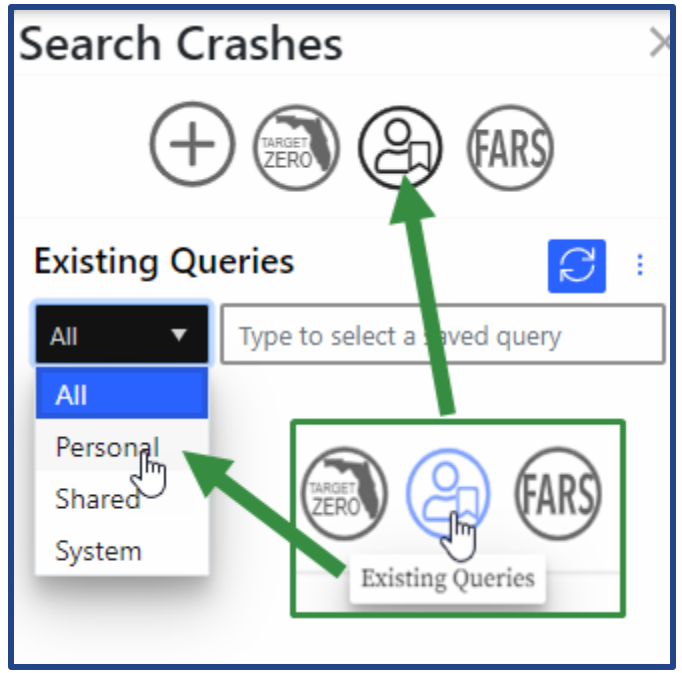
FDOT Additional Elements

Roadway Inventory, Crash Event Evaluation, Network Screening



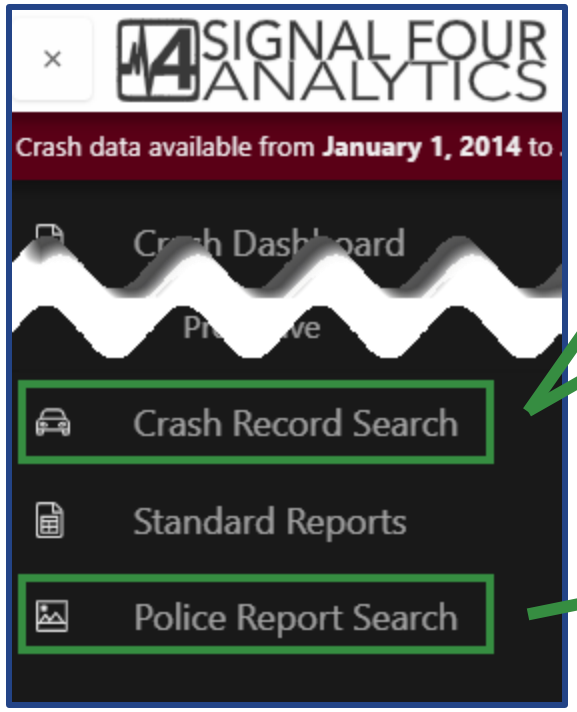


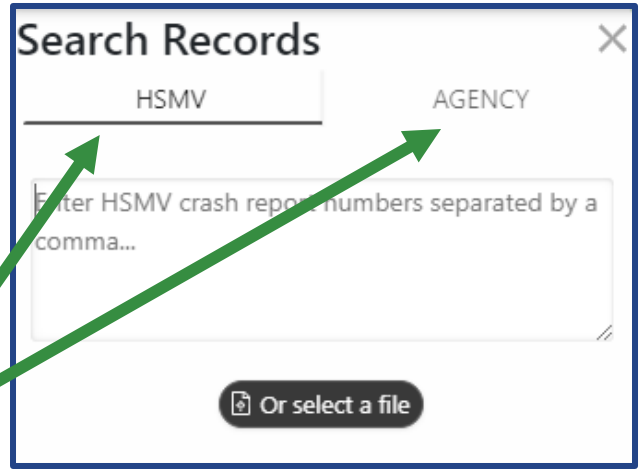




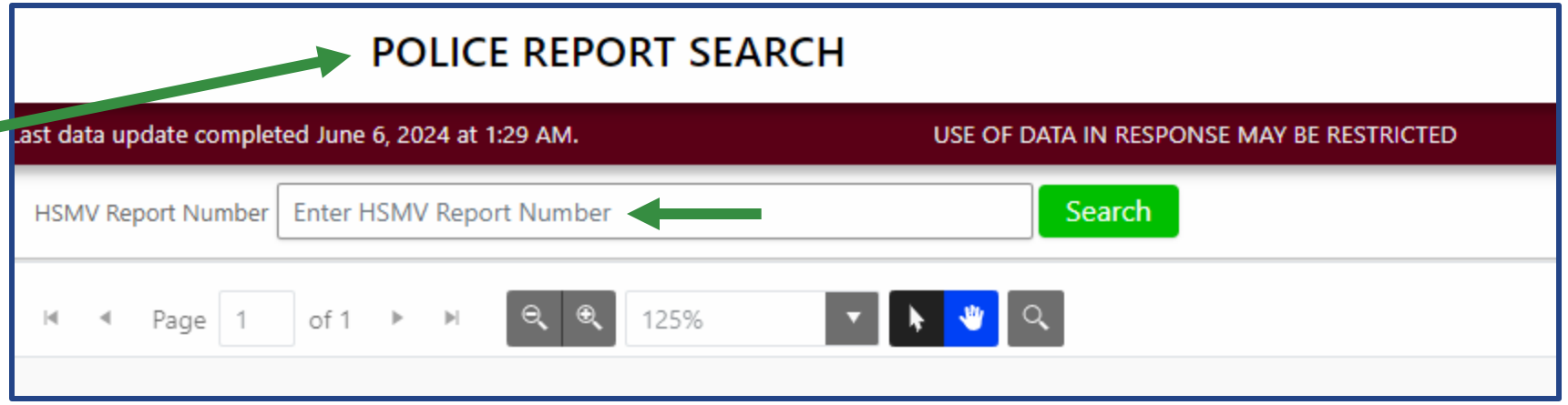
TRANSPORTATION SYMPOSIUM

S4: Crash report lookup





Crash reports are **linked from the data grid** in the query results, or they can be **searched by document number**



Crash Reports: Personally-Identifying Information

Personal information (PII)	Driver Privacy Protection Act (DPPA) 18 U.S.C. s. 2721(3) "information that identifies an individual, including an individual's photograph, social security number, driver identification number, name, address (but not the 5-digit zip code), telephone number, and medical or disability information, but does not include information on vehicular accidents, driving violations, and driver's status"
Home or employment telephone number	Title XXIII F.S. s. 119.071(4)(d)1.c. "includes home telephone numbers, personal cellular telephone numbers, personal pager telephone numbers, and telephone numbers associated with personal communications devices"
Home or employment address	Title XXIII F.S. s. 119.071(4)(d)1.a. "the dwelling location at which an individual resides and includes the physical address, mailing address, street address, parcel identification number, plot identification number, legal property description, neighborhood name and lot number, GPS coordinates, and any other descriptive property information that may reveal the home address"
Driver license or identification card number	
Date of birth	
Other personal information	Title XXIII F.S. s. 119.071(5) – includes social security number; ss. 119.071(5)(b) – includes bank account numbers and debit, charge, and credit card numbers

Crash Reports: Confidentiality of PII

Reports **with PII**

- Can be shared immediately with certain parties (listed in statute)
- Can be shared after 60 days with parties applying for access for "permissible uses" as defined in 18 U.S. Code s. 2721(b)
- Are not available except to those defined above

Reports with PII **removed** (**redacted**) are **not** directly addressed in the statute

"Crash **reports** that reveal the identity, home or employment telephone number or home or employment address of, or other personal information concerning the parties involved in the crash and that are held by an agency, as defined in s. 119.011, **are confidential and exempt** from s. 119.07(1) and s. 24(a), Art. I of the State Constitution for a period of 60 days after the date the report is filed." (s. 316.066(2)(a), F.S.)

FLHSMV Data: Statutory access restrictions

Record Type	Immediately to First 60 Days		After 60 Days and Beyond	
1 **Crash Reports**	**Unredacted:** Involved parties and their legal/insurance representatives, victim services programs, governmental agencies, and 3rd parties on behalf of the foregoing per 316.066(2)(b).	**Redacted:** Certain media entities per 316.066(2)(b). **Must redact**: • Home/employment addresses • DL/ID numbers • Dates of birth • Home/employment phone numbers	**Unredacted:** DPPA parties per 18 U.S.C. s. 2721(b).* **Note:** The parties entitled to unredacted and redacted crash reports during the first 60 days maintain such access after 60 days and beyond. * See section I above for list of permissible uses under DPPA.	**Redacted:** Any requesting party. **Must redact:** • Identities • Home/employment addresses • DL/ID numbers • Dates of birth • Home/employment phone numbers • Other personal information
See Title XXIII section 316.066 Florida Statutes				
2 **Crash Report Data**	**Unredacted:** No access within first 60 days.	**Redacted:** 3rd parties **only via MOU** for sole purpose of identifying vehicles in crash. **Must redact**: • Identities • Home/employment phone numbers • Home/employment addresses • Other personal information **Note**: 3rd parties entitled to redacted crash report data as described above maintain such access after 60 days and beyond.	**Unredacted:** Involved parties and their legal/insurance representatives, victim services programs, governmental agencies, and 3rd parties on behalf of the foregoing per 316.066(2)(b); and DPPA parties per 18 U.S.C. s. 2721(b)* **only via MOU.** * See section I above for list of permissible uses under DPPA.	**Redacted:** Any requesting party (**no MOU required**). **Must redact:** • Identities • Home/employment addresses • DL/ID numbers • Dates of birth • Home/employment phone numbers • Other personal information

- Protect personal information
- 2 groups restricted: (**1**) crash *reports* (all) and (**2**) crash *data* less than 60 days before the current date (s. 316.066(2)(g), F.S.)

Crash Data Responsibility

Any person or agency who has copies of or access to the data and/or documents has the same responsibility to maintain its confidentiality as the FLHSMV.

Includes **legal and civil liability** for misuse of the data that are shared

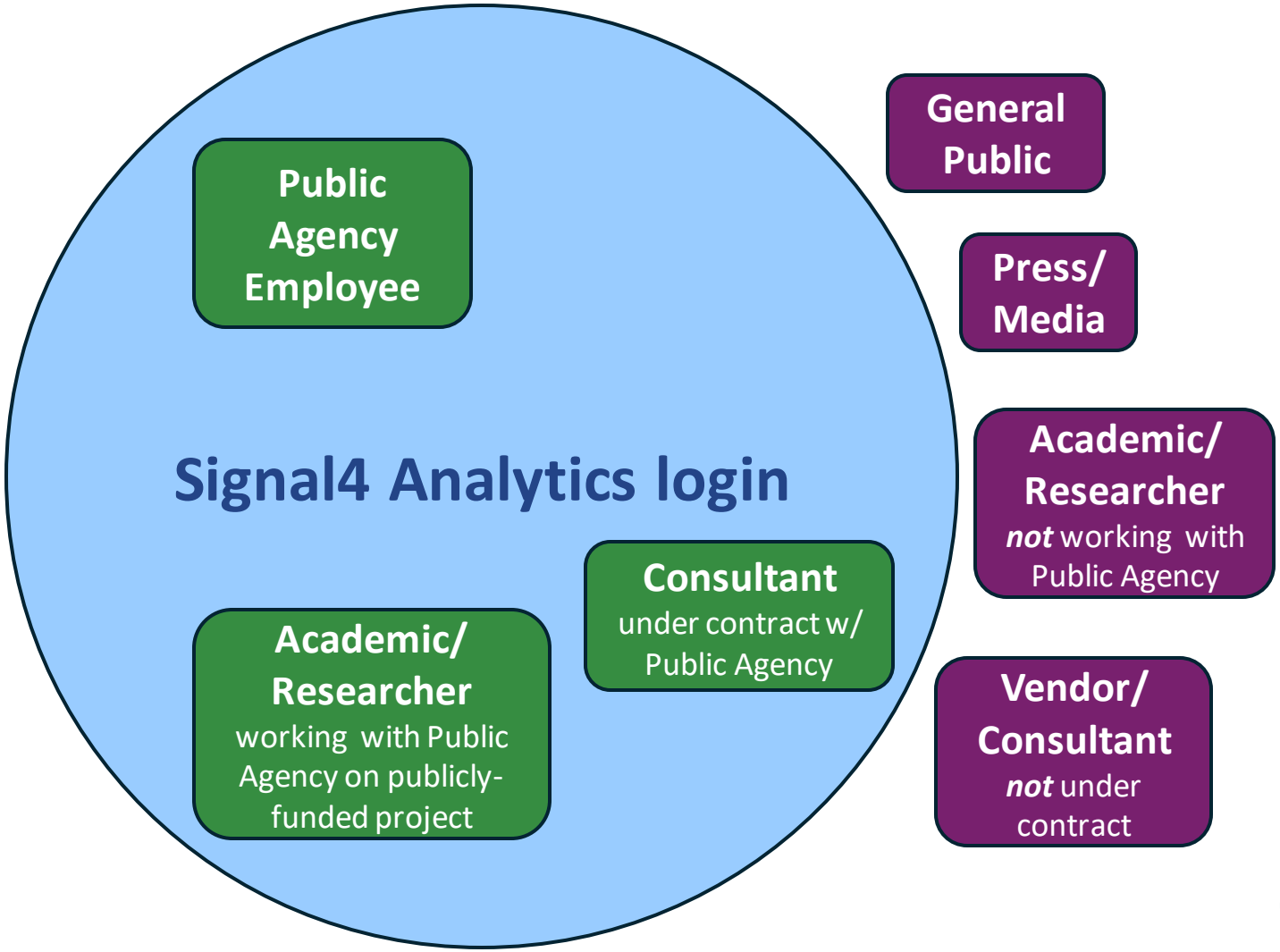
Must sign a Memorandum of Understanding (MOU) that stipulates:

may not share the data with anyone who is not eligible to receive it under law

may not sell the information to a third party

Who can use Signal4 Analytics?

Only available to public agencies (government and law enforcement)



Signal4 Analytics Public Dashboard

https://signal4analytics.com/

General Public

Press/ Media

Academic/ Researcher ***not*** working with Public Agency

Vendor/ Consultant ***not*** under contract

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S4 Dashboard: SHSP Emphasis Area filters

- **Strategic Highway Safety Plan** (SHSP)
- Data definitions on pages 48-49

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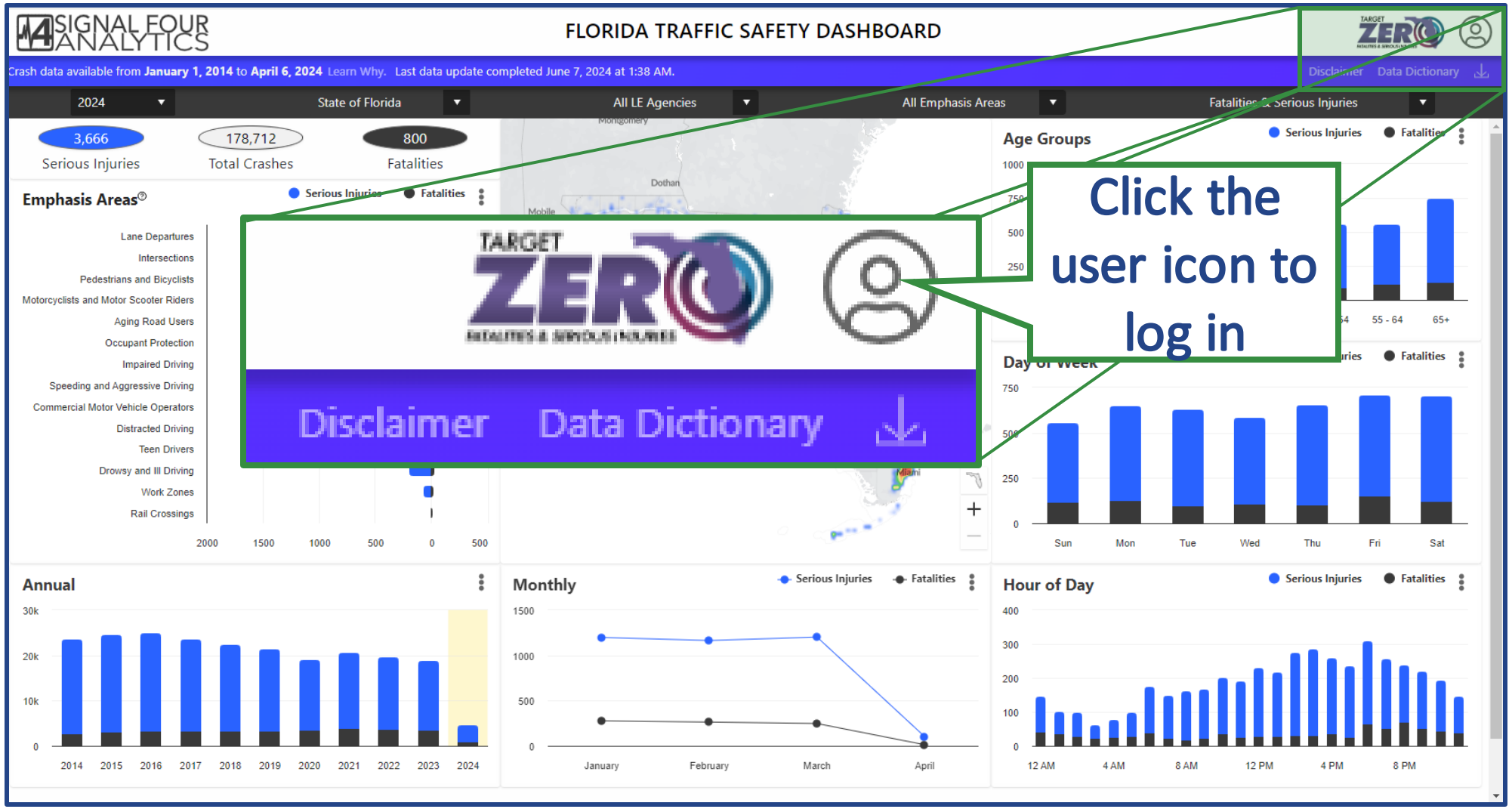
S4 Tools Inside the Log-in



Authorized users can access

- additional search filters
- individual crash data
- crash rate analyses

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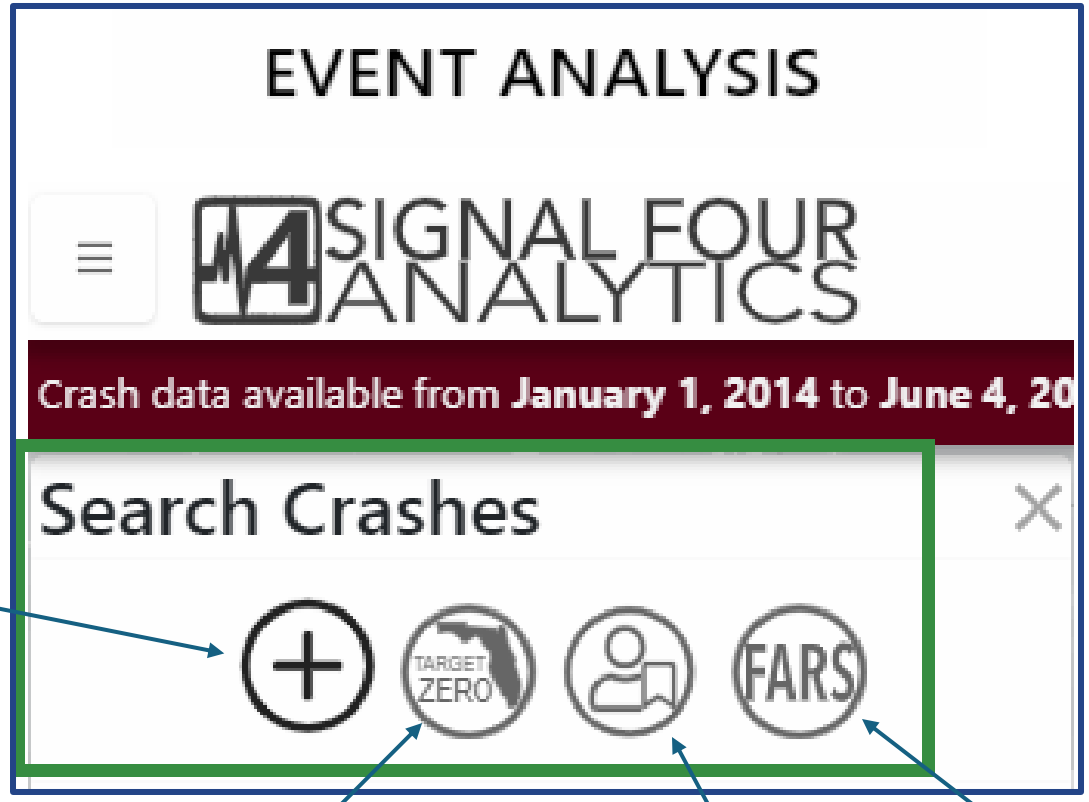
S4 Tools: Crash data query and filtering



General Queries

Target Zero Reporting

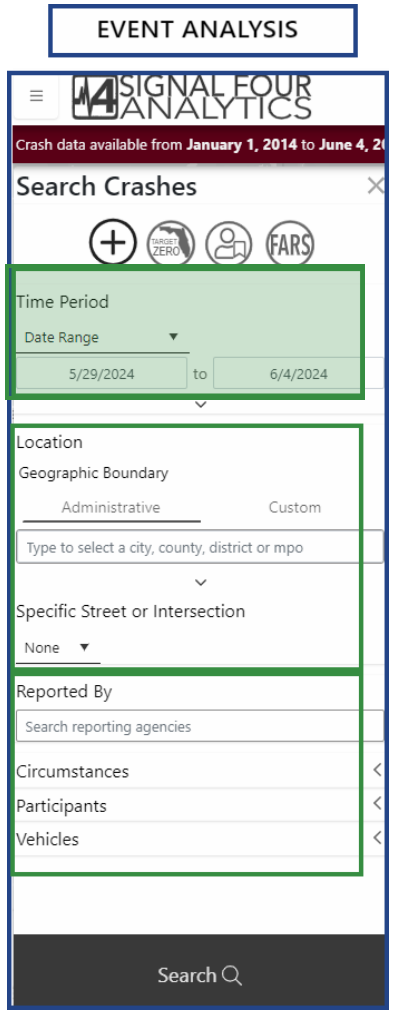
Saved Queries

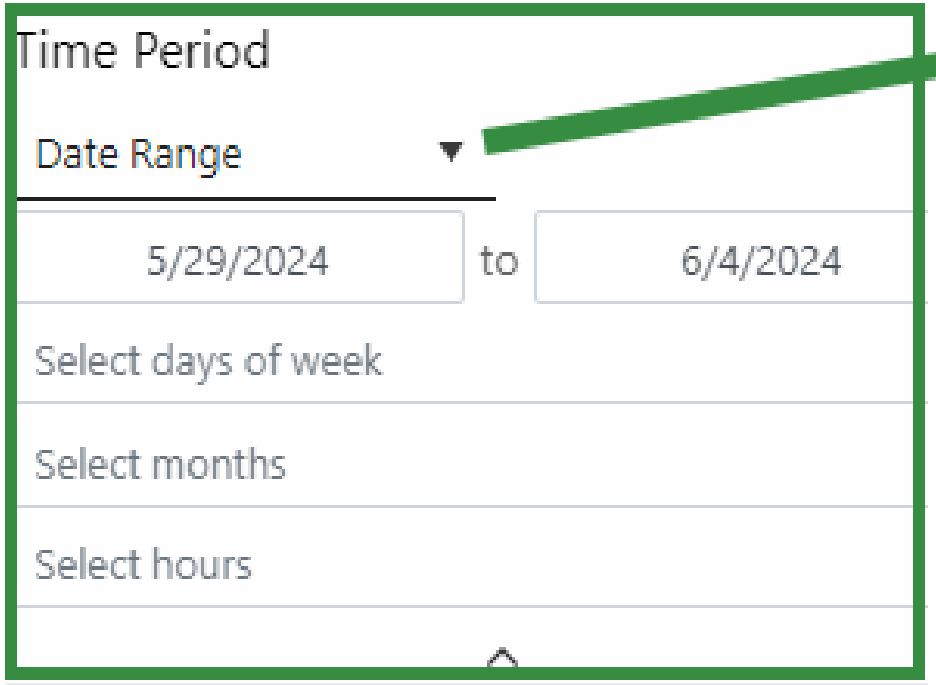
Fatal Crash Reporting

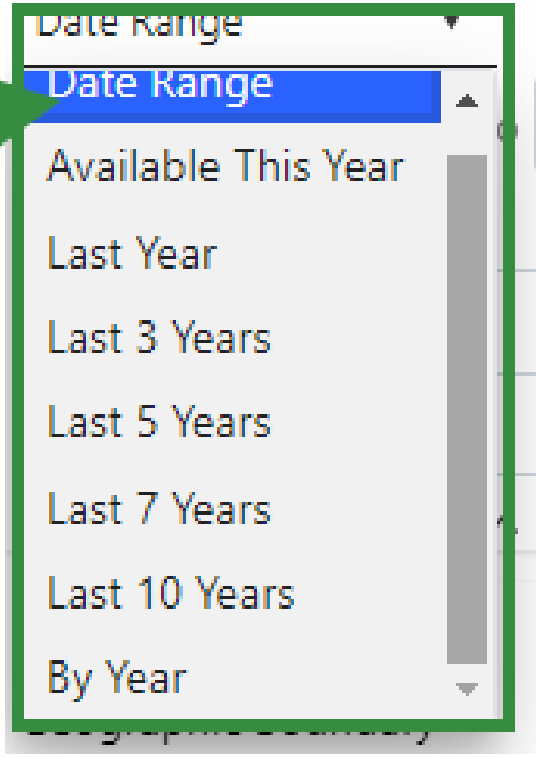
S4 Tools: Crash data query and filtering

Screen by

- **Date Range**



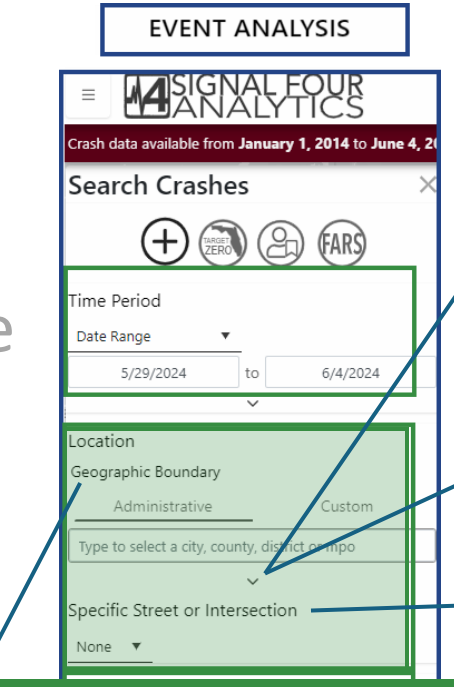


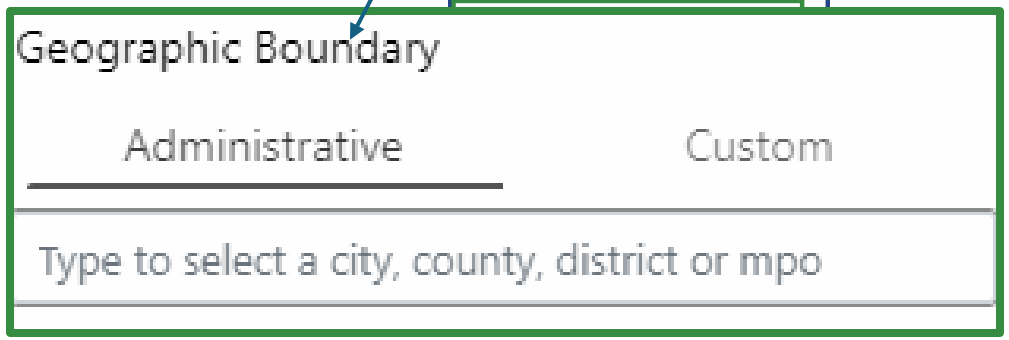


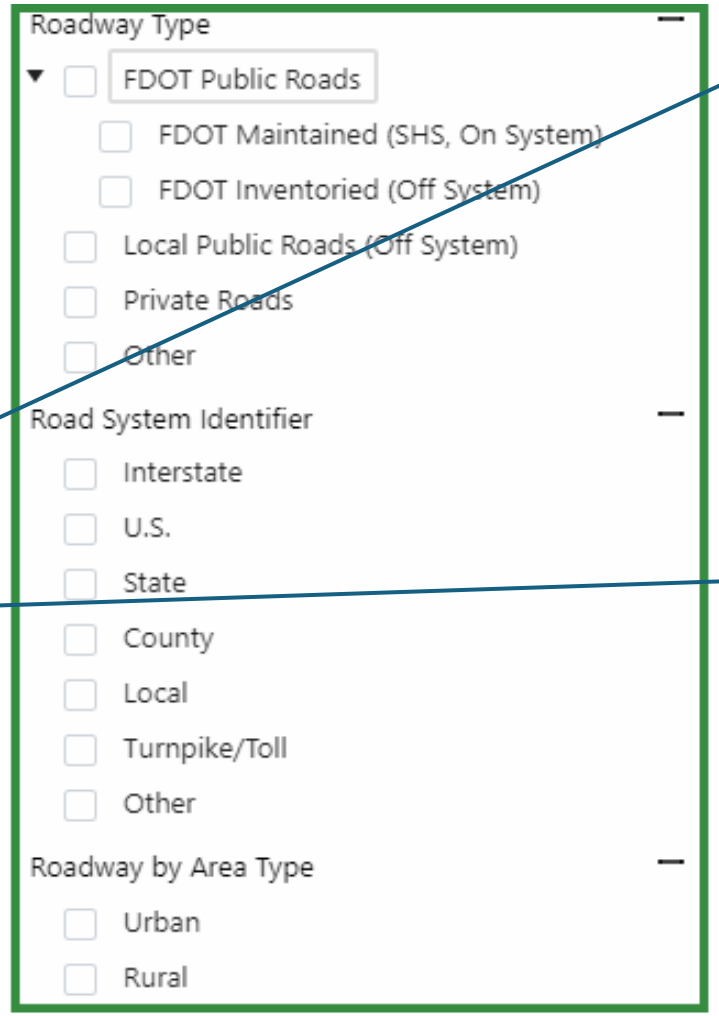
S4 Tools: Crash data query and filtering

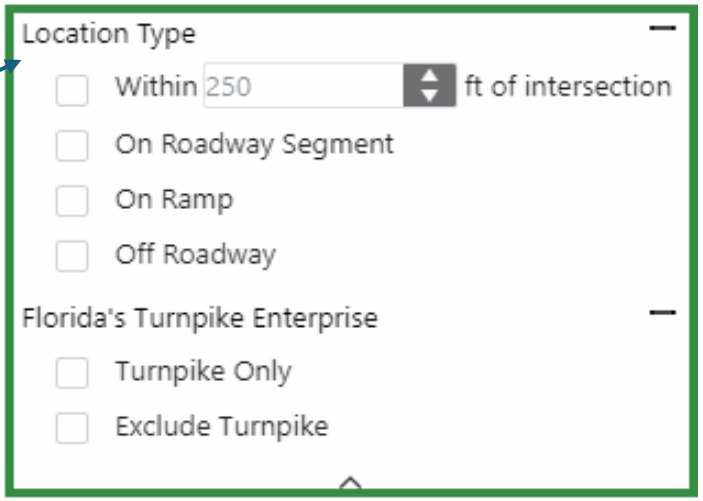
Screen by

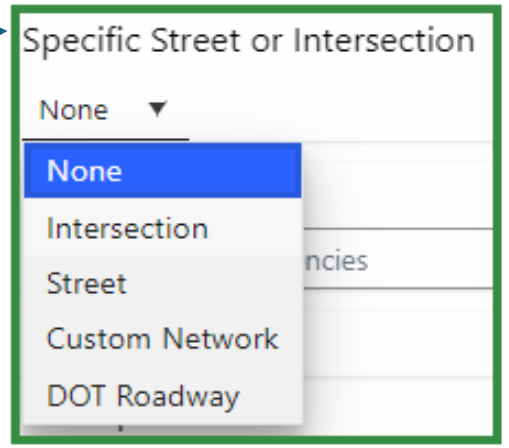
- Date Range
- **Location**











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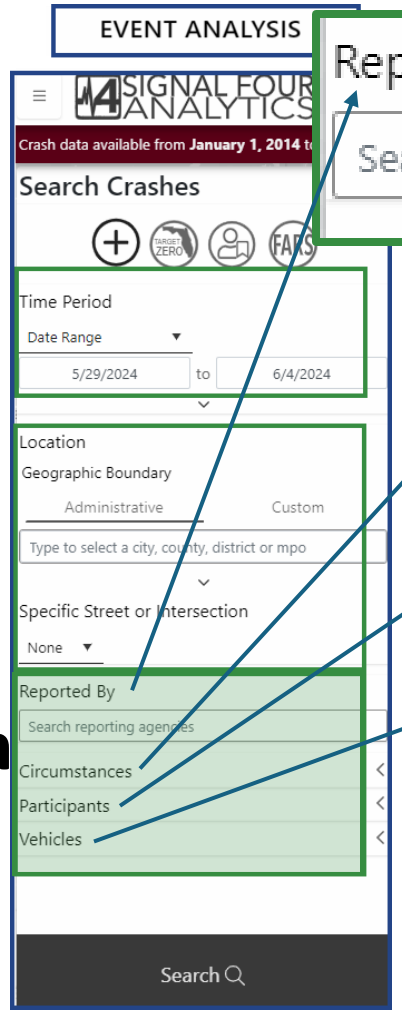
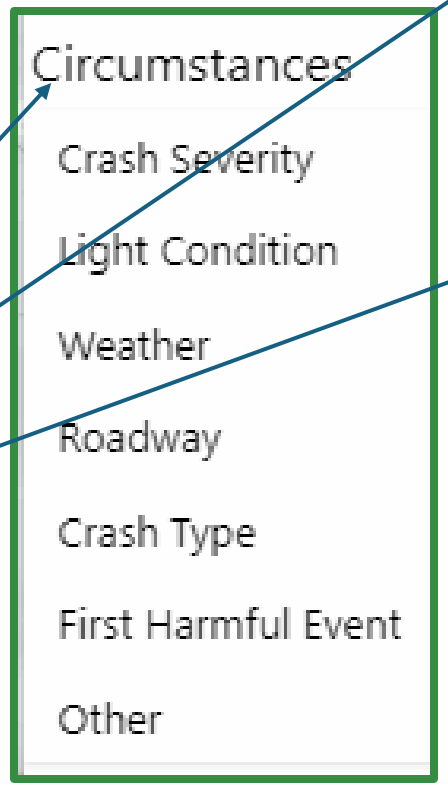
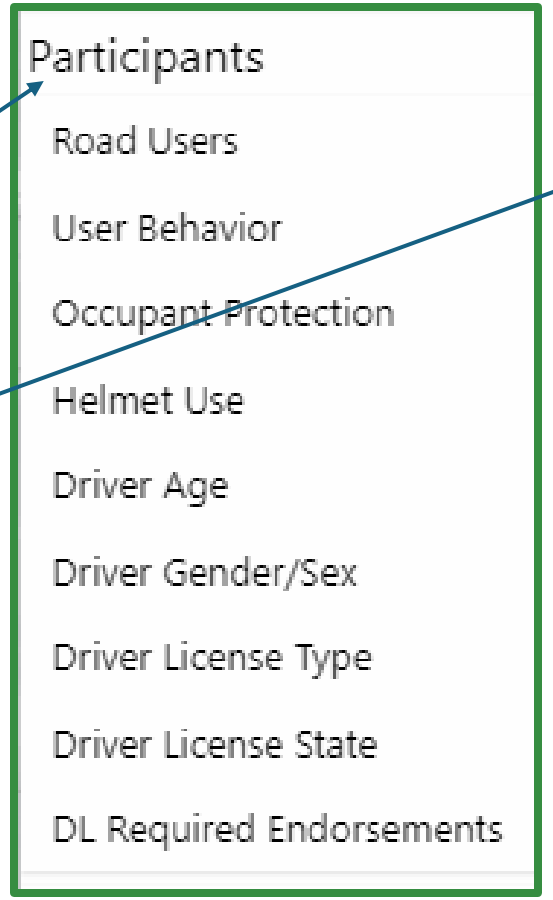
S4 Tools: Crash data query and filtering

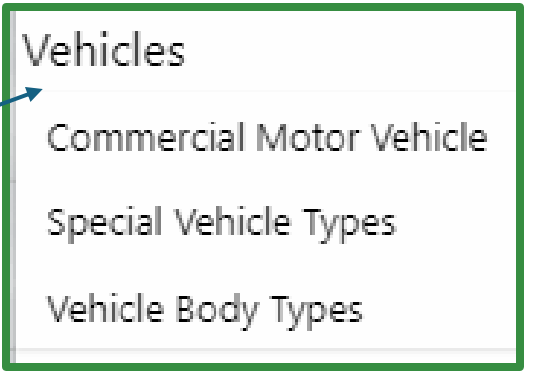
Screen by

- Date Range
- Location
- **Filter Option**

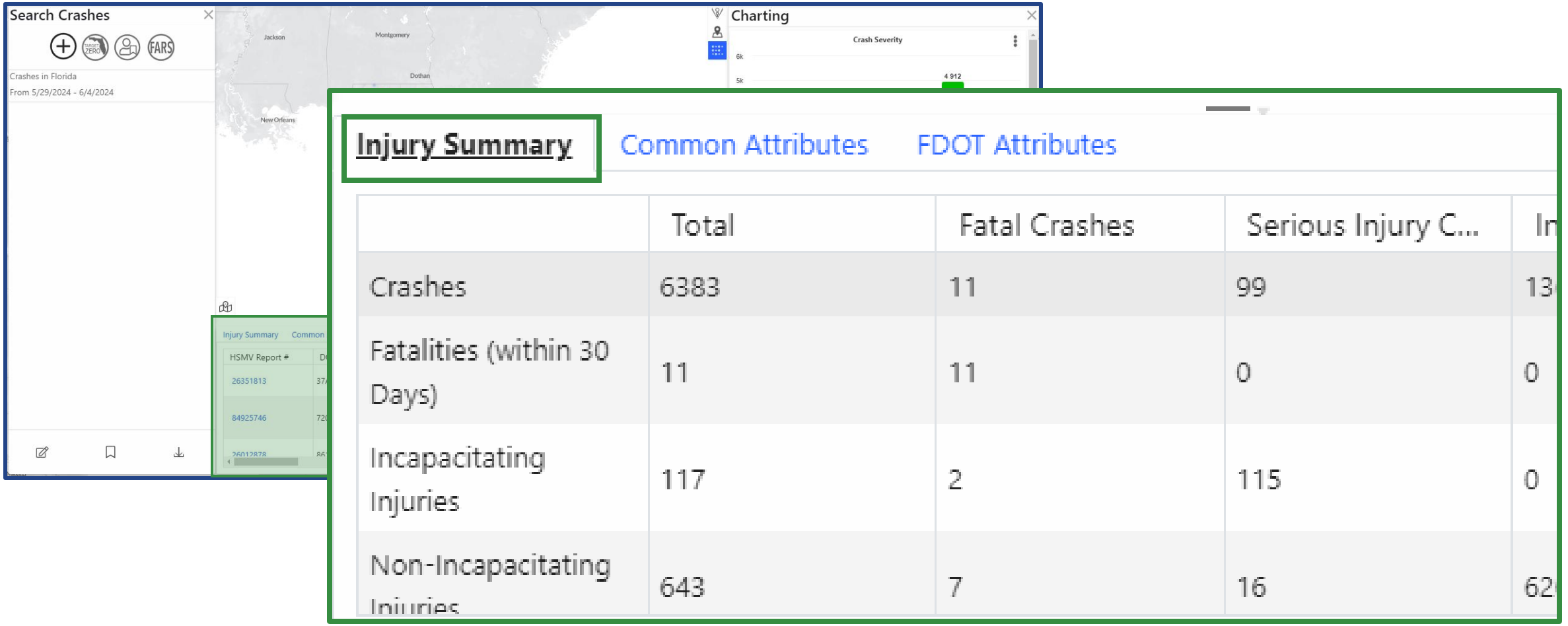






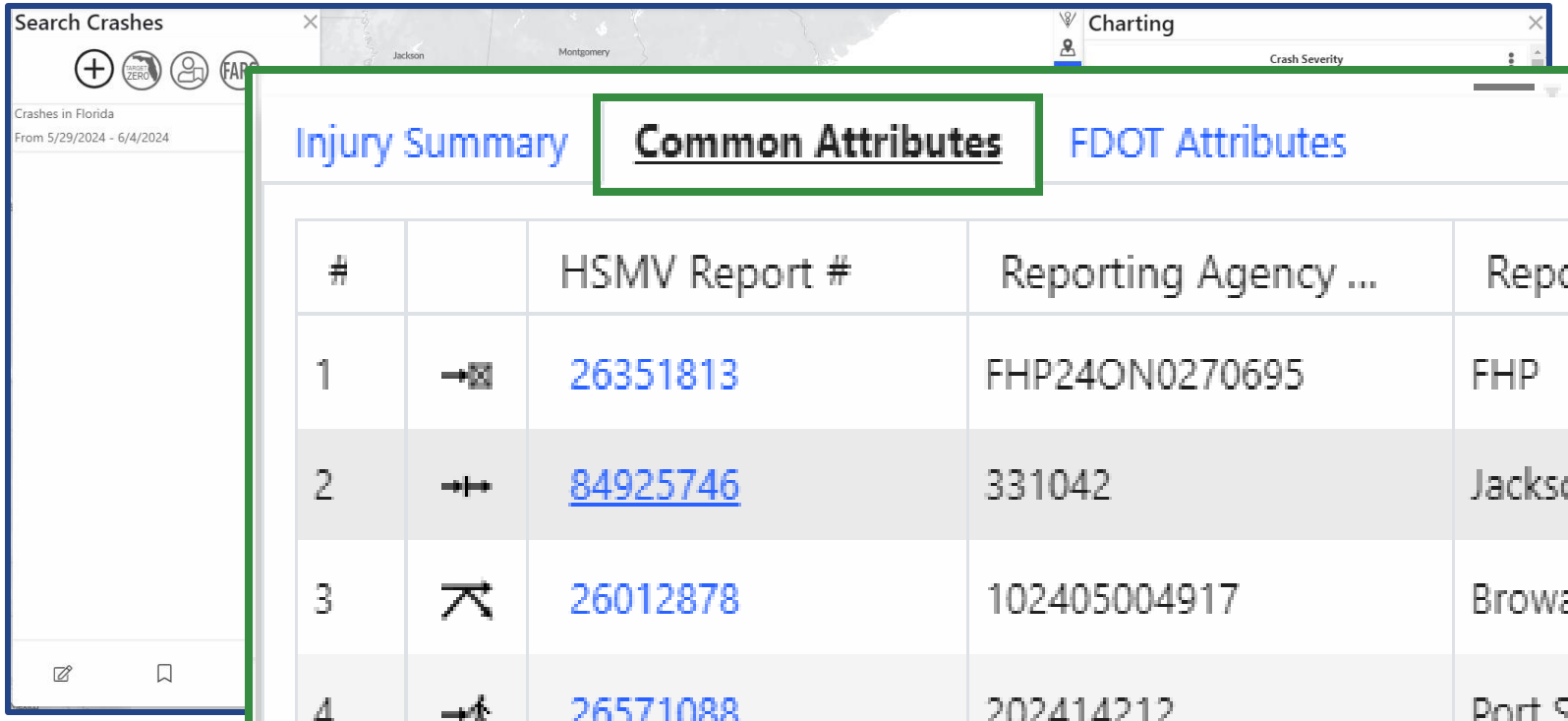


S4 Tools: Data Grid – Crash Listings



	Total	Fatal Crashes	Serious Injury C...	In
Crashes	6383	11	99	13
Fatalities (within 30 Days)	11	11	0	0
Incapacitating Injuries	117	2	115	0
Non-Incapacitating Injuries	643	7	16	62

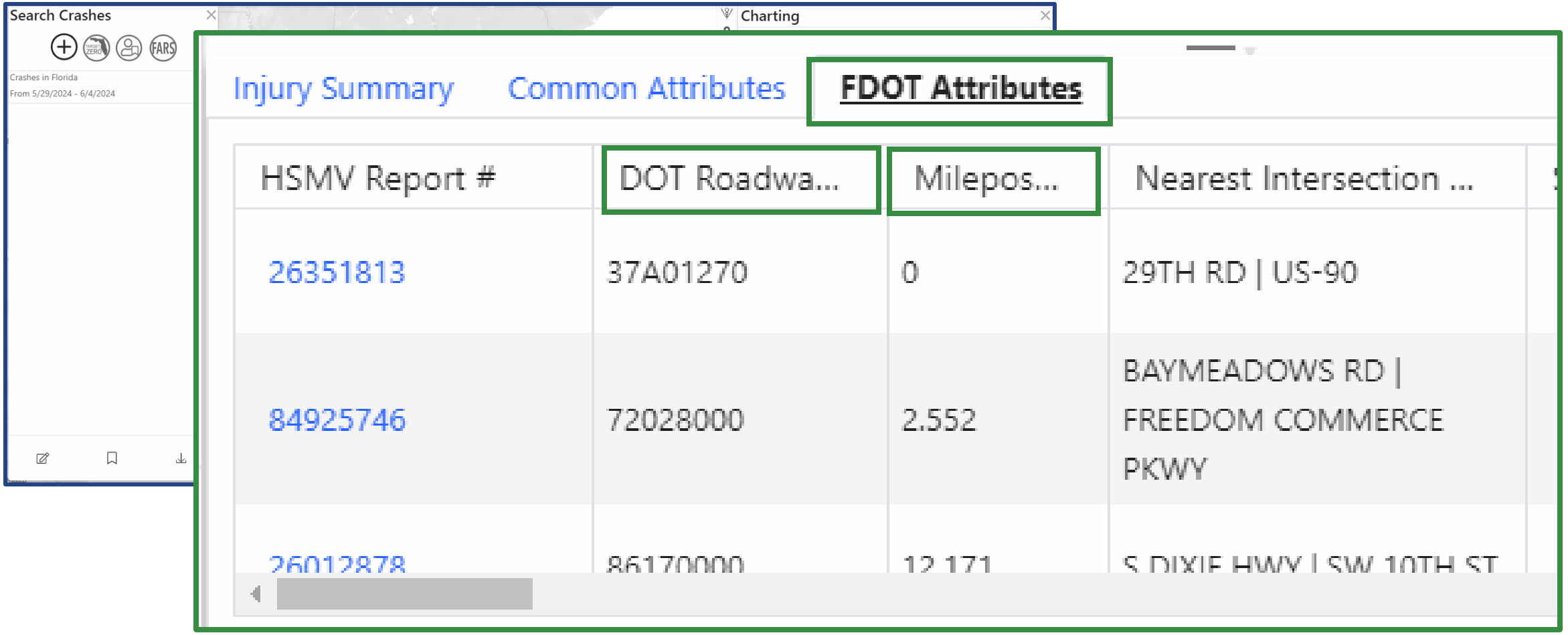
S4 Tools: Data Grid – Crash Listings



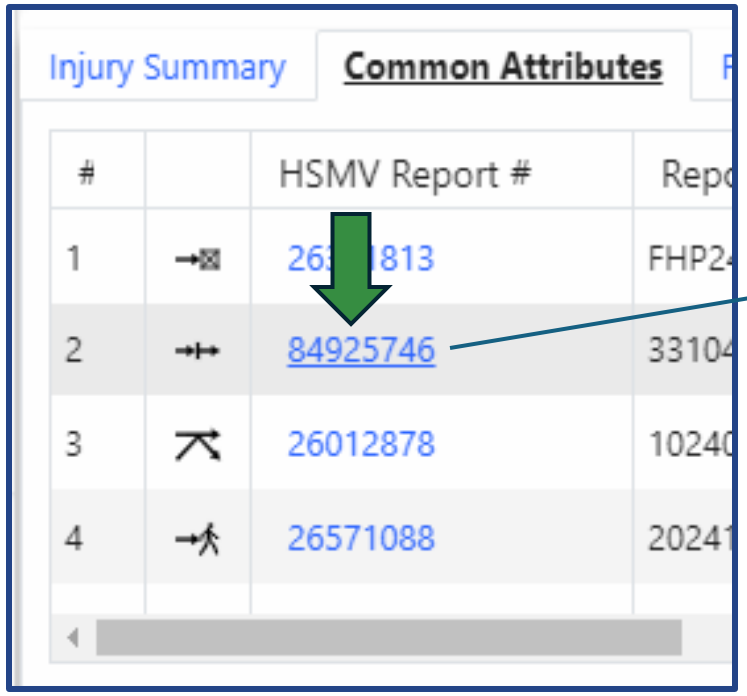
Injury Summary | **Common Attributes** | FDOT Attributes

#		HSMV Report #	Reporting Agency ...	Reporting Agency	Crash Date
1		26351813	FHP24ON0270695	FHP	5/29/2024
2		84925746	331042	Jacksonville SO	5/29/2024
3		26012878	102405004917	Broward Co SO	5/29/2024
4		26571088	202414212	Port St. Lucie PD	5/29/2024

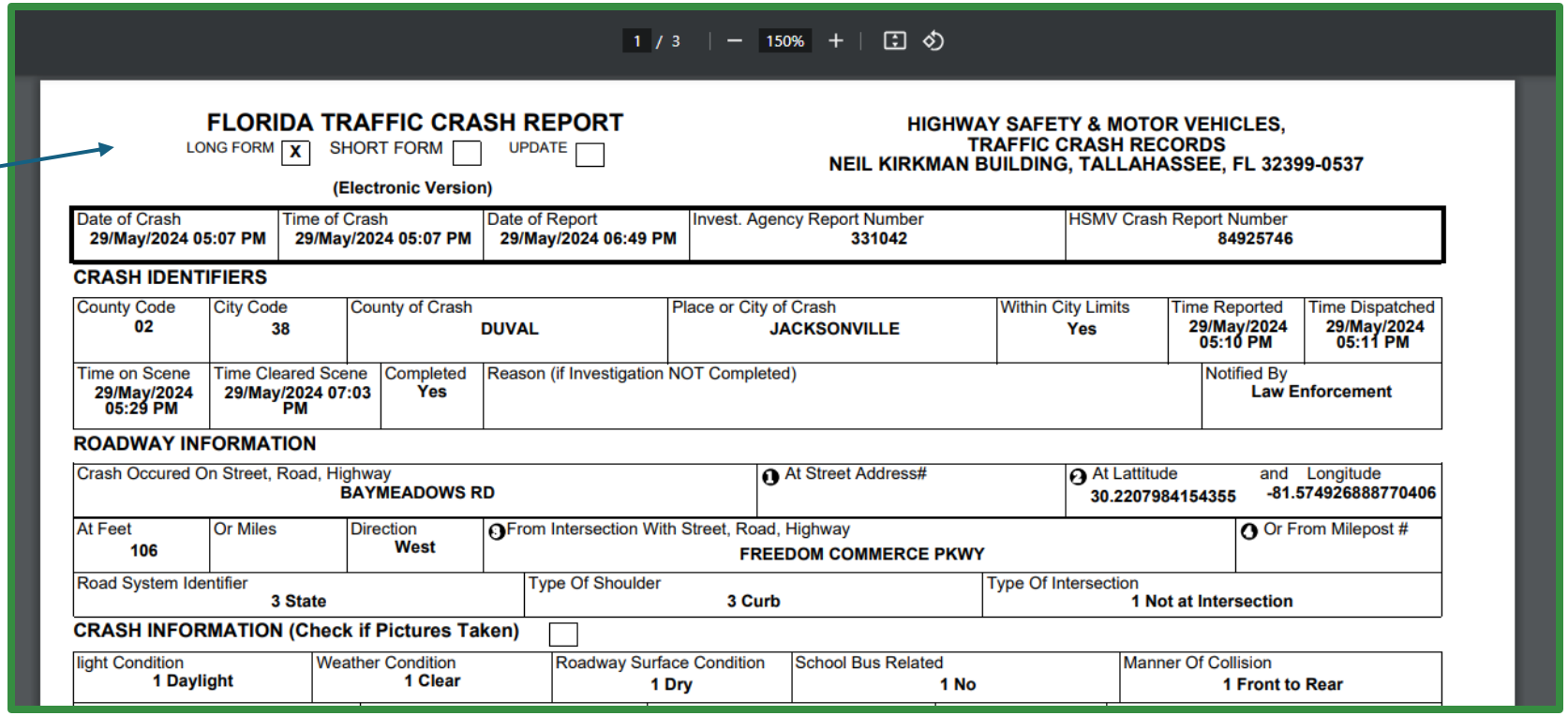
S4 Tools: Data Grid – Crash Listings



S4 Tools: Link to Crash Reports



Click crash report number to link to document



1 / 3 | 150%

FLORIDA TRAFFIC CRASH REPORT
LONG FORM [X] SHORT FORM [ ] UPDATE [ ]
(Electronic Version)

HIGHWAY SAFETY & MOTOR VEHICLES,
TRAFFIC CRASH RECORDS
NEIL KIRKMAN BUILDING, TALLAHASSEE, FL 32399-0537

Date of Crash	Time of Crash	Date of Report	Invest. Agency Report Number	HSMV Crash Report Number
29/May/2024 05:07 PM	29/May/2024 05:07 PM	29/May/2024 06:49 PM	331042	84925746

CRASH IDENTIFIERS

County Code	City Code	County of Crash	Place or City of Crash	Within City Limits	Time Reported	Time Dispatched
02	38	DUVAL	JACKSONVILLE	Yes	29/May/2024 05:10 PM	29/May/2024 05:11 PM

Time on Scene	Time Cleared Scene	Completed	Reason (if Investigation NOT Completed)	Notified By
29/May/2024 05:29 PM	29/May/2024 07:03 PM	Yes		Law Enforcement

ROADWAY INFORMATION

Crash Occured On Street, Road, Highway	At Street Address#	At Lattitude	and Longitude
BAYMEADOWS RD		30.2207984154355	-81.574926888770406

At Feet	Or Miles	Direction	From Intersection With Street, Road, Highway	Or From Milepost #
106		West	FREEDOM COMMERCE PKWY	

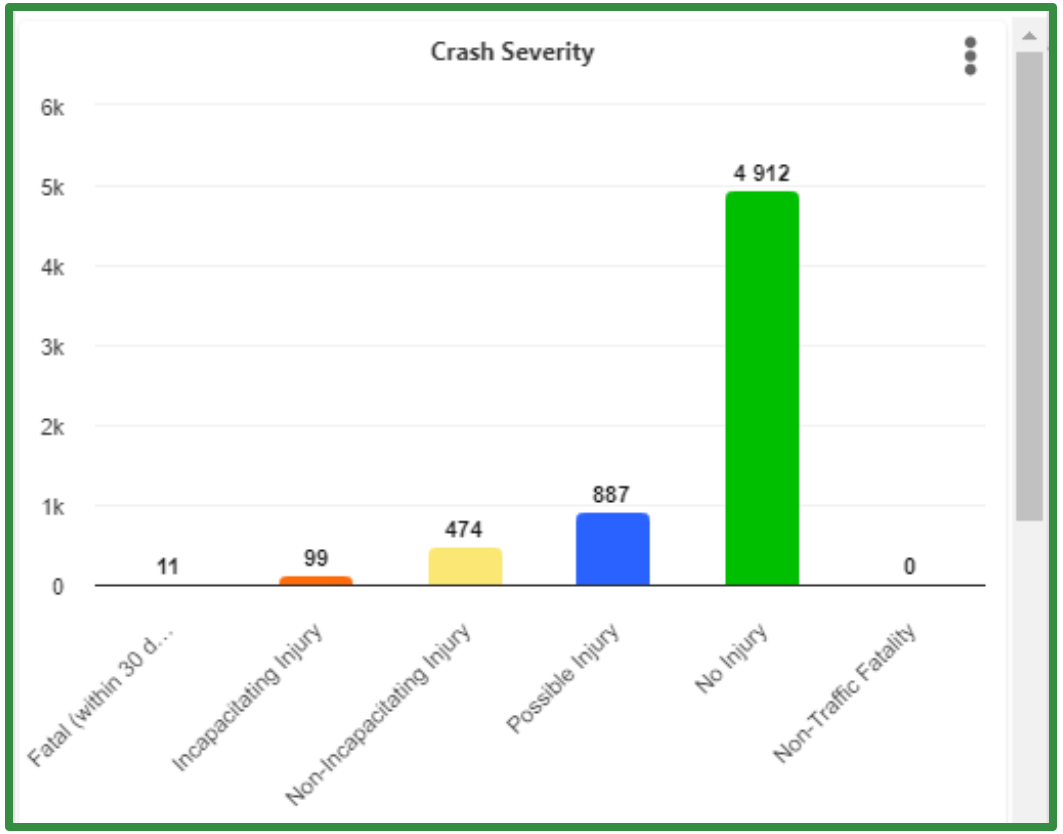
Road System Identifier	Type Of Shoulder	Type Of Intersection
3 State	3 Curb	1 Not at Intersection

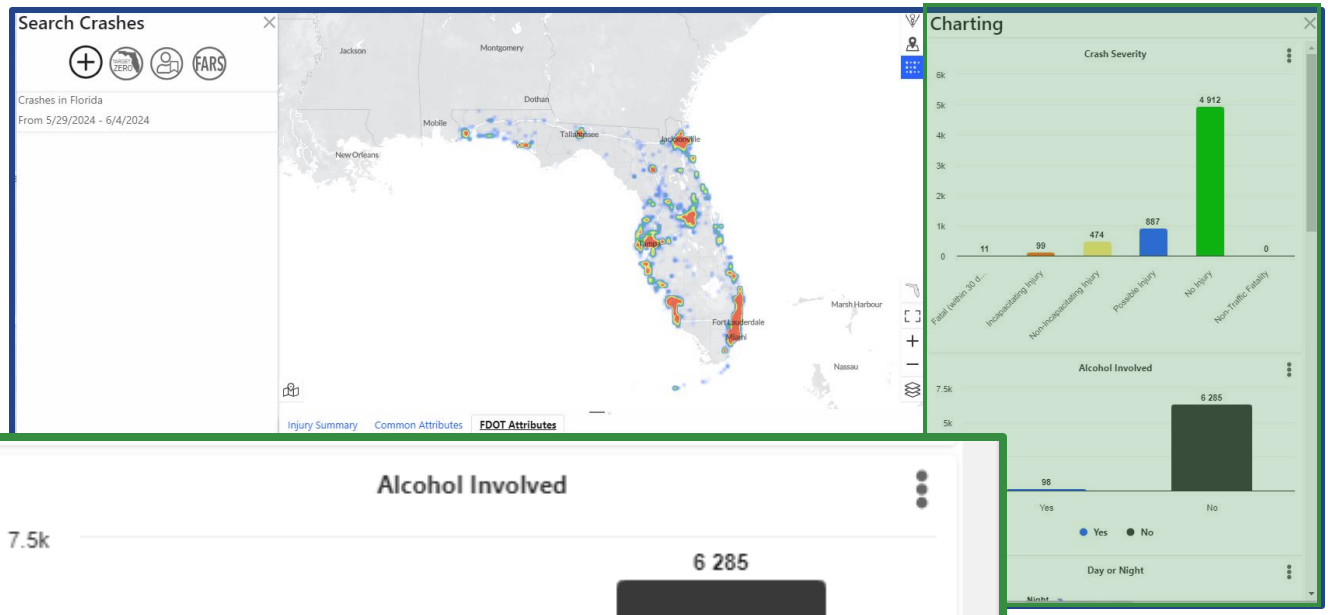
CRASH INFORMATION (Check if Pictures Taken) [ ]

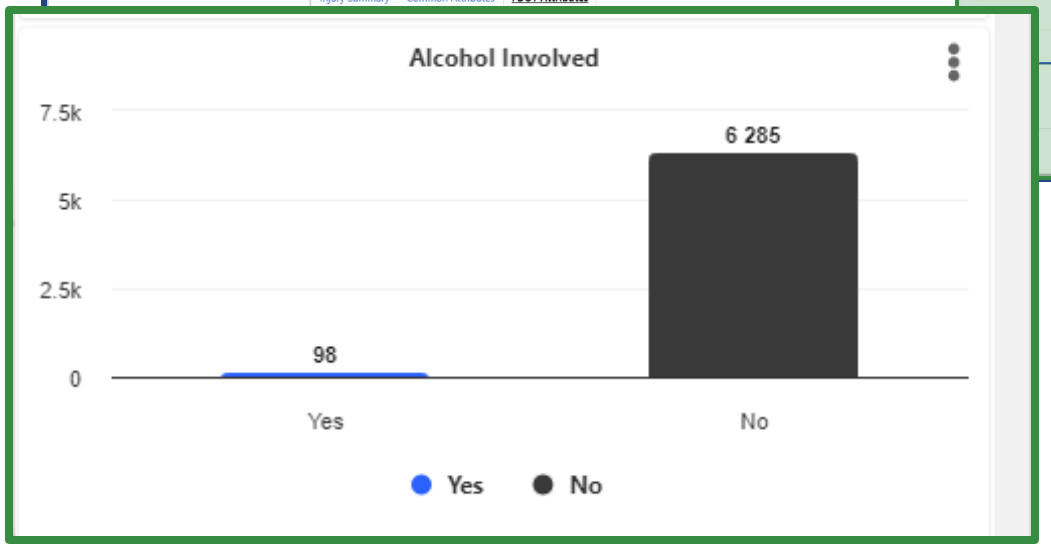
light Condition	Weather Condition	Roadway Surface Condition	School Bus Related	Manner Of Collision
1 Daylight	1 Clear	1 Dry	1 No	1 Front to Rear

TRANSPORTATION SYMPOSIUM

S4 Tools: Data Visualization



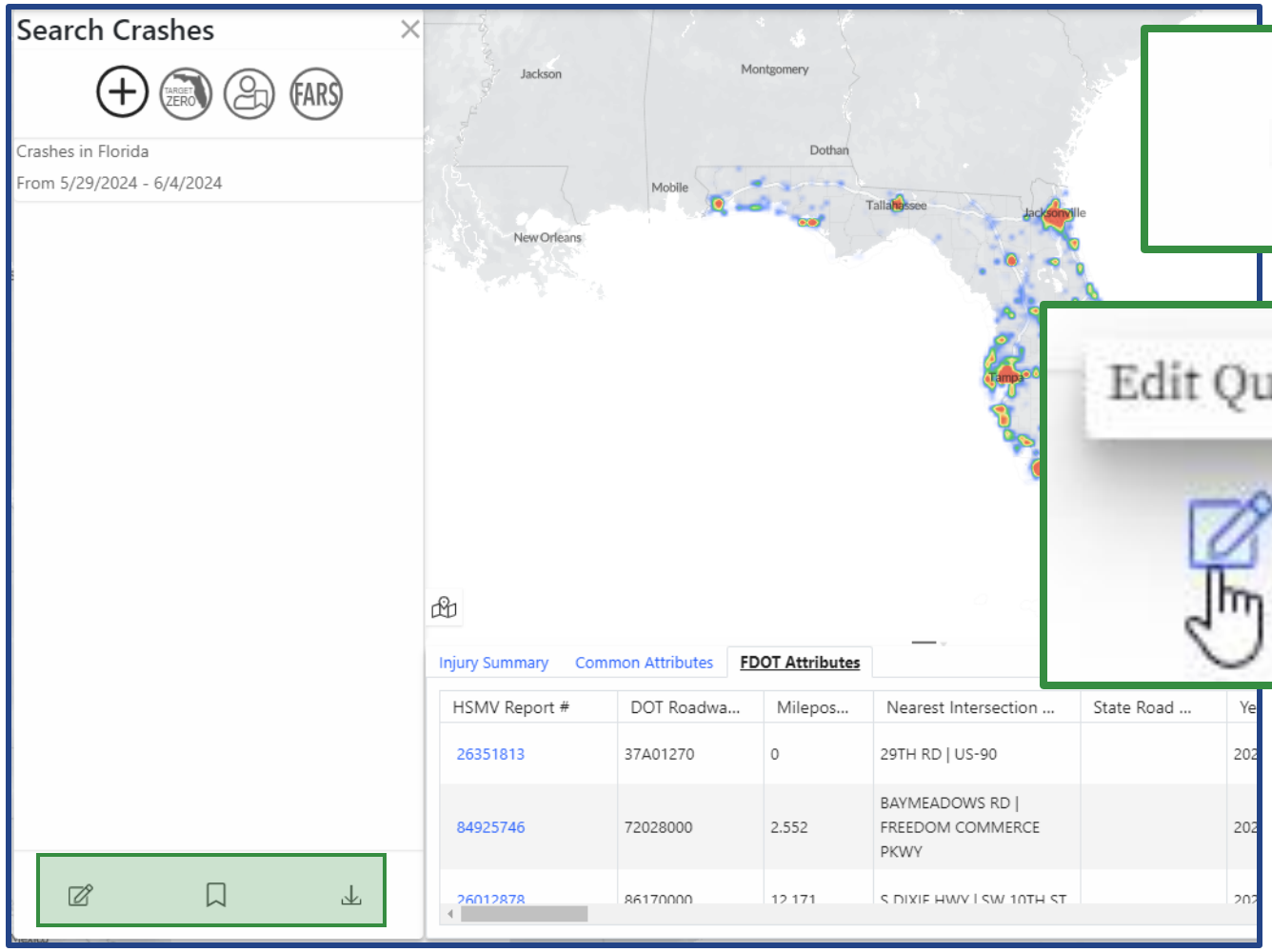


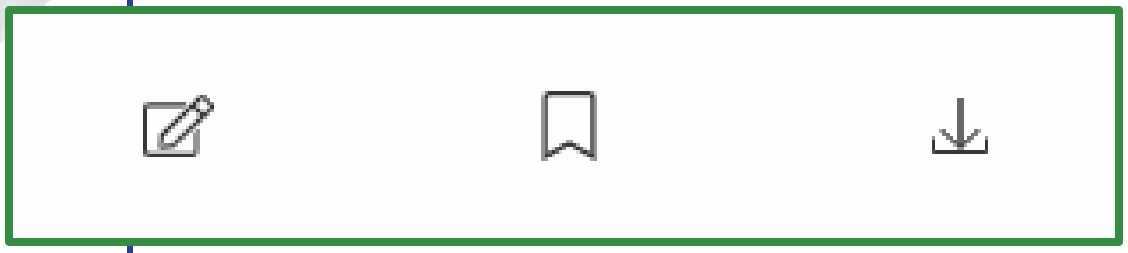


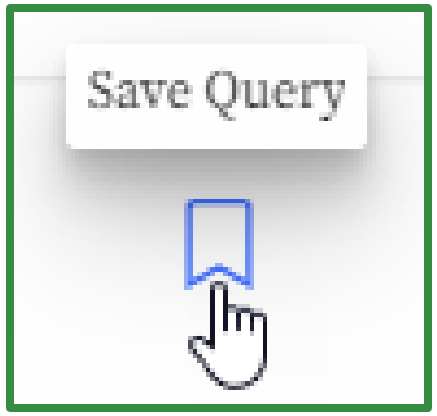
Several charts generated, scroll for more

TRANSPORTATION SYMPOSIUM

S4 Tools: Save and Edit Queries, Download Data





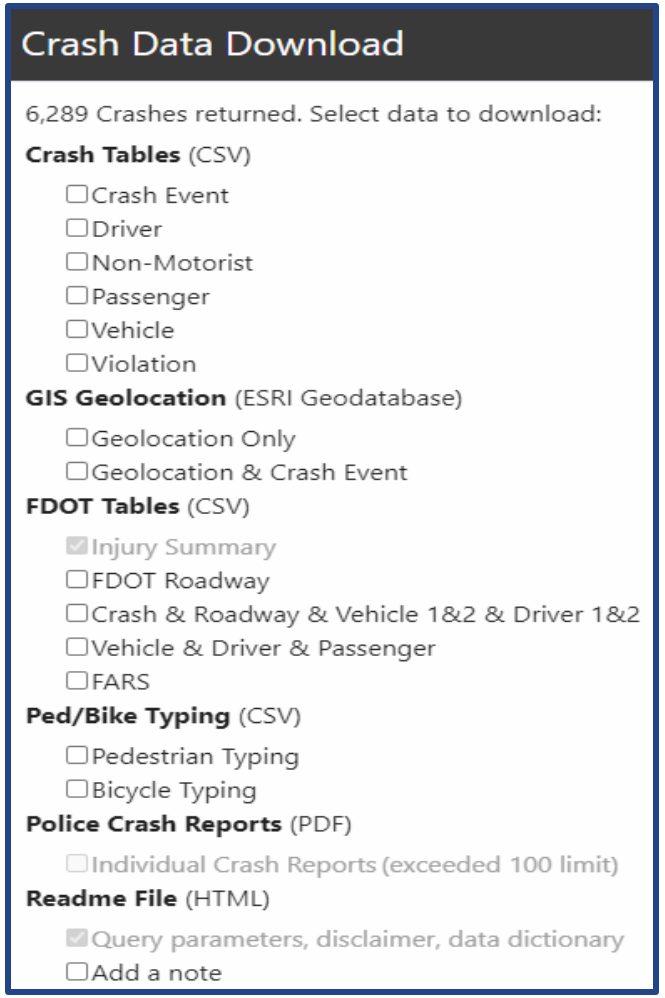


TRANSPORTATION SYMPOSIUM

S4 Tools: Data Download Formats

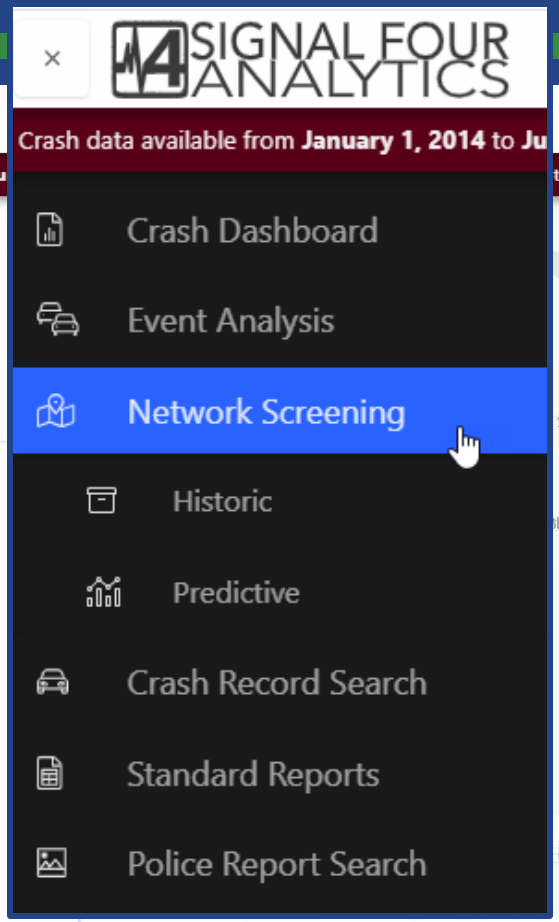
Available Downloads include:

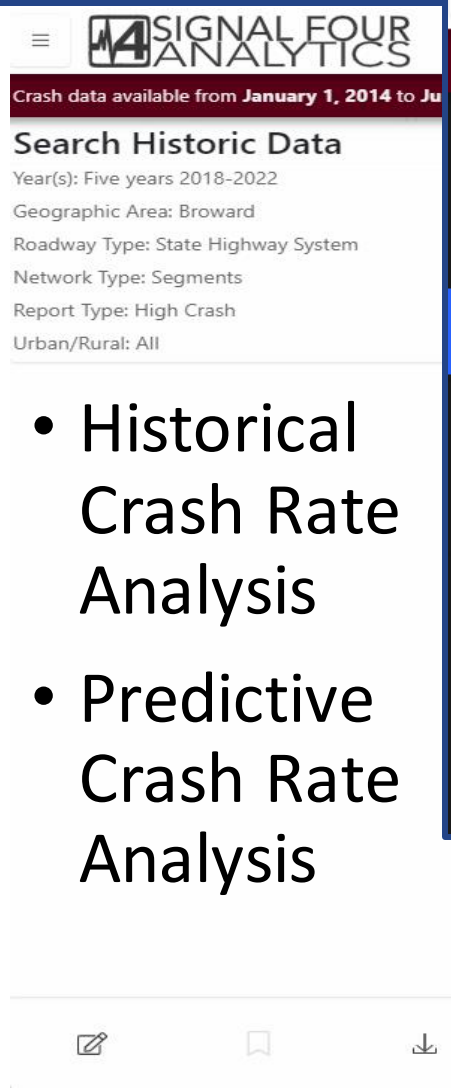
Crash Tables (CSV)
GIS Geolocation (ESRI Geodatabase)
FDOT Tables (CSV)
Ped/Bike Typing (CSV)
Police Crash Reports (PDF)
Readme File (HTML)

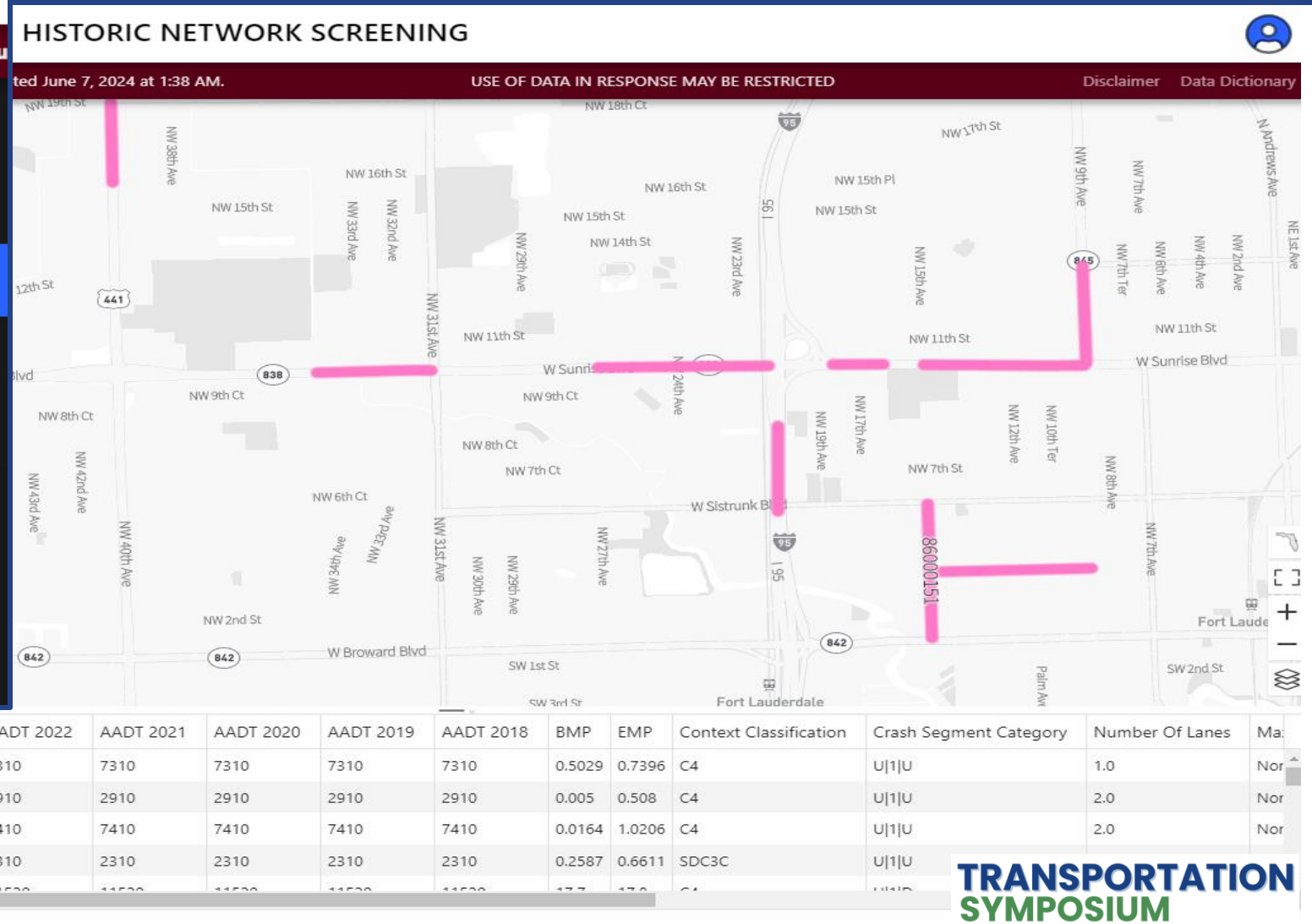


S4 Tools: Network Analyses

- Historical Crash Rate Analysis
- Predictive Crash Rate Analysis

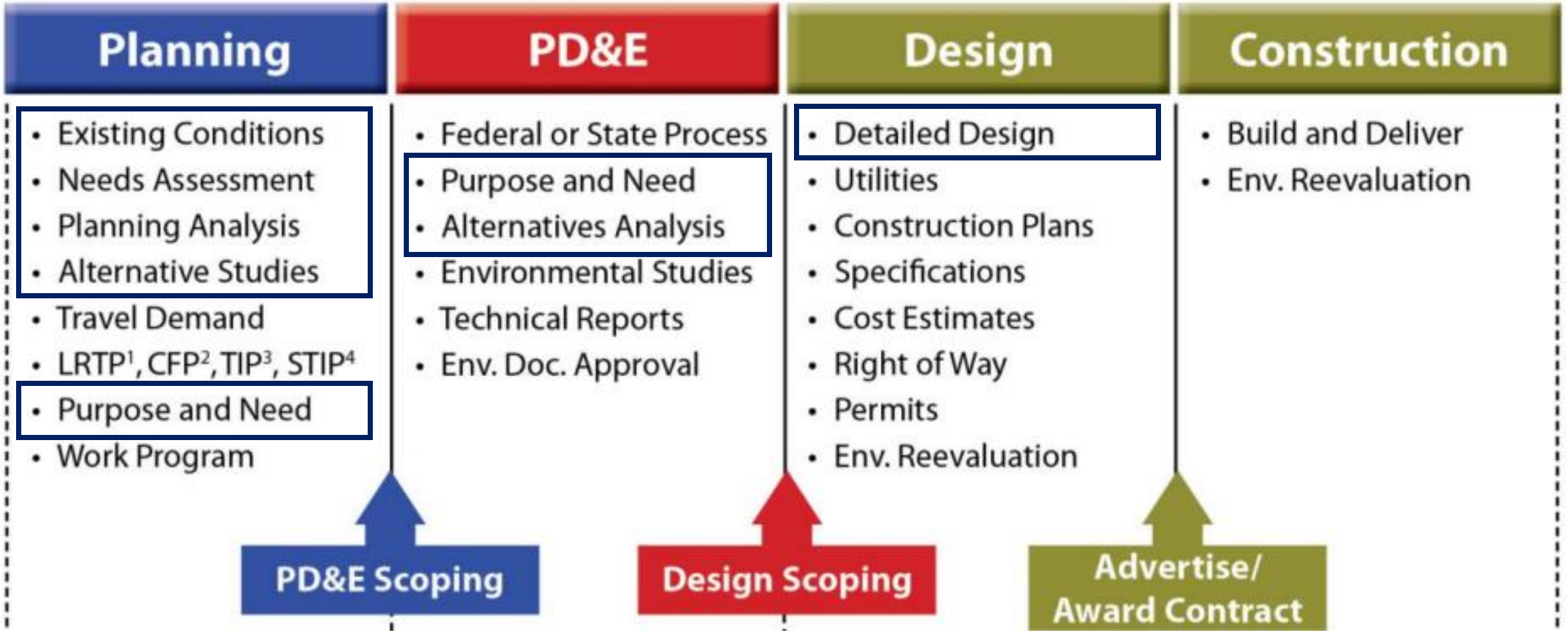




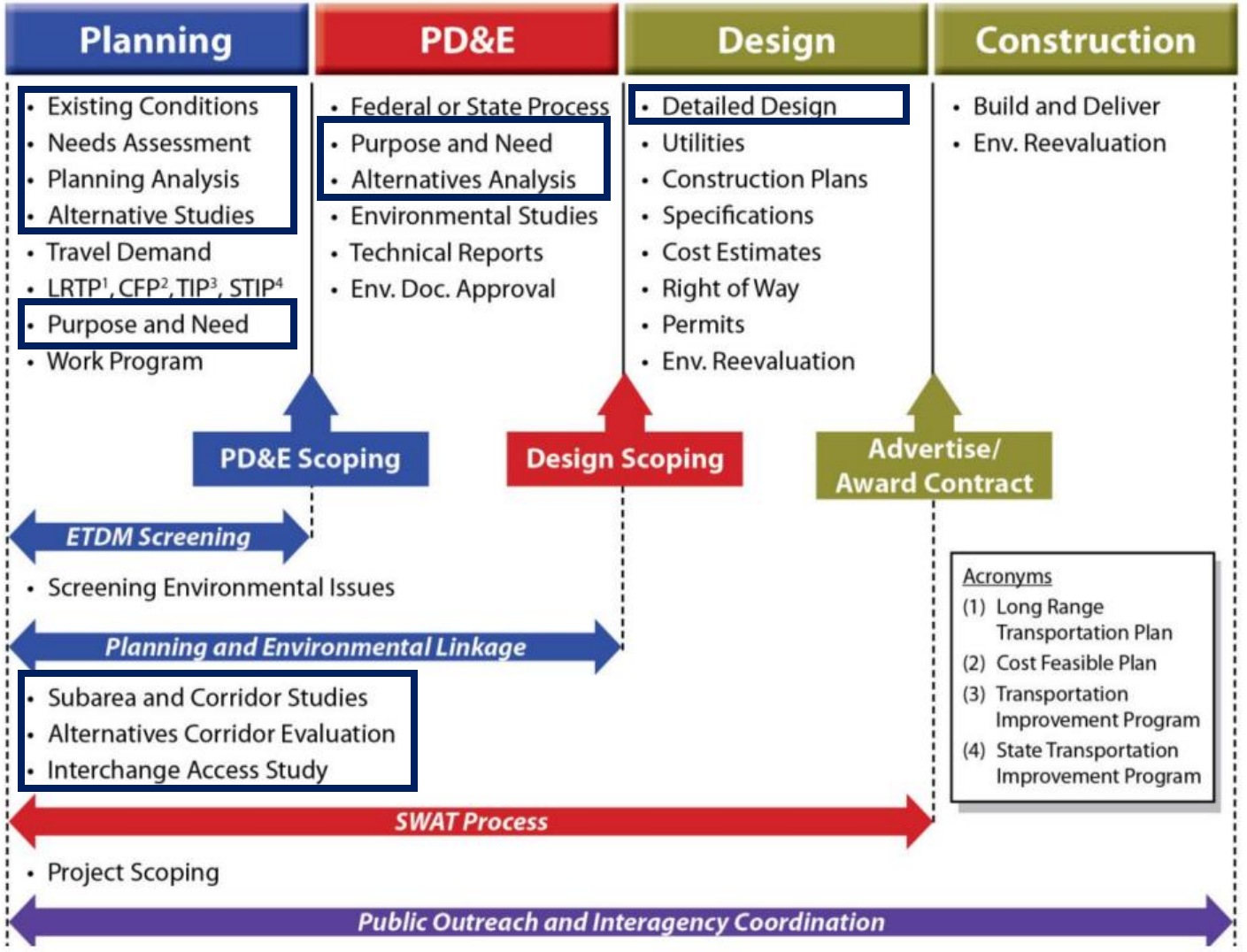


DOT District Id	DOT County Id	County	AADT 2022	AADT 2021	AADT 2020	AADT 2019	AADT 2018	BMP	EMP	Context Classification	Crash Segment Category	Number Of Lanes	Ma
4	86	Broward	7310	7310	7310	7310	7310	0.5029	0.7396	C4	U|1|U	1.0	Nor
4	86	Broward	2910	2910	2910	2910	2910	0.005	0.508	C4	U|1|U	2.0	Nor
4	86	Broward	7410	7410	7410	7410	7410	0.0164	1.0206	C4	U|1|U	2.0	Nor
4	86	Broward	2310	2310	2310	2310	2310	0.2587	0.6611	SDC3C	U|1|U		

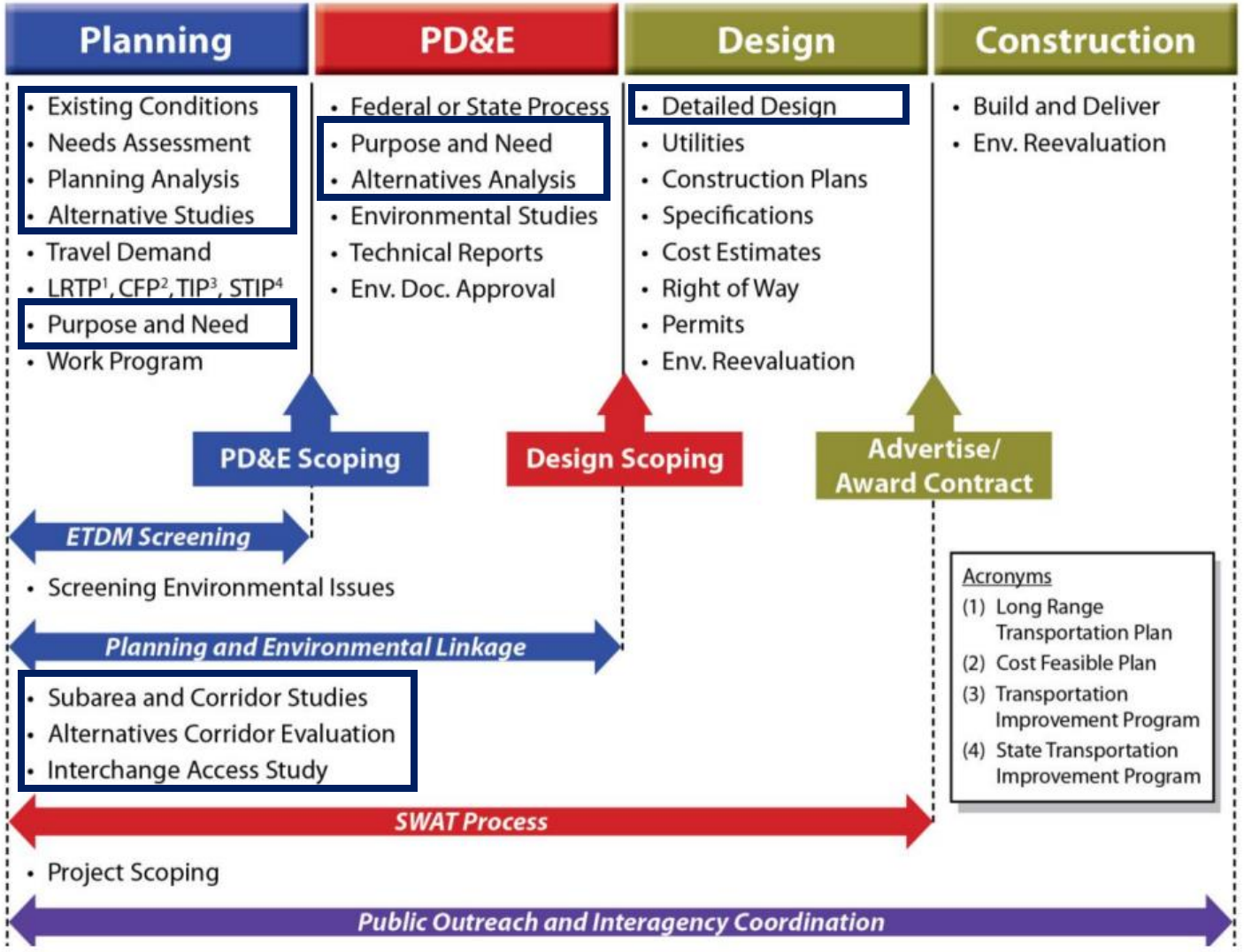
Safety Analysis



Safety Analysis



Safety Analysis



Operations & Maintenance

- Intersection Safety Studies
- Corridor Safety Study
- Intersection Control Evaluation (ICE)
- Pedestrian & Bicycle Study
- Transit Stop Evaluation
- High Crash List
- Fatal Crash Reviews
- RRR Evaluation
- …and More!

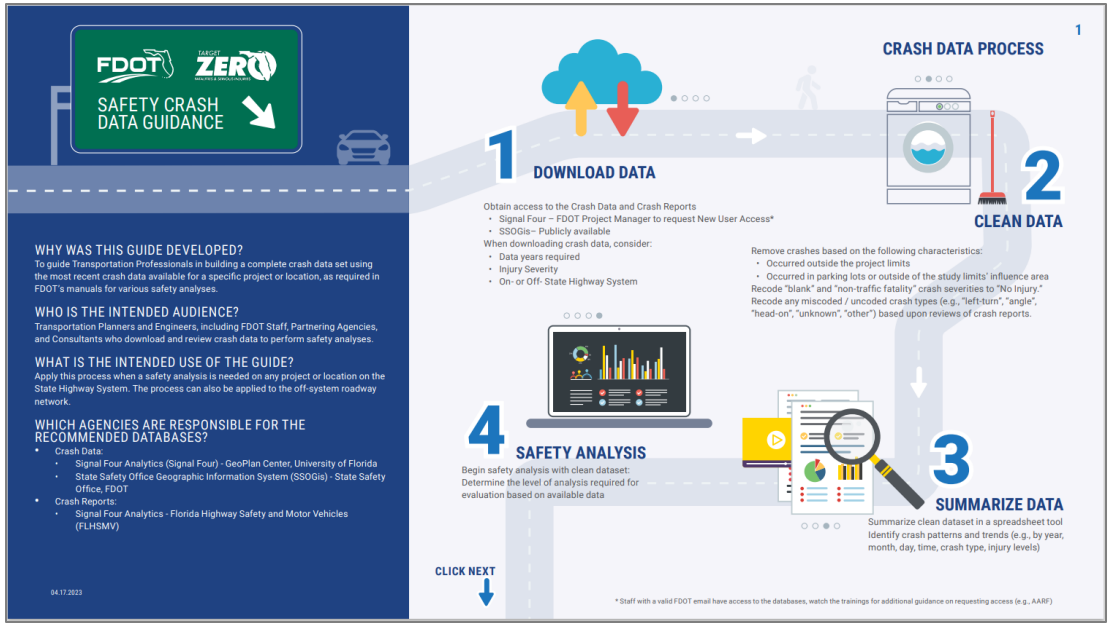
Examples of Various Requirements

PD&E Study	Design Exception / Variation (FDM 122)	Intersection Control Evaluation (ICE)
• Data driven safety analysis (e.g., analyzing historic crash data and applying HSM methods) should be used to the extent practicable to quantitatively assess safety performance of project alternatives.	• 5 years of historical crash data. • Description of anticipated impact on safety, long and short-term effects, and any anticipated cumulative effects. • Comparison of predicted or expected crash frequency.	• Safety Performance for Intersection Control Evaluation (SPICE) Tool, which includes two complimentary approaches to safety analysis: 1. Crash prediction method 2. Safe System for Intersections (SSI) method

Manuals Providing Guidance On the Use of Crash Data

- FDOT Highway Safety Manual User Guide
- Project Development and Environment (PD&E) Manual
- Interchange Access Request Safety Guidance
- Access Management Guidebook
- FDOT Design Manual (FDM)
- Speed Zoning Manual
- Manual on Uniform Traffic Studies (MUTS)
- Traffic Engineering Manual (TEM)
- Intersection Control Evaluation (ICE) Manual

FDOT Crash Data Guidance



TRANSPORTATION SYMPOSIUM

FDOT Crash Data Guidance

FDOT TARGET ZERO

SAFETY CRASH DATA GUIDANCE

WHY WAS THIS GUIDE DEVELOPED?

To guide Transportation Professionals in building a complete crash data set using the most recent crash data available for a specific project or location, as required in FDOT's manuals for various safety analyses.

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WHAT IS THE INTENDED USE OF THE GUIDE?

Apply this process when a safety analysis is needed on any project or location on the State Highway System. The process can also be applied to the off-system roadway network.

WHICH AGENCIES ARE RESPONSIBLE FOR THE RECOMMENDED DATABASES?

- Crash Data:
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04.17.2023

1

CRASH DATA PROCESS

1 DOWNLOAD DATA

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When downloading crash data, consider:
- Data years required
- Injury Severity
- On- or Off- State Highway System

2 CLEAN DATA

Remove crashes based on the following characteristics:
- Occurred outside the project limits
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3 SUMMARIZE DATA

Summarize clean dataset in a spreadsheet tool
Identify crash patterns and trends (e.g., by year, month, day, time, crash type, injury levels)

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Begin safety analysis with clean dataset:
Determine the level of analysis required for evaluation based on available data

CLICK NEXT

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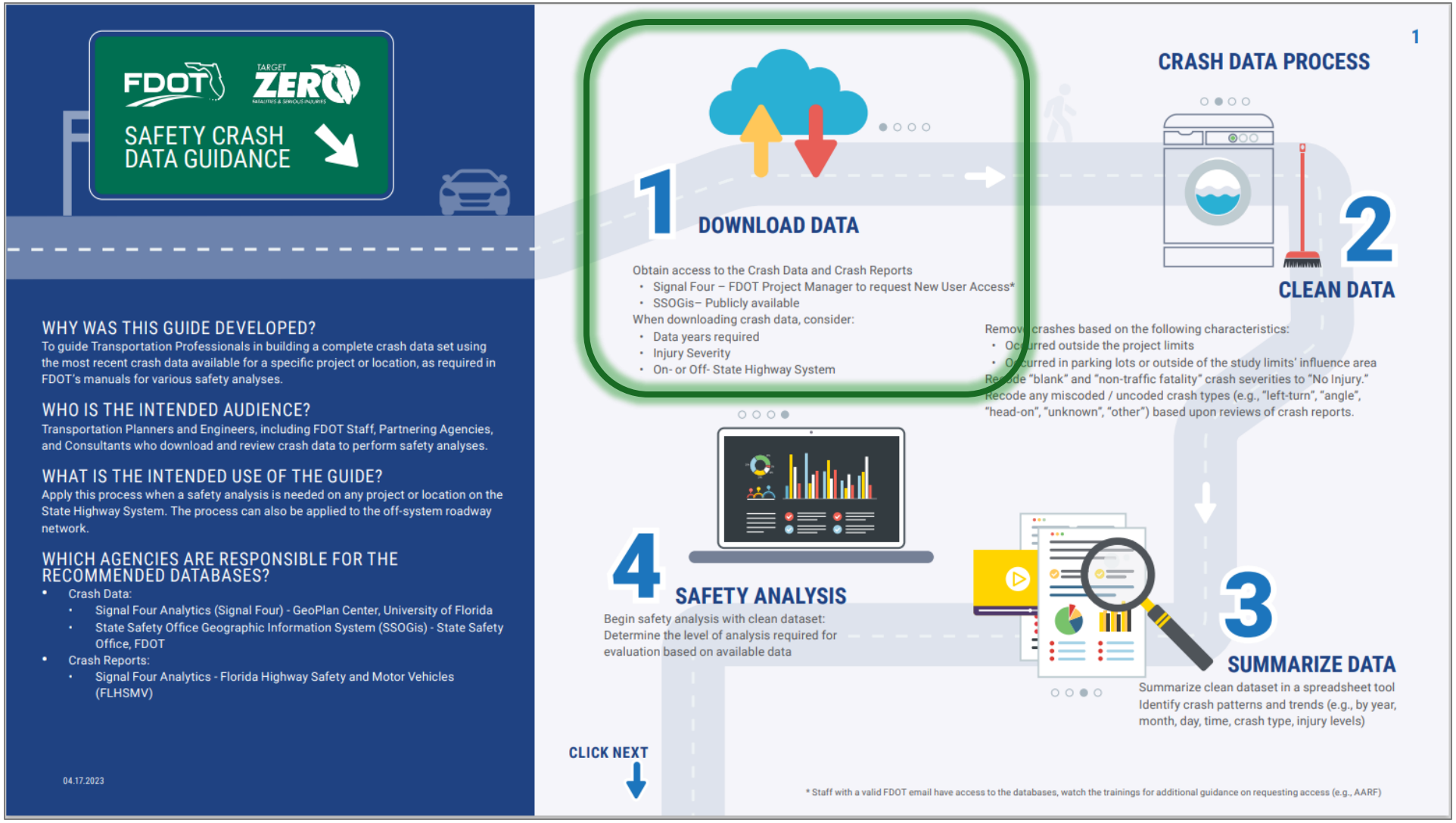
TRANSPORTATION SYMPOSIUM

FDOT Crash Data Guidance



TRANSPORTATION SYMPOSIUM

FDOT Crash Data Guidance

How do you access crash data?

- **Signal 4 Analytics** - Pre-approval needed for non-FDOT staff
- **SSOgis** – Open to the public

How do you pull crash reports?

- Available on Signal 4 Analytics
- Use the unique crash numbers

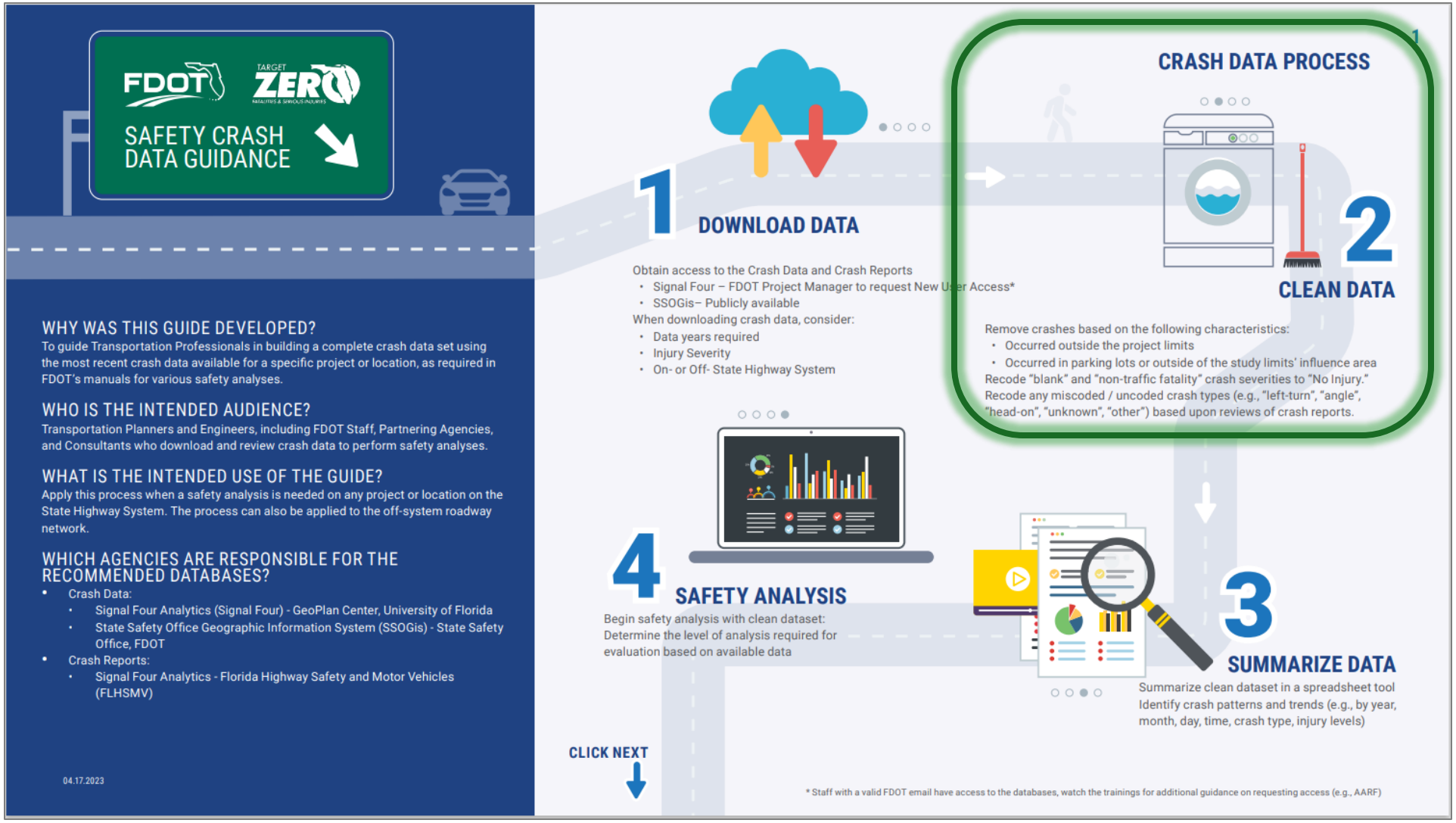
How do you define project limits?

- **Intersection**: turn lane extent or minimum 0.1mile from center of intersection
- **Segment**: recommended minimum length is 0.2 miles

How many years of crash data should be downloaded?

- Pull last **five (5) full calendar years** and the **partial year** up to the day before the crash data is available

FDOT Crash Data Guidance



TRANSPORTATION SYMPOSIUM

FDOT Crash Data Guidance

How is crash data cleaned?

Based on location

- Non-public roadways
- Outside of project limits

Based on crash attributes for safety analysis

- Crash Severity
- Crash type interpretation

FDOT Crash Data Guidance

FDOT TARGET ZERO

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TRANSPORTATION SYMPOSIUM

FDOT Crash Data Guidance

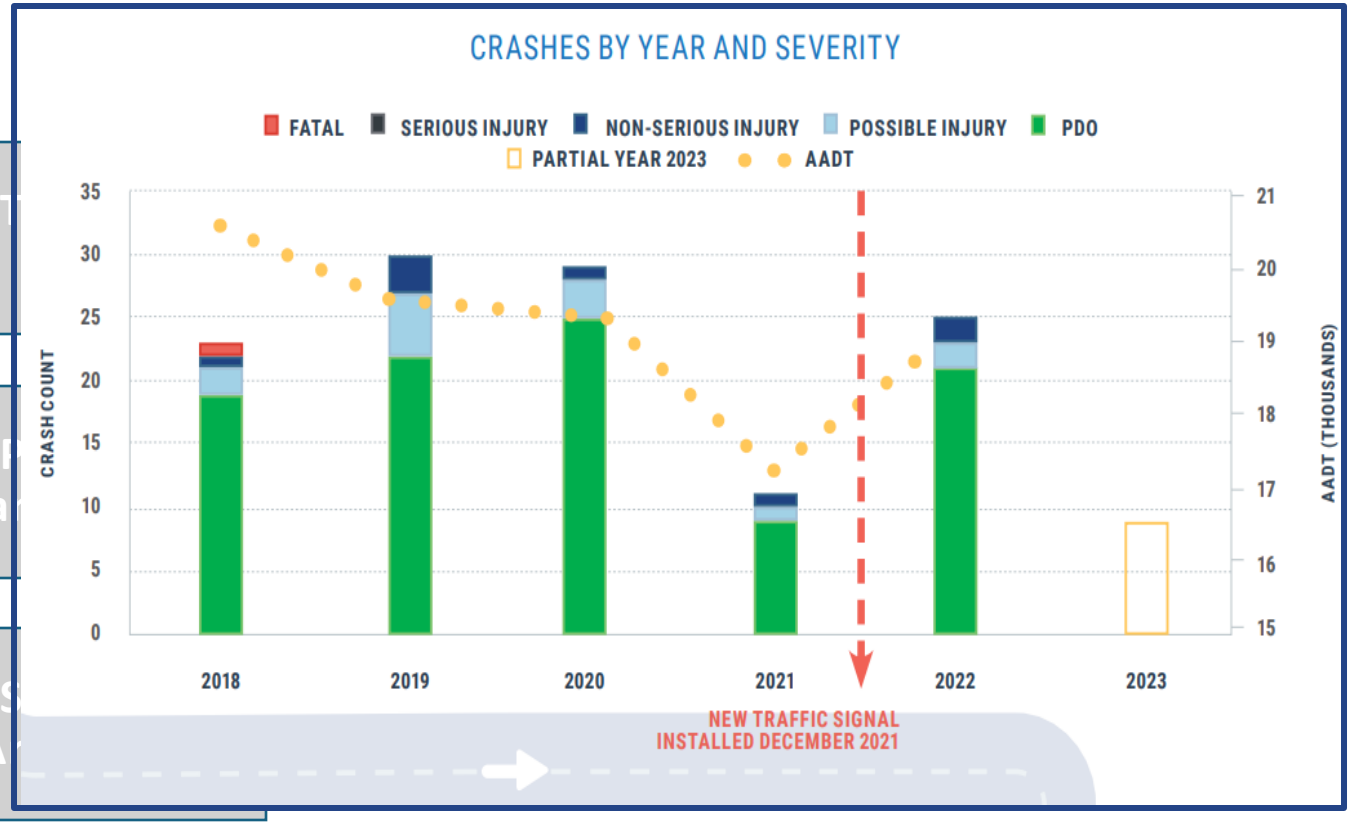
How should crash data be summarized?

- Crashes by **Year and Severity**
- Crashes by **Type and Severity**
- Crashes by **Lighting Condition and Severity**
- Crashes by **Pavement Condition and Severity**
- **Collision Diagram**
- Crashes by **SHSP Emphasis Area**

FDOT Crash Data Guidance

How should crash data be summarized?

- Crashes by **Year and Severity**
- Crashes by **Severity**
- Crashes by **Lighting Condition and Severity**
- Crashes by **Condition a**
- **Collision Diagram**
- Crashes by **Emphasis A**



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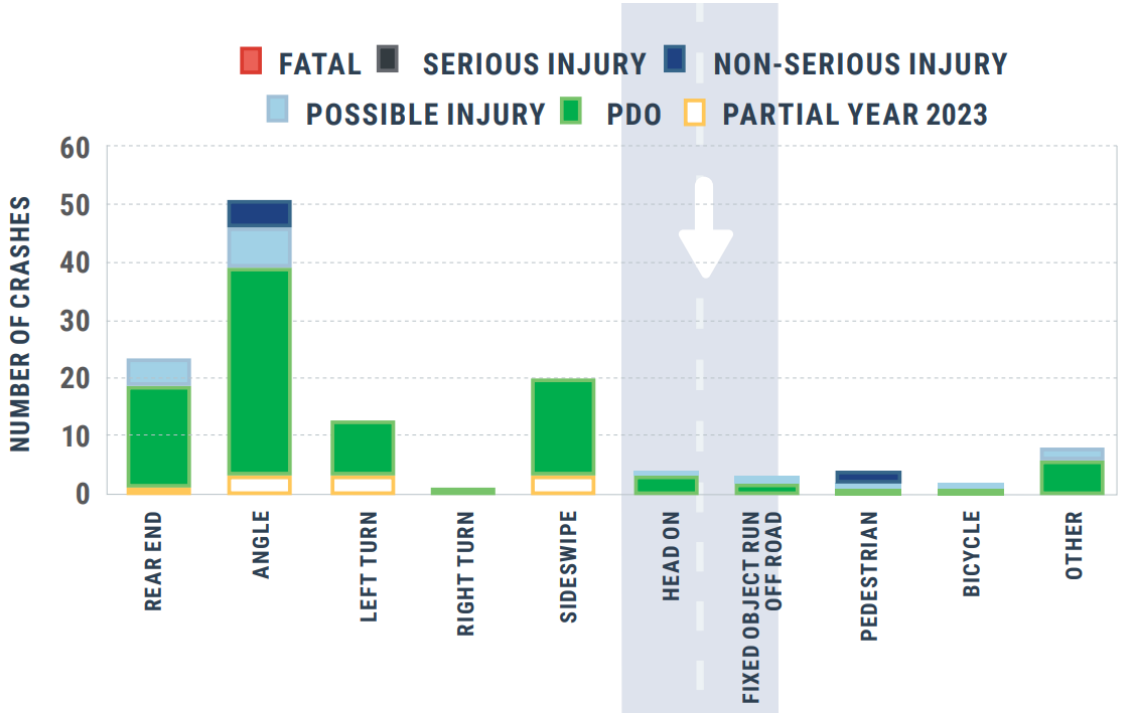

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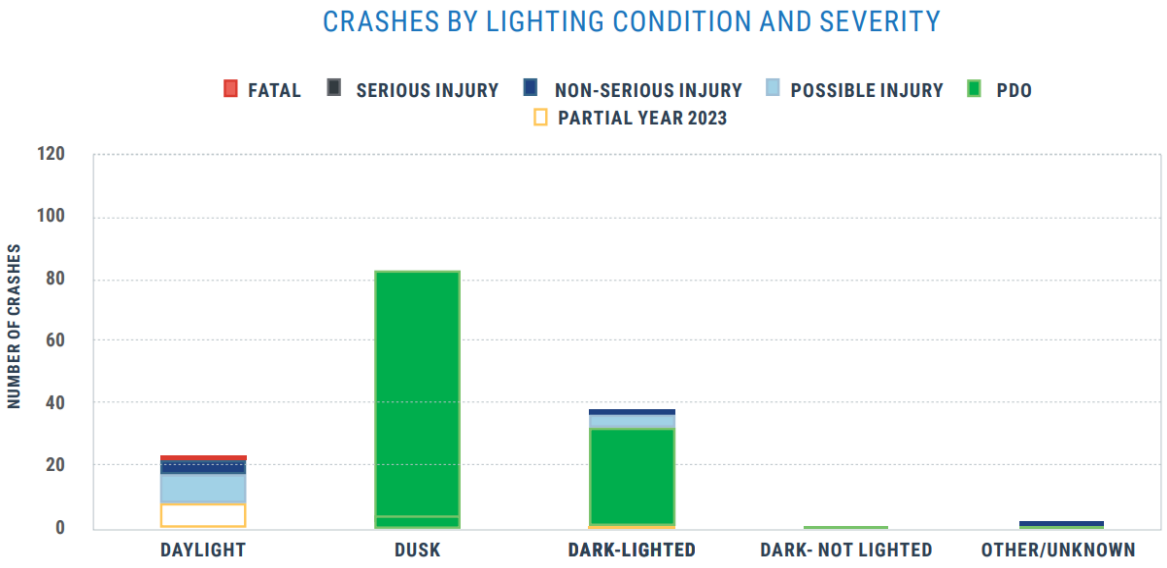

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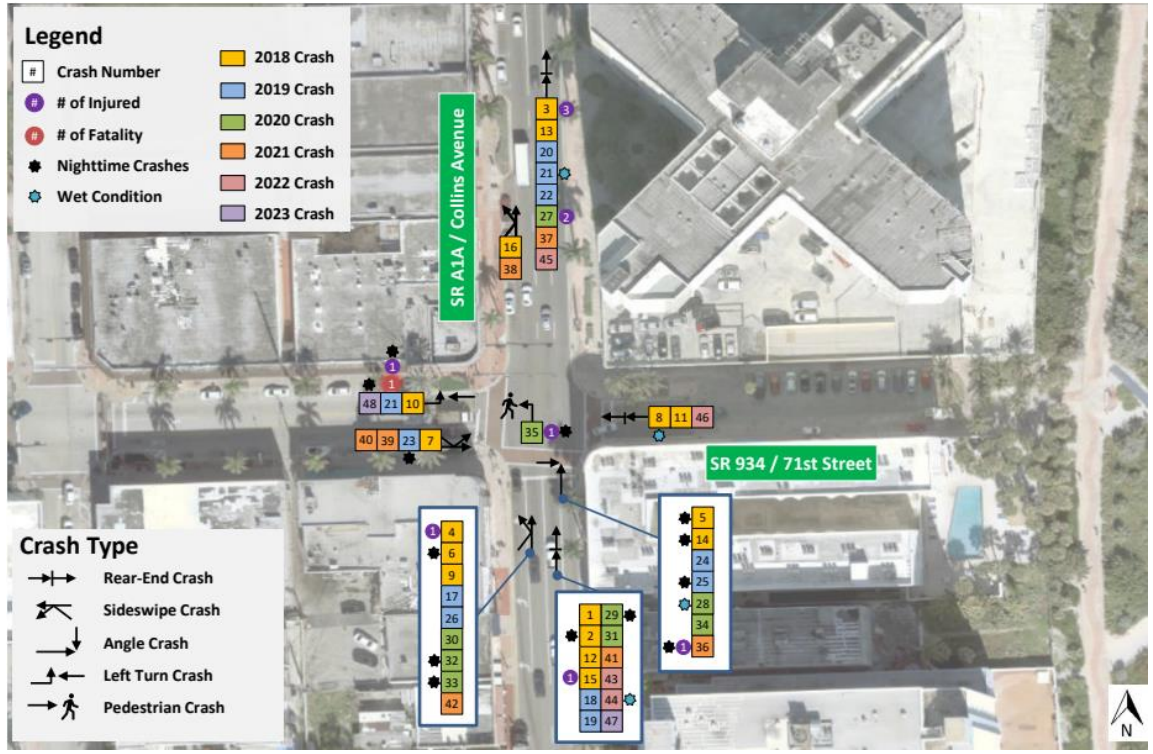

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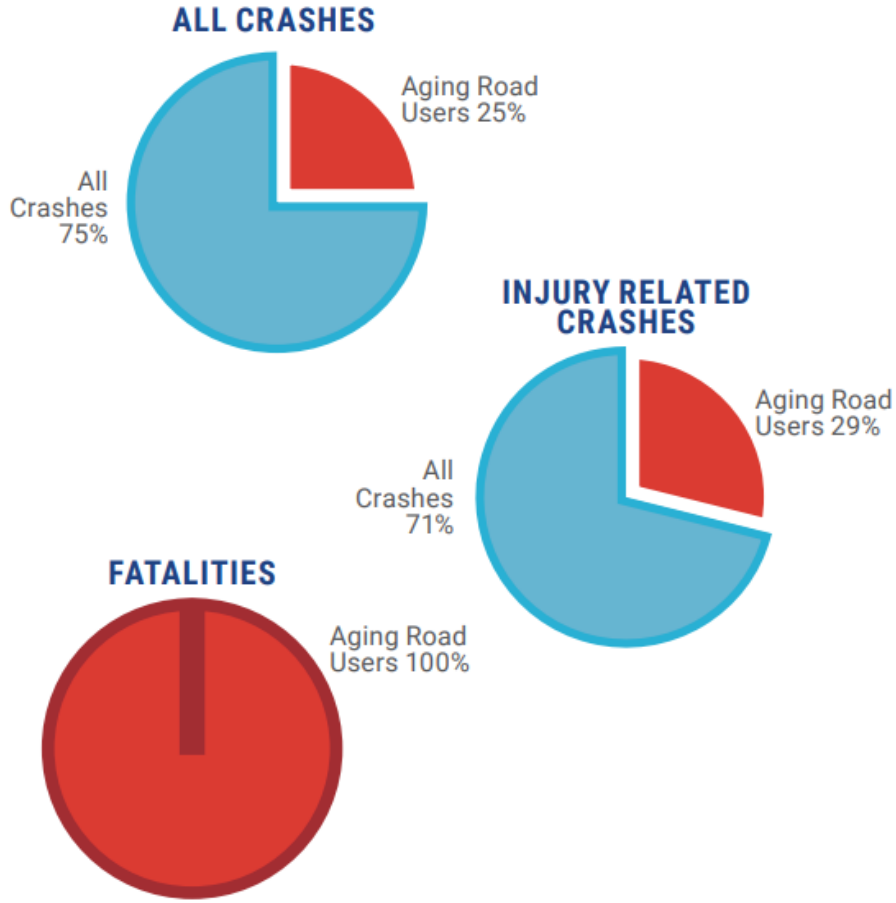

FDOT Crash Data Guidance

FDOT TARGET ZERO

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TRANSPORTATION SYMPOSIUM

FDOT Crash Data Guidance

What safety analysis method should be used?

	SAFETY ANALYSIS METHOD	DATA NEEDS	STRENGTHS	WEAKNESSES	RESOURCES
1	Excess expected average crash frequency with Empirical Bayes (EB) method adjustment	• A minimum of five (5) years of crash data • Crashes by type, severity, and location • Calibrated SPF and overdispersion parameter • Traffic volume (AADT) • Roadway/intersection design elements	• Reliable and comprehensive • Accounts for regression to the mean • Accounts for volume • Accounts for design elements • Quantitative	• Data-intensive • Limited SPFs available for all conditions (e.g., midblock crosswalk where there are no non-motorist crashes)	• FDOT HSM Trainings • FDOT MUTS Chapter 5 and 6 Computer Based Training (CBTs) provide detailed guidance on data collection needs • FDOT MUTS Chapter 14 CBT provides detailed guidance on how to apply this method for lighting justification • FDOT ICE Training (SPICE) Modules 2.7.1 and 2.7.2 (coming Spring 2023)
2	Predicted average crash frequency using SPFs	• Traffic volume (AADT) • Calibrated SPF Roadway/intersection design elements	• Reliable and comprehensive • Accounts for volume • Accounts for design elements • Quantitative	• Data-intensive • Limited SPFs available for all conditions (e.g., Leading Pedestrian Interval implementation)	
3	Relative severity index	• Crashes by type • Crash frequency by facility type • Crash costs by facility type	• Low-effort • Considers facility type and crash severity • Quantitative	• Does not account for regression to the mean bias • May overemphasize locations with a small number of serious crashes; and • Does not account for traffic volumes	• FDOT FDM Chapter 122 • FDOT FDM Table 122.6.4 provides the HSM Crash Distribution for Florida
4	Critical crash rate	• Crash counts • Crash rates by facility type, district, or geographic area of interest • Traffic volume (AADT)	• Reduces the exaggerated effect of sites with low volumes • Considers variance in crash data • Can be applied to a specific crash type or severity • Quantitative	• Does not account for regression to the mean bias	• FDOT SSO Presentation Slides
5	Qualitative analysis	• Crashes by type • Site Characteristics • Traffic volume (AADT) • Comparison to similar locations	• Low-effort • Documents existing conditions • Qualitative	• Does not yield the necessary information to quantify expected safety benefits	• FSOT SSO Crash Data Guidance: Step 4

Signal 4 Crash Data Demo

SIGNAL FOUR ANALYTICS

FLORIDA TRAFFIC SAFETY DASHBOARD

TARGET ZERO

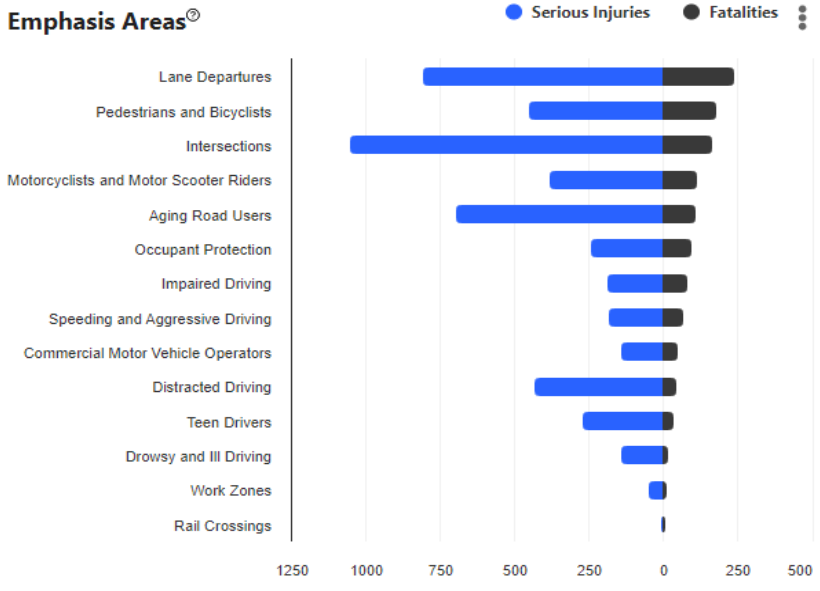
Crash data available from **January 1, 2014** to **March 14, 2024** Learn Why. Last data update completed May 16, 2024 at 1:33 AM.

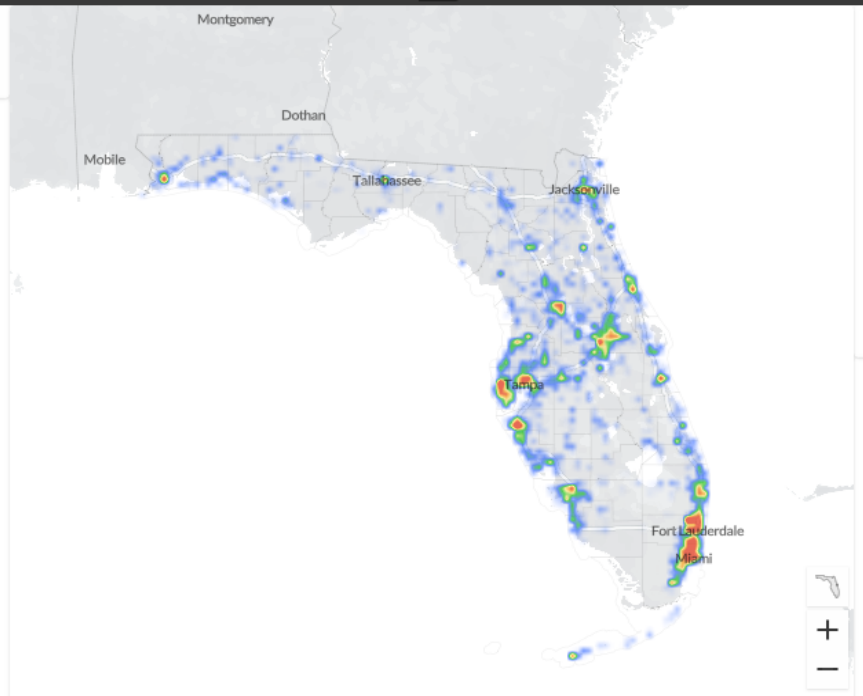
Disclaimer Data Dictionary

2024 | State of Florida | All LE Agencies | All Emphasis Areas | Fatalities & Serious Injuries

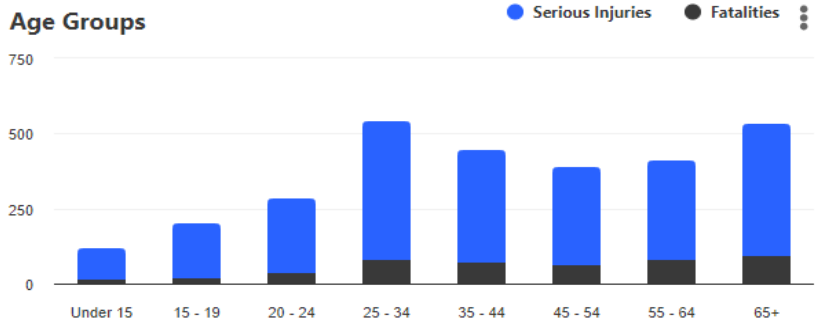
2,619	131,219	572
Serious Injuries	Total Crashes	Fatalities

Emphasis Areas

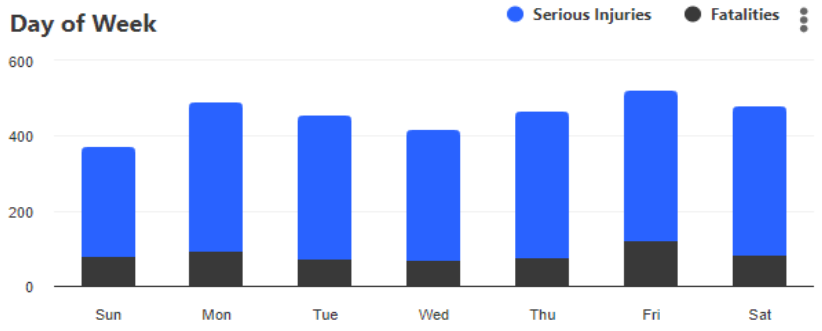




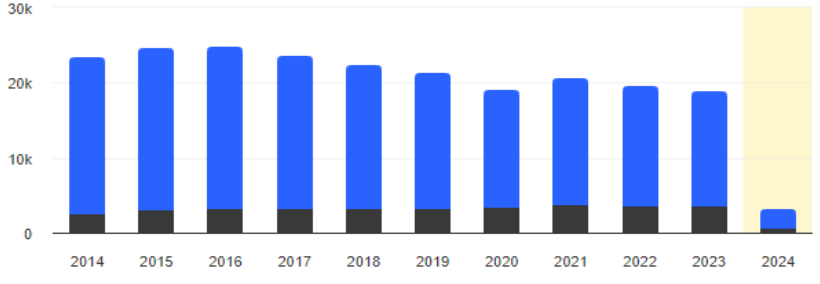
Age Groups



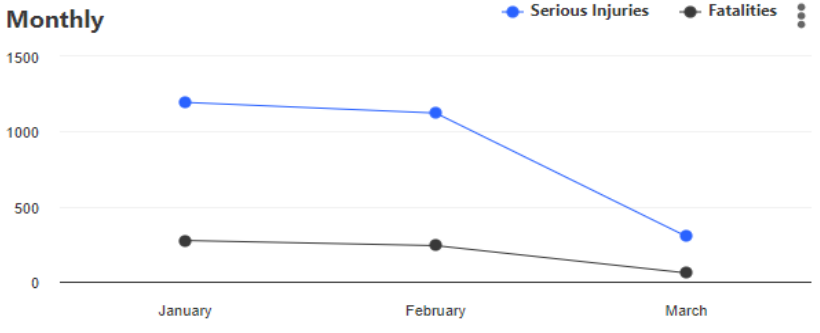
Day of Week



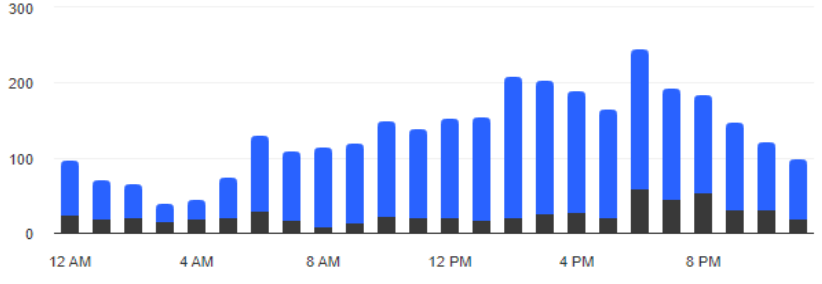
Annual



Monthly



Hour of Day



Signal 4 Crash Data Query Options

CRASH DATA PROCESS

1 DOWNLOAD DATA

SIGNAL FOUR ANALYTICS

EVENT ANALYSIS

Crash data available from **January 1, 2014** to **May 14, 2024** (with some exceptions). Last data update completed May 16, 2024 at 1:33 AM.

USE OF DATA IN RESPONSE MAY BE RESTRICTED

Disclaimer Data Dictionary

Search Crashes

Time Period

Date Range

5/8/2024 to 5/14/2024

Location

Geographic Boundary

Administrative Custom

Type to select a city, county, district or mpo

Specific Street or Intersection

None

Reported By

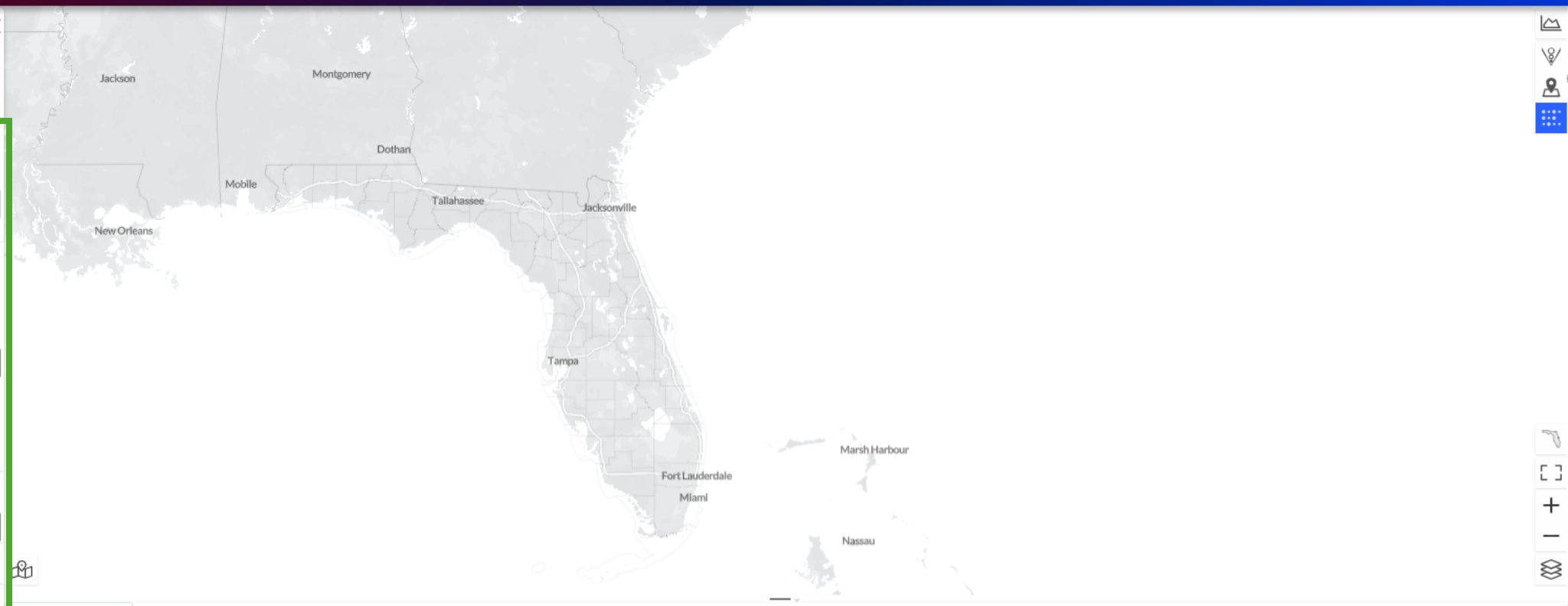
Search reporting agencies

Circumstances

Participants

Vehicles

Search



Injury Summary | Common Attributes | FDOT Attributes

	Total	Fatal Crashes	Serious Injury Crashes	Injury Crashes	Property Damage Only Crashes

No records currently being displayed. Please issue a query...

Signal 4 Crash Data Query Options

CRASH DATA PROCESS

1 DOWNLOAD DATA

EVENT ANALYSIS

Last data update completed May 16, 2024 at 1:33 AM.

USE OF DATA IN RESPONSE MAY BE RESTRICTED

Disclaimer Data Dictionary

Time Period

Date Range

5/8/2024 to 5/31/2024

Location

Geographic Boundary

Administrative Custom

Type to select a city, county, district or mpo

Specific Street or Intersection

None

Reported By

Search reporting agencies

Circumstances

Crash Severity

- Fatal (within 30 days)
- Incapacitating Injury
- Non-Incapacitating Injury
- Possible Injury
- No Injury
- Non-Traffic Fatality

Light Condition +

Weather +

Roadway +

Crash Type +

First Harmful Event +

Other +

Participants

Road Users

- Pedestrians
- Bicyclists
- Moped (Motor Scooter Riders)
- Motorcyclists

User Behavior +

Occupant Protection +

Helmet Use +

Driver Age +

Driver Gender/Sex +

Driver License Type +

Driver License State +

DL Required Endorsements +

Vehicles

Commercial Motor Vehicle +

Special Vehicle Types +

Vehicle Body Types +

Circumstances

Participants

Vehicles

Injury Summary | Common Attributes | FDOT Attributes

Total | Fatal Crashes | Serious Injury Crashes

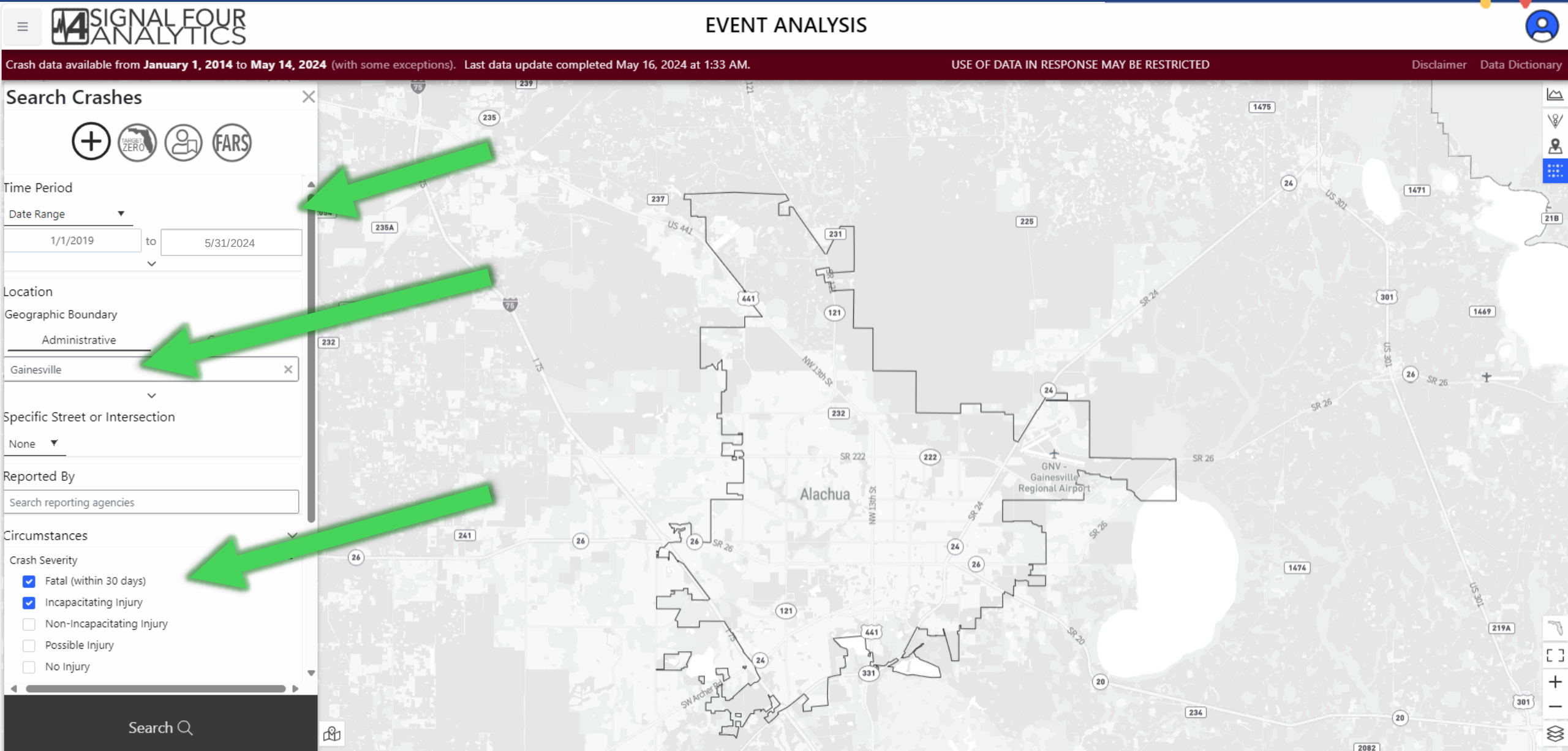
No records currently being displayed. Please issue a query...

Search

Signal 4 Crash Data Query Options

CRASH DATA PROCESS

1 DOWNLOAD DATA



Signal 4 Crash Data Query Options

CRASH DATA PROCESS

1 DOWNLOAD DATA

SIGNAL FOUR ANALYTICS

EVENT ANALYSIS

Crash data available from **January 1, 2014** to **May 14, 2024** (with some exceptions). Last data update completed May 16, 2024 at 1:33 AM. USE OF DATA IN RESPONSE MAY BE RESTRICTED Disclaimer Data Dictionary

Search Crashes

- Non-Incapacitating Injury
- Possible Injury
- No Injury
- Non-Traffic Fatality

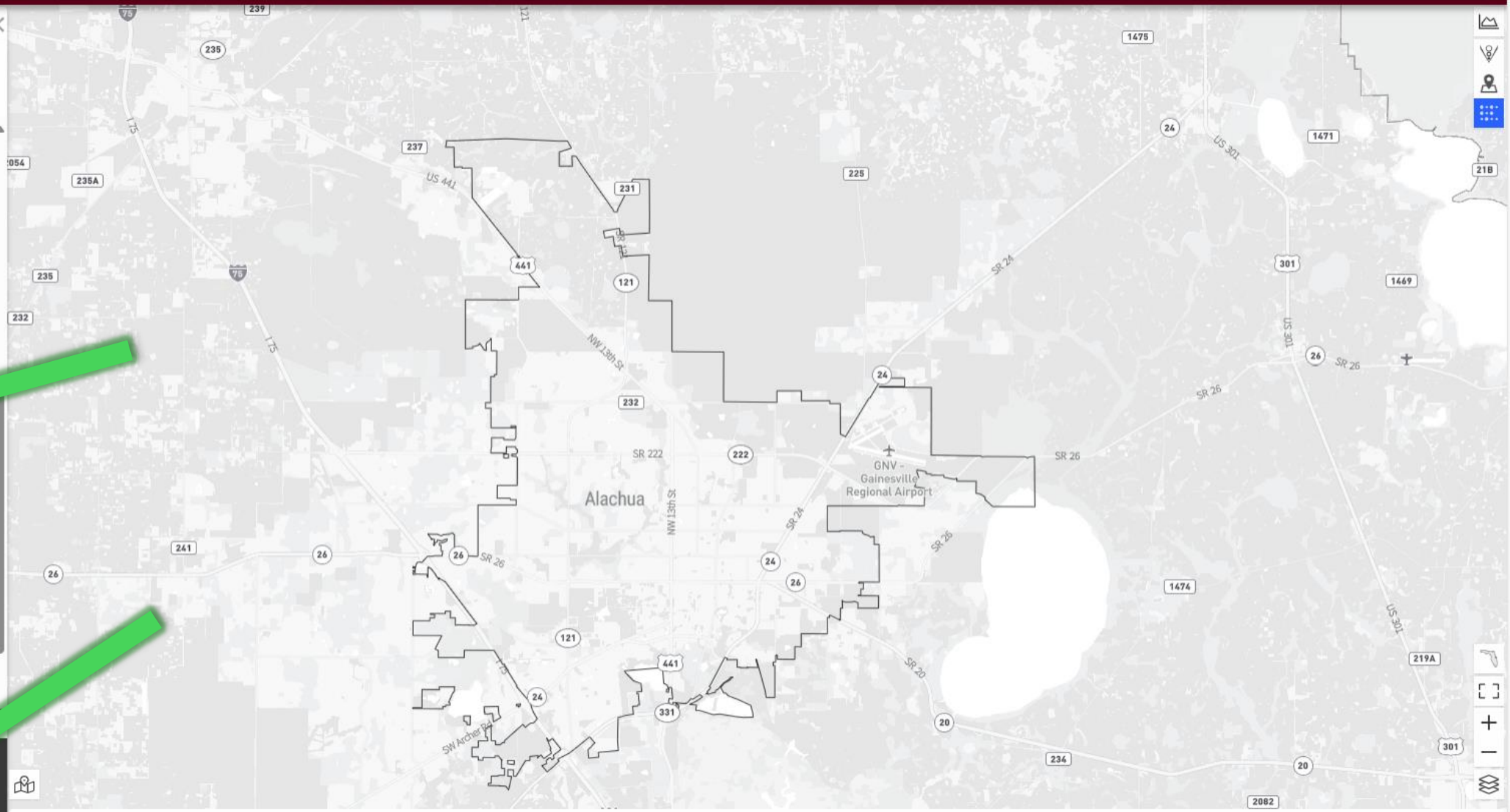
Light Condition +
Weather +
Roadway +
Crash Type +
First Harmful Event +
Other +

Participants

Road Users −
- [x] Pedestrians
- [x] Bicyclists
- [ ] Moped (Motor Scooter Riders)
- [ ] Motorcyclists

User Behavior +
Occupant Protection +
Helmet Use +
Driver Age +
Driver Gender/Sex +
Driver License Type +

Search



Signal 4 Crash Data Query Options

CRASH DATA PROCESS

1 DOWNLOAD DATA

SIGNAL FOUR ANALYTICS

EVENT ANALYSIS

Crash data available from **January 1, 2014** to **May 14, 2024** (with some exceptions). Last data update completed May 16, 2024 at 1:33 AM.

USE OF DATA IN RESPONSE MAY BE RESTRICTED

Disclaimer Data Dictionary

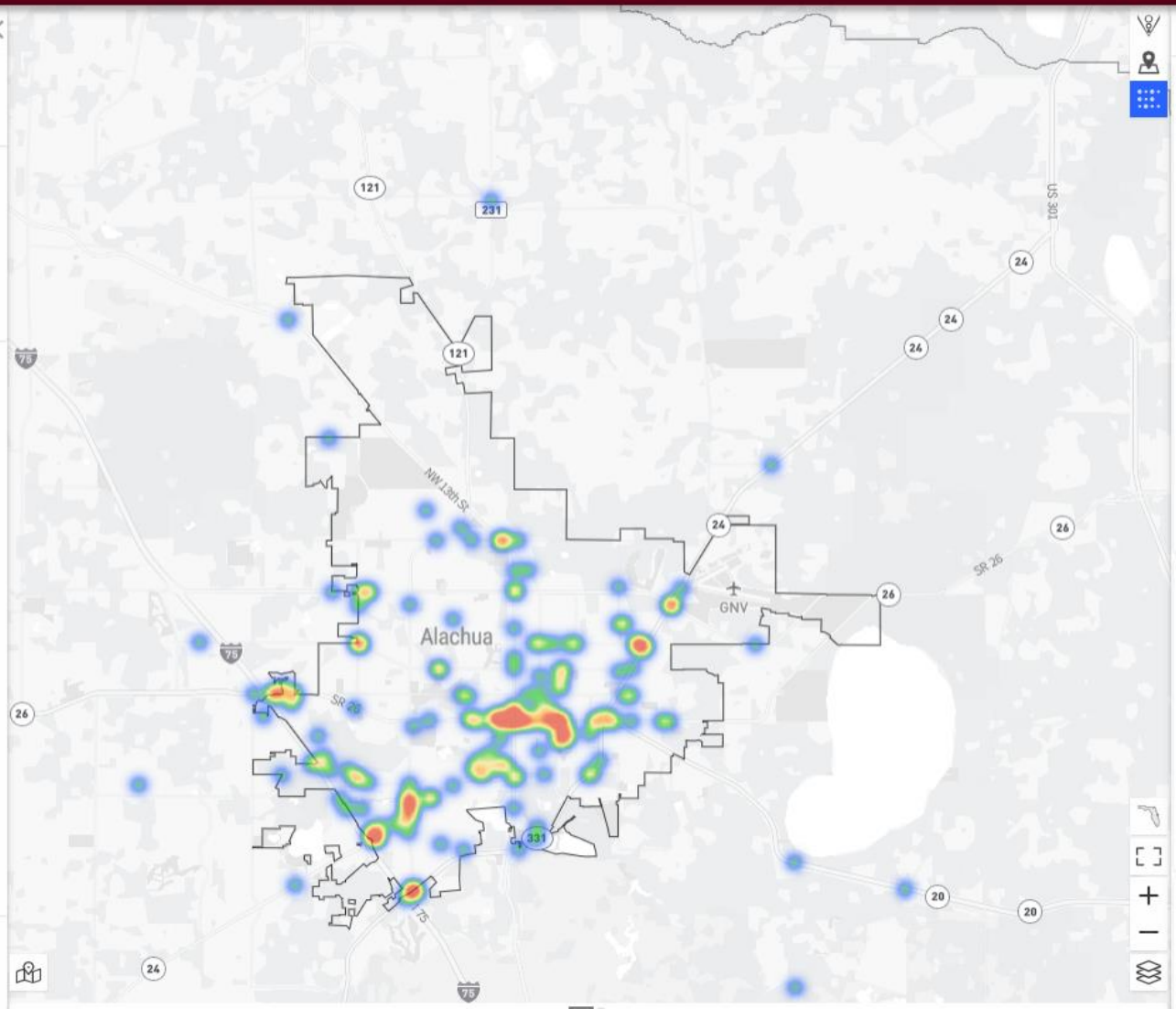
Search Crashes

Crashes in Gainesville

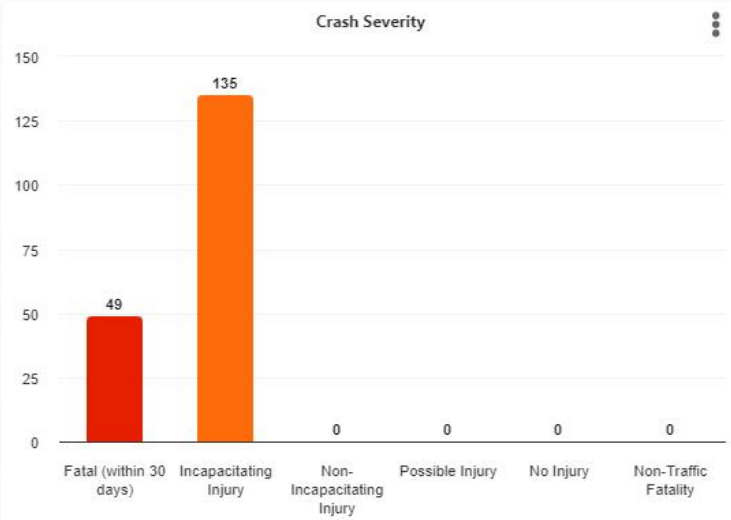
From 1/1/2019 - 5/31/2024

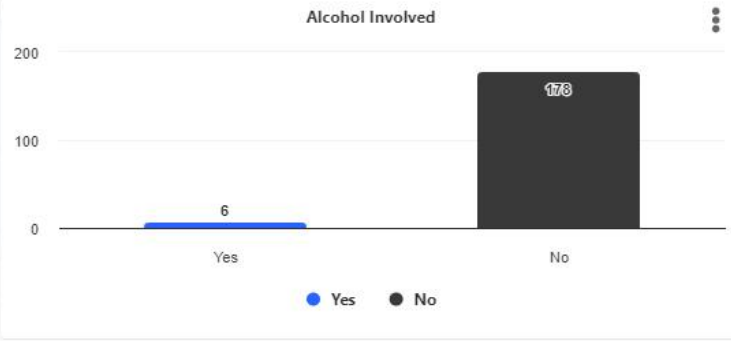
With Attributes

- ✓ Incapacitating Injury
- ✓ Fatal (within 30 days)
- ✓ Bicyclists
- ✓ Pedestrians

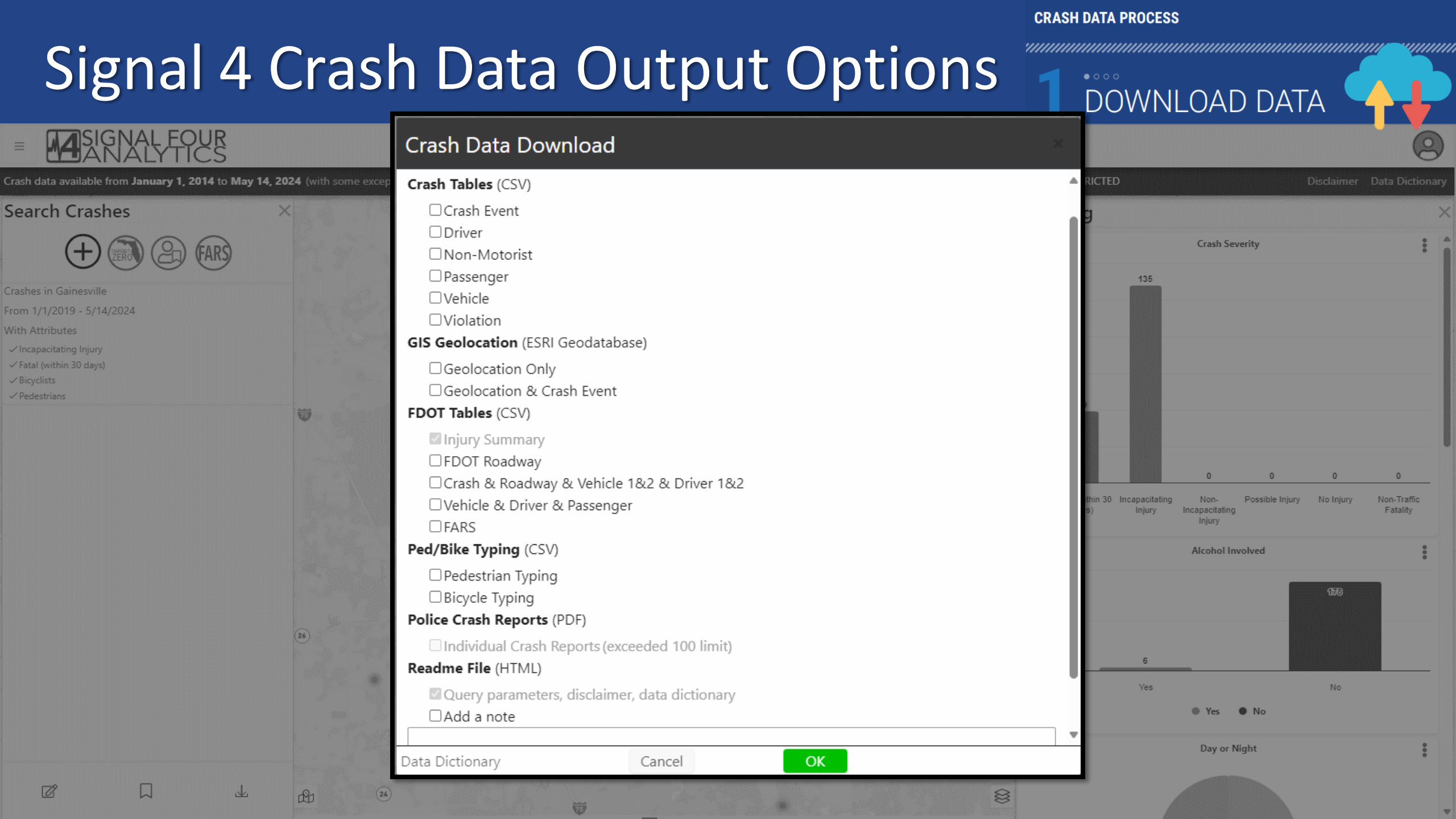


Charting

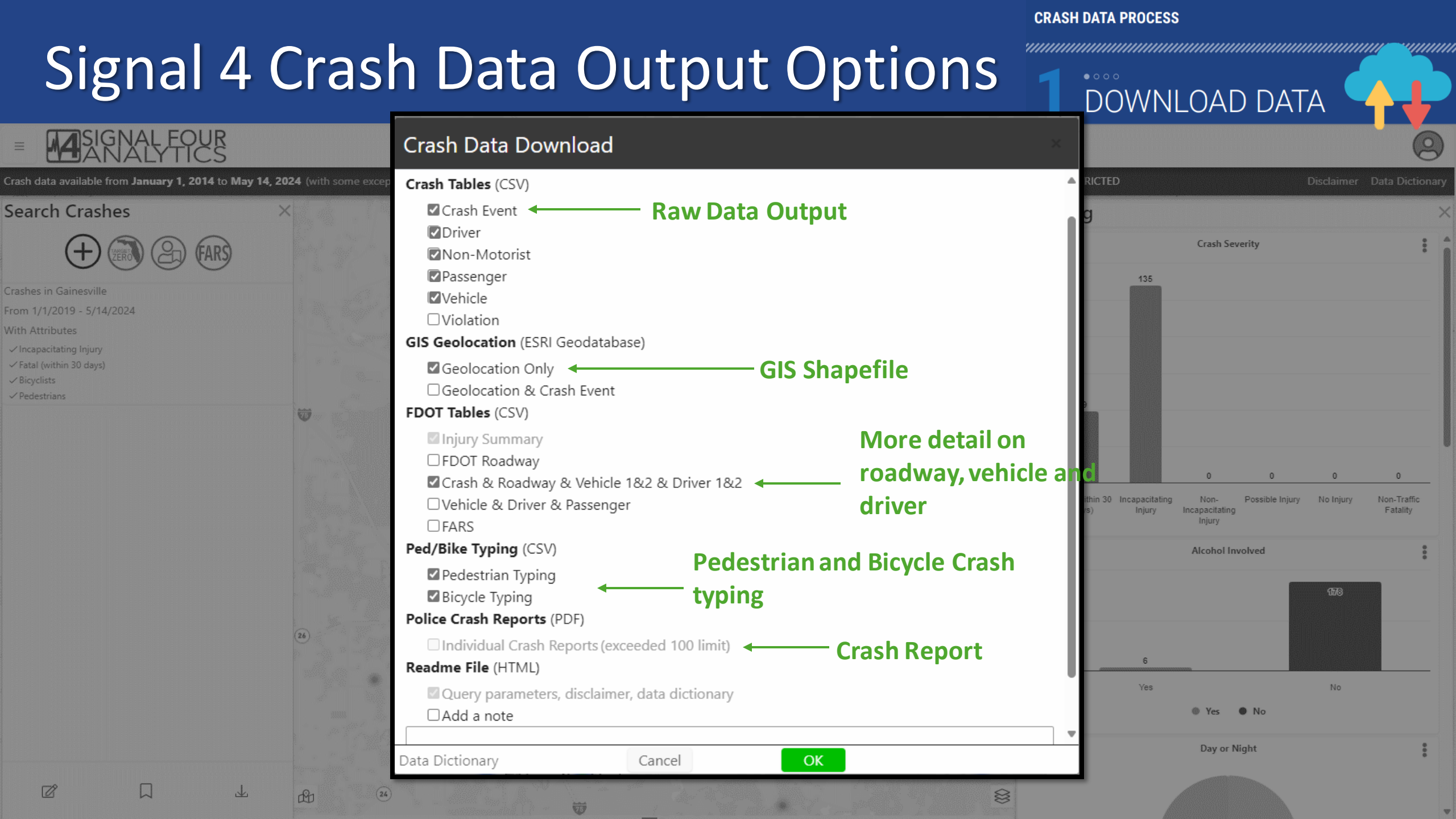




Signal 4 Crash Data Output Options



Signal 4 Crash Data Output Options



Signal 4 Crash Data Download

CRASH DATA PROCESS

1 DOWNLOAD DATA

Crash data download Job#99827 ready

SS s4-support@ufl.edu
To

Reply | Reply All | Forward | ...

EXTERNAL SENDER: Use caution with links and attachments.

The crash data you requested on 5/16/2024 3:54 PM from Signal Four Analytics (job# 99827) is now available for download. The compressed file size is 0.028 MB.

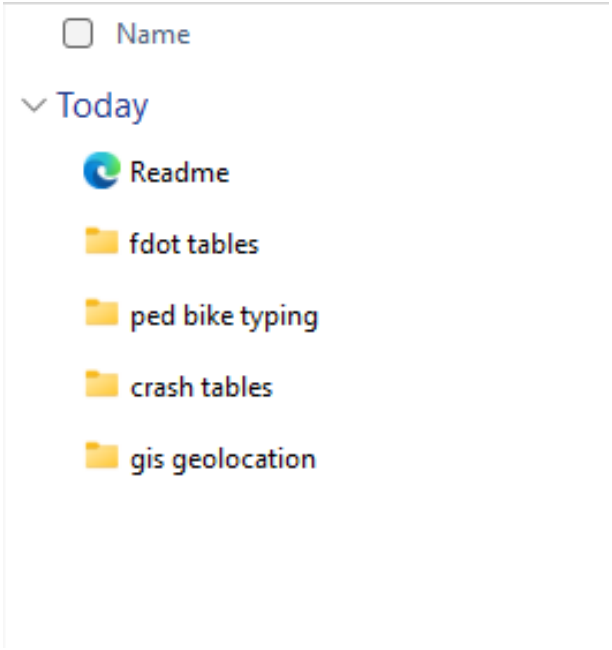
This file will be available for download for 3 days until 5/19/2024 3:54 PM. If you miss downloading the file by then, you will have to put in a new data download request in Signal Four Analytics.

Click here to download the data

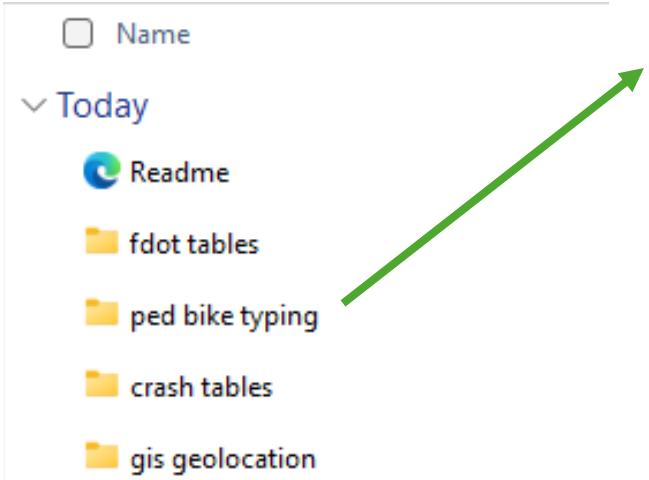
Please contact us at s4-support@ufl.edu for any issues regarding this download and reference the download job# 99827.

Best regards,
Signal Four Analytics Team
GeoPlan Center
University of Florida
s4-support@ufl.edu

Signal 4 Crash Data Download



Signal 4 Crash Data Download

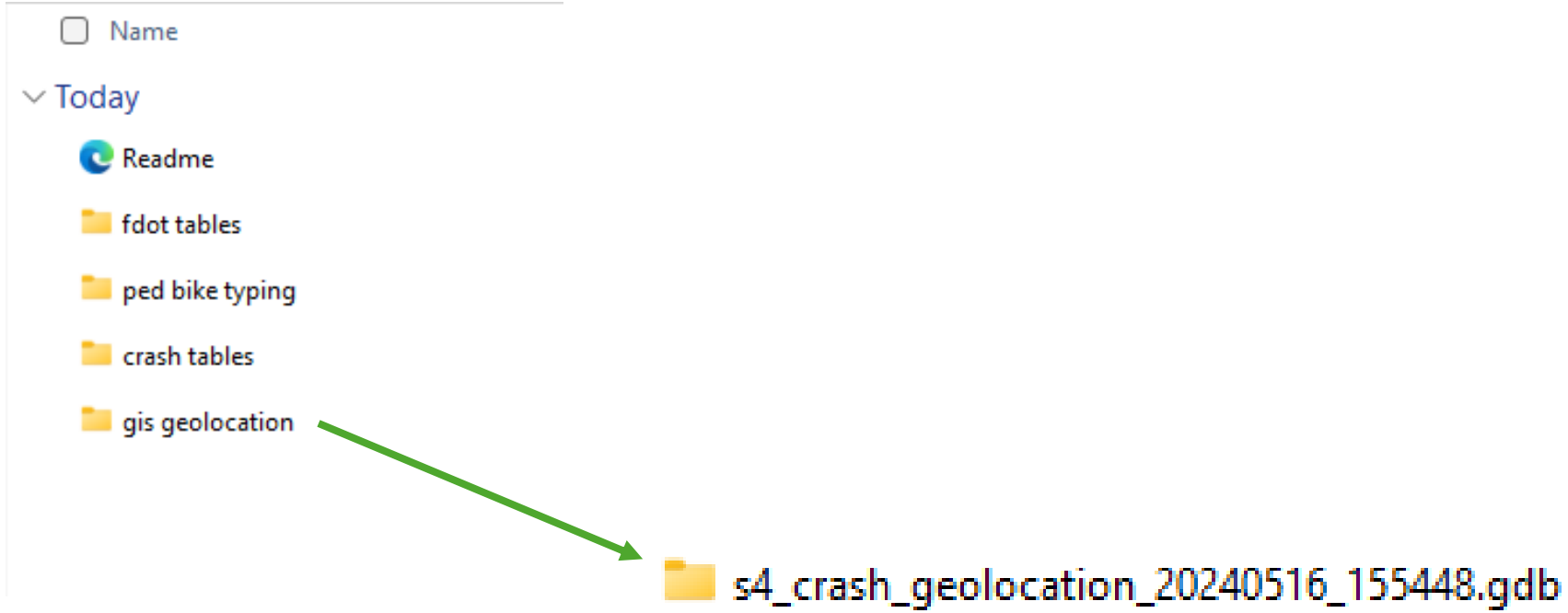


bicycle_typing_20

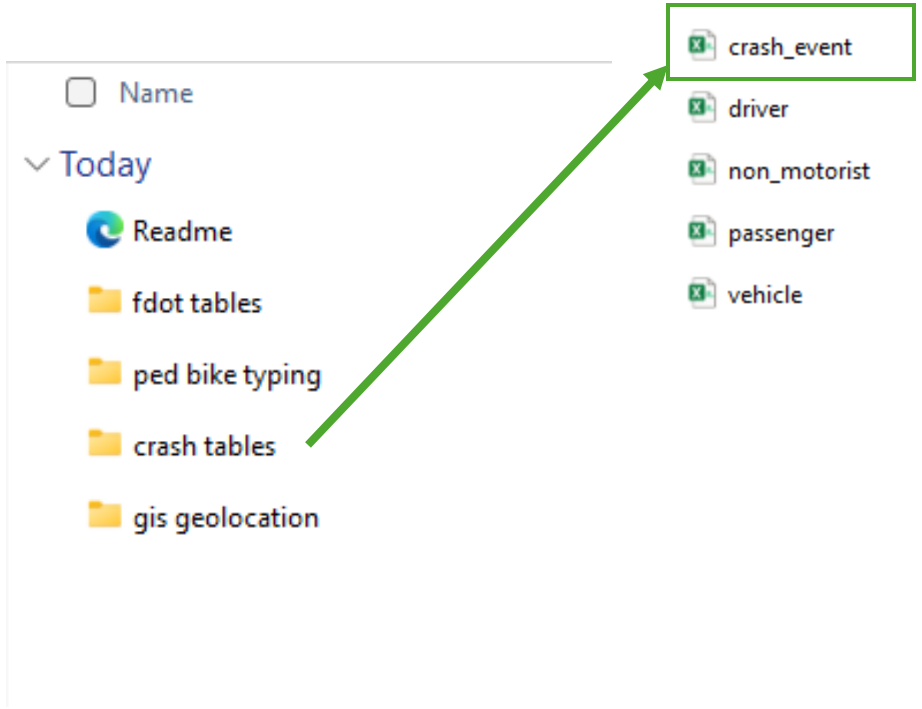
pedestrian_typing_20

	A	B	C
1	REPORT_NUMBER	S4_CRASH_GROUP_NUMBER	S4_CRASH_GROUP_DESCRIPTION
2	88818158	200	Backing Vehicle
3	88814242	990	Other/Unknown - Insufficient Details
4	88813855	990	Other/Unknown - Insufficient Details
5	88819056	990	Other/Unknown - Insufficient Details
6	88818206	600	Pedestrian in Roadway - Circumstances Unknown
7	88818227	740	Dash/Dart-Out
8	88815936	740	Dash/Dart-Out
9	88814689	740	Dash/Dart-Out
10	88815065	740	Dash/Dart-Out
11	88815478	740	Dash/Dart-Out
12	88818231	740	Dash/Dart-Out
13	88238518	740	Dash/Dart-Out
14	88818049	790	Crossing Roadway - Vehicle Turning
15	88818878	800	Off Roadway
16	88813712	800	Off Roadway
17	88817636	750	Crossing Roadway - Vehicle Not Turning

Signal 4 Crash Data Download



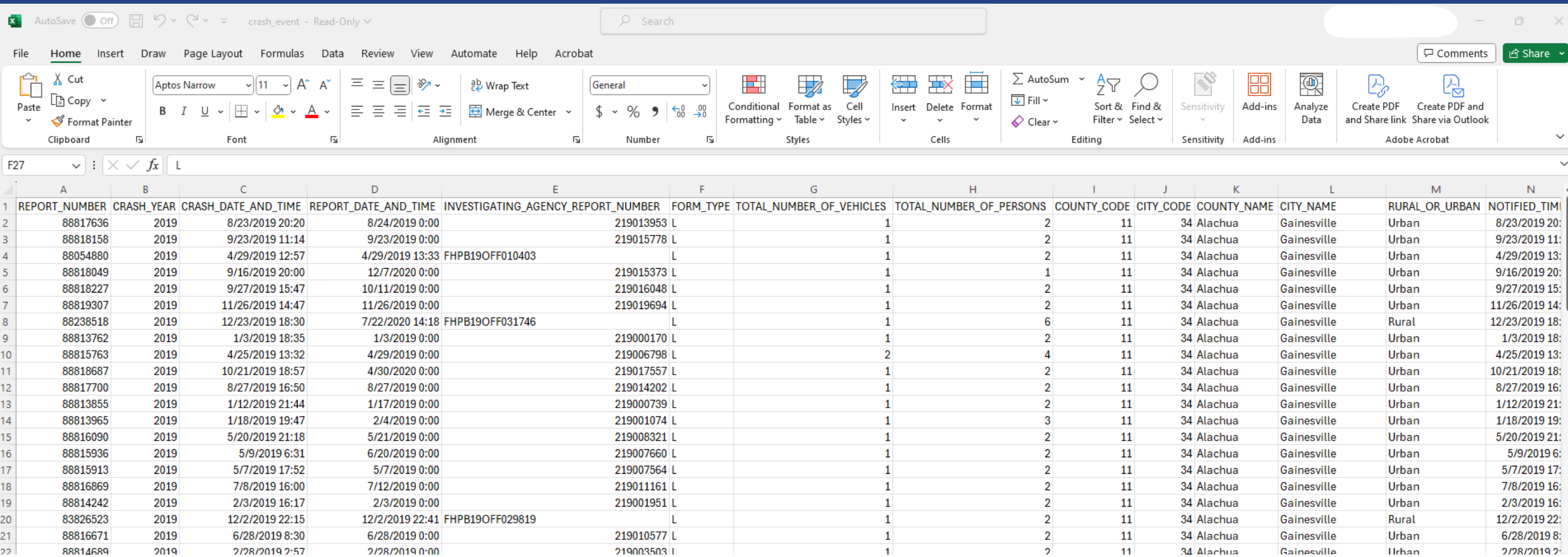
Signal 4 Crash Data Download



Signal 4 Crash Data Download

CRASH DATA PROCESS

1 DOWNLOAD DATA



REPORT_NUMBER	CRASH_YEAR	CRASH_DATE_AND_TIME	REPORT_DATE_AND_TIME	INVESTIGATING_AGENCY_REPORT_NUMBER	FORM_TYPE	TOTAL_NUMBER_OF_VEHICLES	TOTAL_NUMBER_OF_PERSONS	COUNTY_CODE	CITY_CODE	COUNTY_NAME	CITY_NAME	RURAL_OR_URBAN	NOTIFIED_TIM
88817636	2019	8/23/2019 20:20	8/24/2019 0:00	219013953	L	1	2	11	34	Alachua	Gainesville	Urban	8/23/2019 20:
88818158	2019	9/23/2019 11:14	9/23/2019 0:00	219015778	L	1	2	11	34	Alachua	Gainesville	Urban	9/23/2019 11:
88054880	2019	4/29/2019 12:57	4/29/2019 13:33	FHPB19OFF010403	L	1	2	11	34	Alachua	Gainesville	Urban	4/29/2019 13:
88818049	2019	9/16/2019 20:00	12/7/2020 0:00	219015373	L	1	1	11	34	Alachua	Gainesville	Urban	9/16/2019 20:
88818227	2019	9/27/2019 15:47	10/11/2019 0:00	219016048	L	1	2	11	34	Alachua	Gainesville	Urban	9/27/2019 15:
88819307	2019	11/26/2019 14:47	11/26/2019 0:00	219019694	L	1	2	11	34	Alachua	Gainesville	Urban	11/26/2019 14:
88238518	2019	12/23/2019 18:30	7/22/2020 14:18	FHPB19OFF031746	L	1	6	11	34	Alachua	Gainesville	Rural	12/23/2019 18:
88813762	2019	1/3/2019 18:35	1/3/2019 0:00	219000170	L	1	2	11	34	Alachua	Gainesville	Urban	1/3/2019 18:
88815763	2019	4/25/2019 13:32	4/29/2019 0:00	219006798	L	2	4	11	34	Alachua	Gainesville	Urban	4/25/2019 13:
88818687	2019	10/21/2019 18:57	4/30/2020 0:00	219017557	L	1	2	11	34	Alachua	Gainesville	Urban	10/21/2019 18:
88817700	2019	8/27/2019 16:50	8/27/2019 0:00	219014202	L	1	2	11	34	Alachua	Gainesville	Urban	8/27/2019 16:
88813855	2019	1/12/2019 21:44	1/17/2019 0:00	219000739	L	1	2	11	34	Alachua	Gainesville	Urban	1/12/2019 21:
88813965	2019	1/18/2019 19:47	2/4/2019 0:00	219001074	L	1	3	11	34	Alachua	Gainesville	Urban	1/18/2019 19:
88816090	2019	5/20/2019 21:18	5/21/2019 0:00	219008321	L	1	2	11	34	Alachua	Gainesville	Urban	5/20/2019 21:
88815936	2019	5/9/2019 6:31	6/20/2019 0:00	219007660	L	1	2	11	34	Alachua	Gainesville	Urban	5/9/2019 6:
88815913	2019	5/7/2019 17:52	5/7/2019 0:00	219007564	L	1	2	11	34	Alachua	Gainesville	Urban	5/7/2019 17:
88816869	2019	7/8/2019 16:00	7/12/2019 0:00	219011161	L	1	2	11	34	Alachua	Gainesville	Urban	7/8/2019 16:
88814242	2019	2/3/2019 16:17	2/3/2019 0:00	219001951	L	1	2	11	34	Alachua	Gainesville	Urban	2/3/2019 16:
83826523	2019	12/2/2019 22:15	12/2/2019 22:41	FHPB19OFF029819	L	1	2	11	34	Alachua	Gainesville	Rural	12/2/2019 22:
88816671	2019	6/28/2019 8:30	6/28/2019 0:00	219010577	L	1	2	11	34	Alachua	Gainesville	Urban	6/28/2019 8:
88814689	2019	2/28/2019 2:57	2/28/2019 0:00	219003503	L	1	2	11	34	Alachua	Gainesville	Urban	2/28/2019 2:

TRANSPORTATION SYMPOSIUM

Signal 4 Crash Data Cleaning

CRASH DATA PROCESS

2 CLEAN DATA

Remove Forest Road, Parking Lot, & Private Roadway

Recode "Blank" or "Non-Traffic Fatality" to "No Injury"

X	Y	Z	AB
OM_INTERSECTIO	DIRECTION_FROM_INTERSECTIO	FROM_INTERSECTION_OF	ROAD_SYSTEM_IDENTIFE
144	East	CR 222 (NE 39TH AVE)	
238	East	INTERSTATE 75	
0		SW WILLISTON RD	
431	West	NW 62ND ST	
171	East		
0		TURKEY CREEK BLVD	
0		SR 222 (NW 39TH AVE)	
207502505	East	CR 2053 (NW 43RD ST)	
181	North	CR 120 (NE 16TH AVE)	
0		NW 40TH ST	
453	South	SW 21ST AVE	
4	South	SR 222 (NE 39TH AVE)	
0		SR 222 (NE 39TH AVE)	
0		SW 40TH BLVD	
0		WINDMEADOWS BLVD	
199	South	SW 62ND BLVD	
0		NE 18TH ST	
312	West	SE CR 234	
207	South	SW 20TH AVE	
1	East	NEWELL DR	
8	East	SR20 NW 6TH ST	
62	West	SW 40TH TER	

Sort A to Z
Sort Z to A
Sort by Color
Sheet View
Clear Filter From "ROAD_SYSTEM_IDENT..."
Filter by Color
Text Filters
Search
(Select All)
County
Interstate
Local
Other
Parking Lot
Private Roadway
State
U.S.
OK
Cancel

BB	BC	BD	BE	BF	BG	BH
INVESTIGATING_AGENCY_TYP	LOAD_DATE	CODEAB	S4_CRASH_TYI	S4_CRASH_TYPE_SIMPLIFIE	S4_CRASH_SEV	S4_CRASH_SEVERITY_DETA
Police Department (PD)	8/26/2019 14:02	Y	Pedestrian	Pedestrian	Fata	NIG
Police Department (PD)	9/24/2019 14:28	Y	Pedestrian	Pedestrian	Seric	DAY
Florida Highway Patrol (FHP)	4/30/2019 14:32	Y	Pedestrian	Pedestrian	Seric	DAY
Police Department (PD)	9/18/2019 14:50	Y	Pedestrian	Pedestrian	Seric	NIG
Police Department (PD)	10/12/2019 14:18	Y	Pedestrian	Pedestrian	Seric	DAY
Police Department (PD)	11/27/2019 14:32	Y	Bicycle	Bicycle	Seric	DAY
Florida Highway Patrol (FHP)	7/23/2020 14:06	Y	Pedestrian	Pedestrian	Fata	DAY
Police Department (PD)	1/8/2019 14:16	Y	Bicycle	Bicycle	Seric	DAY
Police Department (PD)	5/1/2019 14:26	Y	Pedestrian	Pedestrian	Fata	DAY
Police Department (PD)	5/5/2020 15:47	Y	Single Vehicle	Other	Fata	DAY
Police Department (PD)	8/28/2019 14:35	Y	Pedestrian	Pedestrian	Seric	DAY
Police Department (PD)	1/18/2019 14:36	Y	Pedestrian	Pedestrian	Fata	NIG
Police Department (PD)	2/7/2019 14:31	Y	Pedestrian	Pedestrian	Fata	NIG
Police Department (PD)	5/23/2019 14:26	Y	Pedestrian	Pedestrian	Fata	NIG
Police Department (PD)	6/21/2019 14:32	Y	Pedestrian	Pedestrian	Seric	NIG
Police Department (PD)	5/9/2019 14:33	Y	Bicycle	Bicycle	Seric	DAY
Police Department (PD)	7/13/2019 14:20	Y	Bicycle	Bicycle	Seric	DAY
Police Department (PD)	2/5/2019 14:30	Y	Pedestrian	Pedestrian	Seric	DAY
Florida Highway Patrol (FHP)	12/7/2019 14:09	Y	Pedestrian	Pedestrian	Seric	NIG
Police Department (PD)	7/6/2019 14:12	Y	Bicycle	Bicycle	Seric	DAY
Police Department (PD)	3/3/2019 14:03	Y	Pedestrian	Pedestrian	Seric	NIG
Police Department (PD)	3/21/2019 14:32	Y	Pedestrian	Pedestrian	Seric	DAY
Police Department (PD)	11/14/2019 14:58	Y	Pedestrian	Pedestrian	Seric	NIG
Police Department (PD)	3/26/2020 14:04	Y	Pedestrian	Pedestrian	Fatality	Fatal (within 30 days)

Sort A to Z
Sort Z to A
Sort by Color
Sheet View
Clear Filter From "S4_CRASH_SEVERITY..."
Filter by Color
Text Filters
Search
(Select All)
Fatal (within 30 days)
Incapacitating Injury
Good to go!
OK
Cancel

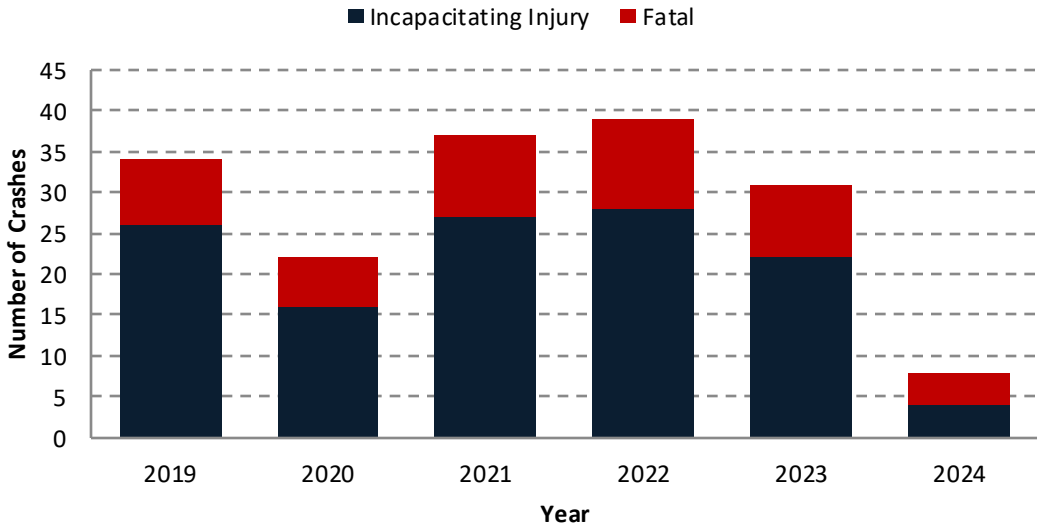
TRANSPORTATION SYMPOSIUM

Signal 4 Crash Data Summary

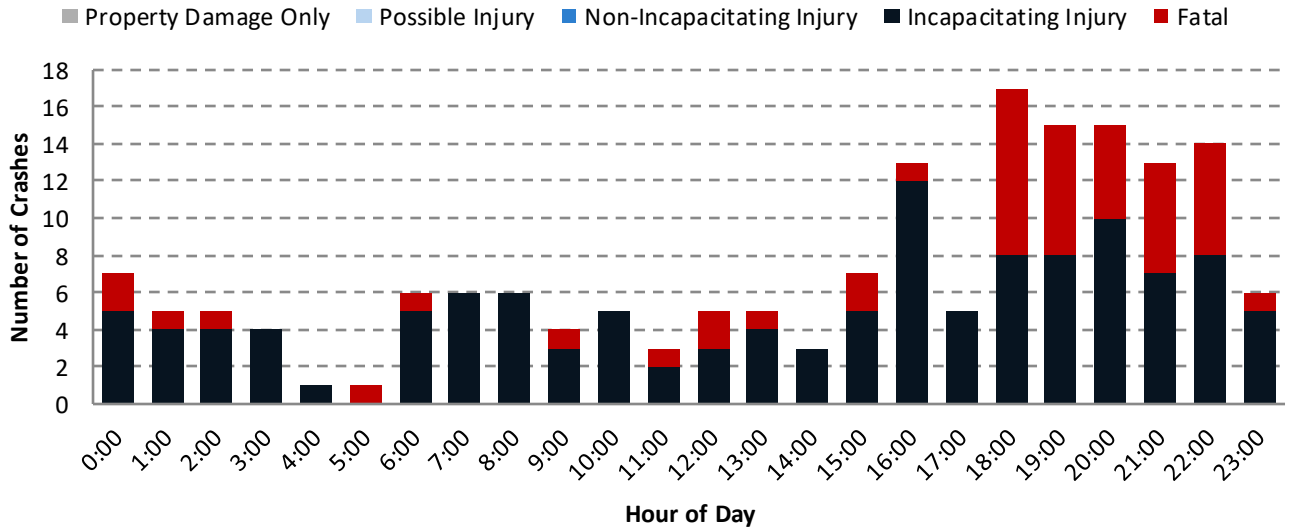
CRASH DATA PROCESS

3 SUMMARIZE DATA

Crashes by Year and Severity



Crashes by Time of Day and Severity



Resources and Links

Crash Data Guidance: a short guide on how to pull, process, and analyze crash data

- Crash Data Systems and Mapping (fdot.gov)

Signal4 Analytics: FDOT's crash data repository

- Florida Traffic Safety Dashboard - S4Analytics (signal4analytics.com)

Root Cause Analysis: a data-driven methodology to identify key risk factors prevalent in Florida's top 3 SHSP emphasis areas to inform strategic safety investments toward Florida's target of ZERO roadway fatalities and serious injuries.

- Safety Engineering (fdot.gov)
- Lane Departure Emphasis Area Fact Sheet
- Ped/Bike Emphasis Area Fact Sheet
- Intersection Emphasis Area Fact Sheet

FDOT Safety Analysis Methods & Resources: a brief overview of safety analysis methods and a repository of FDOT's HSM Tools

- Safety Analysis Methods (fdot.gov)

Training Resources:

- Guidance for MPO Partners: The NEW Signal 4 Analytics for Our MPO Partners - Florida LTAP Center
- Crash Data Guidance: Safety Crash Data Guidance - Step 1: Signal Four Analytics (S4) Crash Data Download – YouTube
- FDOT Safety Engineering: Training (fdot.gov)
- Signal4 Analytics: Signal4 Analytics Training Page

FDOT Safety Data Integration Space: these public apps provide simple access to information and tools for you to collect data and help your users understand your data.

- SDIS Public (fdot.gov)

Resources and Links

Unified Basemap Repository: a site that offers mapped datasets for download

- https://ubr.fdot.gov/basemaps

Florida's Strategic Highway Safety Plan 2021-2024:

- https://www.fdot.gov/Safety/shsp/shsp.shtm

Safety Message

BEHIND THE WHEEL, THE FOCUS MUST BE ON ONE AND ONLY ONE TASK:

SAFE DRIVING

LET'S GET EVERYONE HOME.

TARGET ZERO
FATALITIES & SERIOUS INJURIES

TRANSPORTATION SYMPOSIUM

Contact Us

- Crash Records

  Benjamin Jacobs benjamin.jacobs@dot.state.fl.us

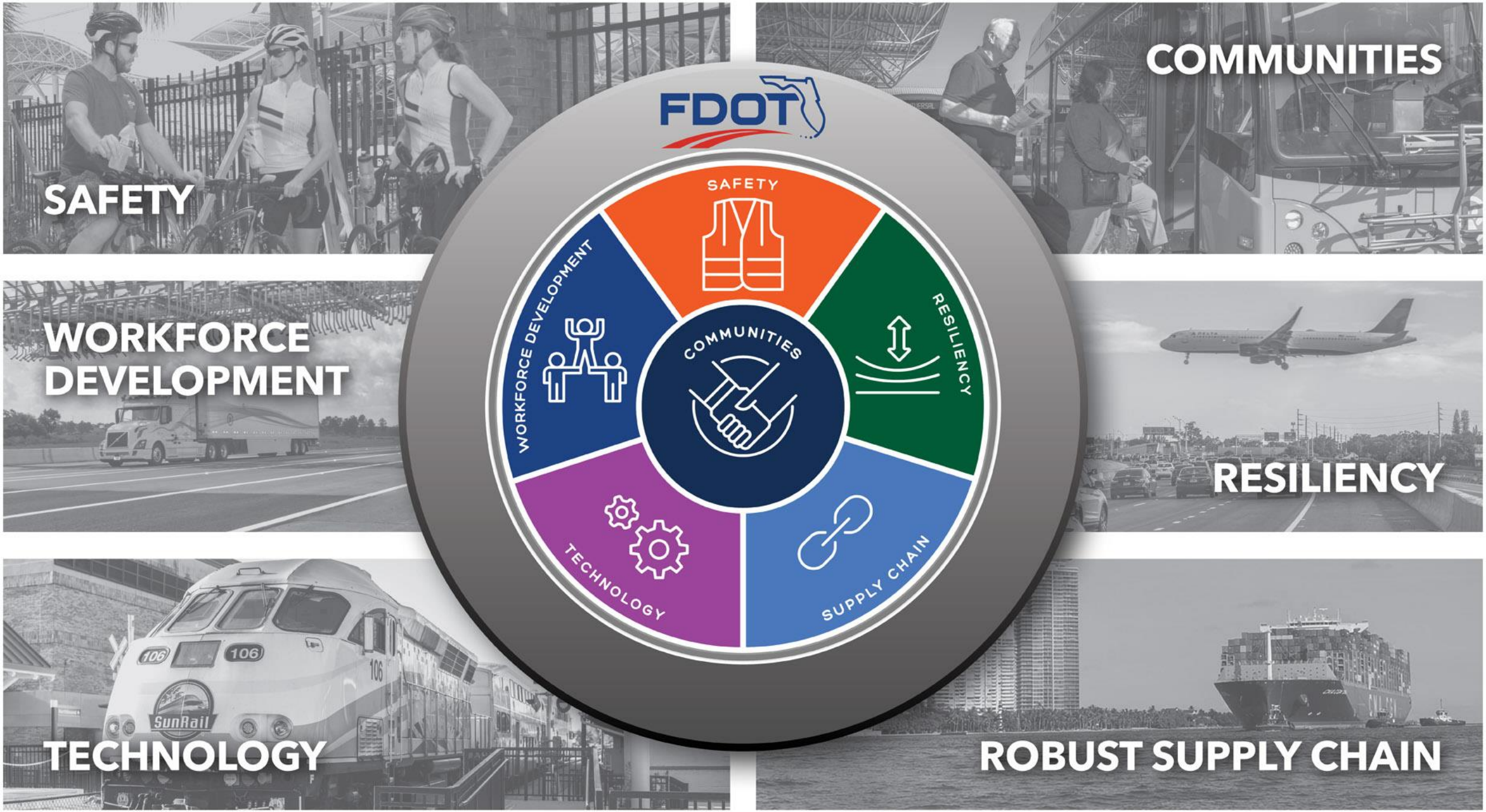
- Safety Data

  Rupert Giroux rupert.giroux@dot.state.fl.us

- State Safety Engineer

  Brenda Young brenda.young@dot.state.fl.us

TRANSPORTATION SYMPOSIUM


FDOT
SAFETY
COMMUNITIES
WORKFORCE DEVELOPMENT
RESILIENCY
TECHNOLOGY
ROBUST SUPPLY CHAIN
SAFETY
COMMUNITIES
RESILIENCY
SUPPLY CHAIN
TECHNOLOGY
WORKFORCE DEVELOPMENT