



# Data-First Safety Solutions

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# Data Essentials for HSIP funding

- FHWA Highway Safety Improvement Program (HSIP) is a data-driven program
- Fatal and Suspected Serious Injury (F&SSI) crashes are prioritized by weighting crashes to identify eligible intersections and corridors
- Use of HSIP funding requires:
  - Network Screening Lists
  - Crash details

# Network Screening Lists

- Produced by NJDOT & used by MPOs/subregions
- County and local Roadways only
- Use FHWA approved methodology
- Ranks intersections and corridors
- Basis for eligibility for Local Safety and High Risk Rural Roads Program applications and Road Safety Audit location selection

Rank (ePDO)	County Rank (ePDO)	MPO	County	Municipality	Major Route			Minor Route		
					SRI	Milepost	Route Name	SRI	Milepost	Route Name
1	1	NJTPA	ESSEX	NEWARK CITY	00000510__	26.88	ROUTE 510	07051798__	2.23	Parkway Dr West
2	1	NJTPA	PASSAIC	PATERSON CITY	16081533__	0.00	BROADWAY	16081447__	0.24	Broadway
3	1	NJTPA	BERGEN	MONTVALE BORO	02000094__	0.37	BERGEN COUNTY 94	02361124__	0.40	Mercedes Drive
4	1	NJTPA	OCEAN	JACKSON TWP	00000537__	41.84	ROUTE 537	13321026__	0.00	Burnt Tavern Road
5	2	NJTPA	ESSEX	EAST ORANGE CITY	00000508__	7.95	ROUTE 508	07191831__	1.46	South Harrison Street
6	1	NJTPA	MIDDLESEX	EDISON TWP	00000529__	1.06	ROUTE 529	12051199__	0.15	Greenwood Avenue
7	2	NJTPA	OCEAN	LAKEWOOD TWP	00000528__	32.13	ROUTE 528	15000623__	7.92	New Hampshire Road
8	3	NJTPA	ESSEX	NEWARK CITY	07141865__	0.49	BROAD ST	07141121__	0.00	Brunswick Street
9	4	NJTPA	ESSEX	BLOOMFIELD TWP	00000509__	25.50	ROUTE 509	16081383__	0.00	Clinton Street
10	2	NJTPA	MIDDLESEX	EAST BRUNSWICK TWP	12000617__	5.25	MIDDLESEX COUNTY 617	12121706__	0.79	Washington Avenue
11	3	NJTPA	OCEAN	LAKEWOOD TWP	15000623__	6.71	OCEAN COUNTY 623	15141347__	0.81	Oak Street
12	5	NJTPA	ESSEX	NEWARK CITY	07000603__	3.30	ESSEX COUNTY 603	07091883__	1.48	Court Street
13	4	NJTPA	OCEAN	TOMS RIVER TWP	00000571__	5.21	ROUTE 571	15000623__	1.38	Old Freehold Road
14	6	NJTPA	ESSEX	GLEN RIDGE BORO	07000653__	2.07	ESSEX COUNTY 653	07000654__	0.23	Bay Avenue
15	5	NJTPA	OCEAN	LAKEWOOD TWP	00000528__	32.43	ROUTE 528	15141436__	0.73	Oberlin Av South
16	2	NJTPA	BERGEN	ENGLEWOOD CITY	00000501__	43.40	ROUTE 501	02151216__	0.08	East Linden Avenue
17	7	NJTPA	ESSEX	NEWARK CITY	07000667__	1.24	ESSEX COUNTY 667	07141605__	0.19	Delavan Avenue
18	3	NJTPA	BERGEN	PALISADES PARK BORO	02191162__	0.70	BRINKENHOFF AVE	00000001__	63.29	Broad Avenue
19	8	NJTPA	ESSEX	IRVINGTON TWP	07000603__	1.47	ESSEX COUNTY 603	07091006__	0.00	Maple Avenue

# Crash Data

96	<b>Road Divided By</b> 01 Barrier Median    02 Curbed Median    03 Grass Median    04 Painted Median    05 None
97	<b>Temporary Traffic Control Zone</b> 01 None    02 Construction Zone    03 Maintenance Zone    04 Utility Zone    05 Incident Zone
98	<b>Light Condition</b> 01 Daylight    03 Dusk    05 Dark (no street lights)    07 Dark (street lights on, spot) 02 Dawn    04 Dark (street lights off)    06 Dark (street lights on, continuous)
99	<b>Road System</b> 01 Interstate    03 State/Interstate Authority    05 County    07 Municipal    09 Private Property 02 State Highway    04 State Park or Institution    06 Co Auth, Park or Inst    08 Mun Auth, Park or Inst    10 US Govt Property
100a	<b>Road Character - Horizontal Alignment</b> 01 Straight    02 Curved Left    03 Curved Right
100b	<b>Road Character - Grade</b> 04 Level    05 Down Hill    06 Up Hill    07 Hill Crest    08 Sag (Bottom)
101	<b>Road Surface Type</b> 01 Concrete    02 Blacktop    03 Gravel    04 Steel Grid    05 Dirt
102	<b>Road Surface Condition</b> 01 Dry    02 Wet    03 Snowy    04 Icy    05 Slush    06 Water (Standing/moving)    07 Sand    08 Oil/Fuel    09 Mud, Dirt, Gravel
103	<b>Environmental Condition</b> 01 Clear    03 Snow    05 Overcast    07 Freezing Rain    09 Blowing Sand/Dirt 02 Rain    04 Fog/Smog/Smoke    06 Sleet/Hail    08 Blowing Snow    10 Severe Crosswinds
104	<b>Total Number of Motor Vehicles Involved in Crash</b>
105	<b>Crash Type</b> <i>with Other MV as First Event</i> 01 Same Direction (Rear End)    07 Left Turn/U Turn    10 Overturned    15 Non-Fixed Object 02 Same Direction (Side Swipe)    08 Backing    11 Fixed Object    16 Railcar - Vehicle 03 Right Angle    09 Encroachment    12 Animal 04 Opposite Direction (Head On, Angular)    13 Pedestrian 05 Opposite Direction (Side Swipe)    14 Pedalcyclist 06 Struck Parked Vehicle
106 Veh 1	<b>Oversized/Overweight Permit?</b> (Overweight Trucks Only)
107 Veh 2	01 Yes    02 No
108 Veh 1	<b>Vehicle Type Passenger Vehicles (01-19)</b> 01 Car/Station Wagon/Minivan    06 Recreational Vehicle 02 Passenger Van (<9 Seats)    07 All Terrain Vehicle 03 Cargo Van (10K lbs or less)    08 Motorcycle 04 Sport Utility Vehicle    09 (reserved) 05 Pick up    10 Any previous w/Trailer
109 Veh 2	11 Motorized Bicycle (Moped)    20 Single Unit (2 axle) 12 Streetcar/Trolley    21 Single Unit (3+ axle) 13 Pedalcycle    22 Truck 2 Axle w/Trailer 14 Golf Cart    23 Truck 3+ Axle w/Trailer 15 Low Speed Vehicle    24 Truck Tractor (Bobtail) 16 Snowmobile    25 Tractor Semi-Trailer 17 Personal Conveyance    26 Tractor Double 19 Other Pass Vehicle*    27 Tractor Triple Other Non-Pass (40)    29 Other Truck*
110 Veh 1	<b>Vehicle Use</b> 01 Personal    03 Government 02 Business/Commerce    04 Responding to Emergency
111 Veh 2	05 Machinery in Use
112 Veh 1	<b>Special Function Vehicles</b> 01 Work Equipment    06 Taxi/Limo    11 Tour Bus    16 Tow Truck 02 Police    07 Veh Used as School Bus    12 Shuttle Bus    17 Farm Equipment 03 Military    08 Veh Used as Other Bus    13 Intercity Bus    18 Farm Vehicle 04 Fire/Rescue    09 School Bus    14 Other Bus    19 Construction/Off Road Equip 05 Ambulance    10 Transit Bus    15 Veh Used as Snowplow    20 Rental Truck (Over 10,000 lbs)
113 Veh 2	21 Electronic Ride Share
114 Veh 1	<b>Cargo Body Type (Trucks &amp; Buses Only)</b> 01 Bus (9-15 seats)    04 Cargo Tank    07 Concrete Mixer    11 Pole/Log (Trailer) 02 Bus (> 15 seats)    05 Flatbed    08 Auto Transporter    12 Intermodal Chassis 03 Other    09 Garbage/Refuse    13 No Cargo Body

New Jersey Police Crash Investigation Report Form (NJTR-1)

New Jersey Crash Records Database

Safety Voyager - Numetric - SHSP Data Viewer

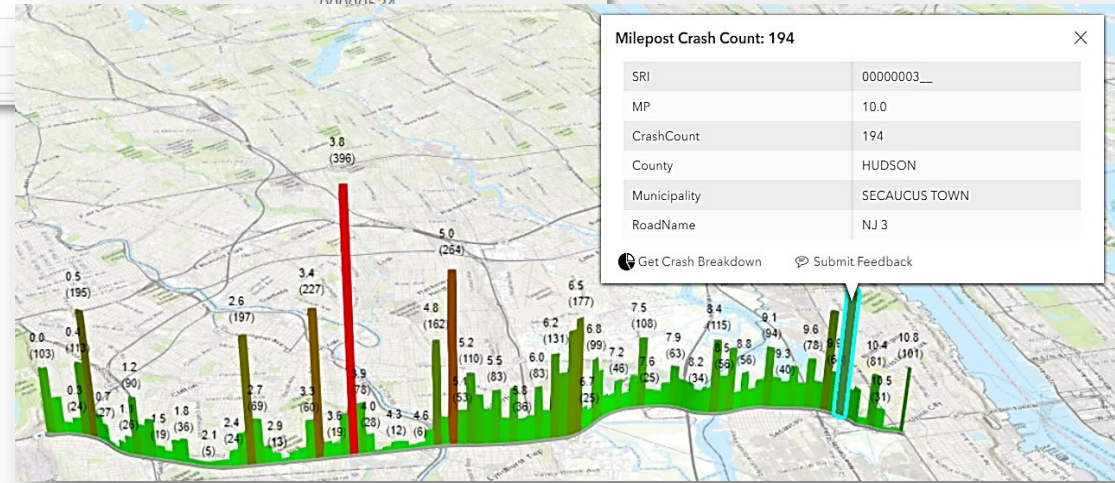
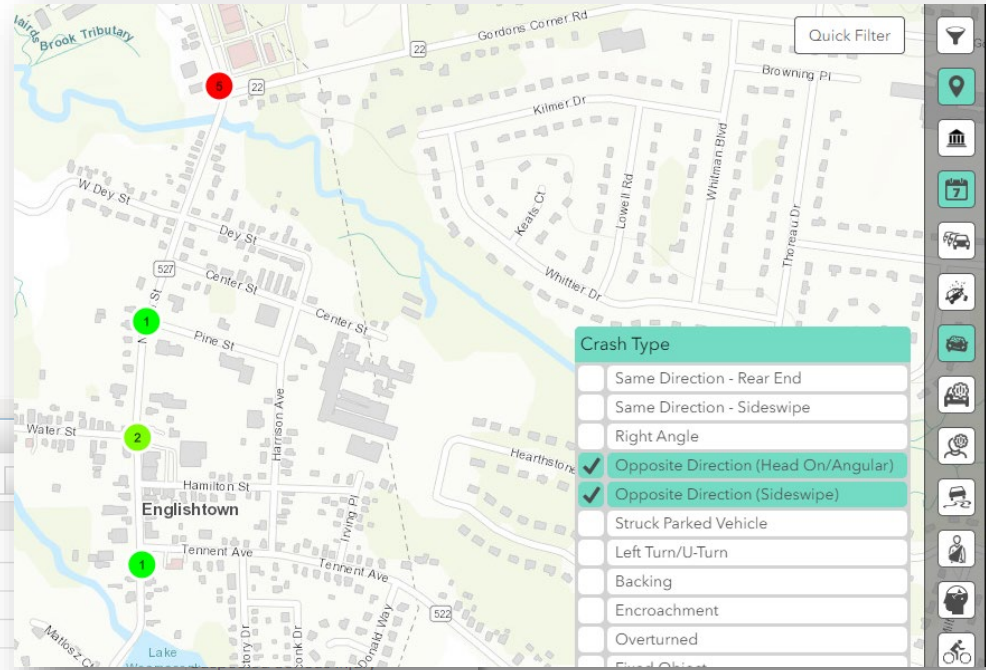
# NJDOT Safety Voyager

- Visualization of crash data and crash analysis
- Filter by user-defined queries
- Export to excel function
- Detailed crash information
- Update frequency: as new information becomes available
- Only for government agencies
- Link: [www.njvoyager.org/App/](http://www.njvoyager.org/App/)
- Email: [admin@njvoyager.org](mailto:admin@njvoyager.org) for access

Detailed Crash Information

Crash Data Vehicles(1) Vehicles(2)

Field	
Case Number	
CrashID	
Document Locator Number	
Severity	
Severity Rating 5	
Vehicle(s) Involved	2 Vehicles
Date	03/29/2020 00:00:00
Year	2020
Month	3
Day	SU
Time	1348
Latitude	40.183198
Longitude	-74.539287
Standard Route Identifier	00000524
Route Number	
Route Suffix	
Milepost	

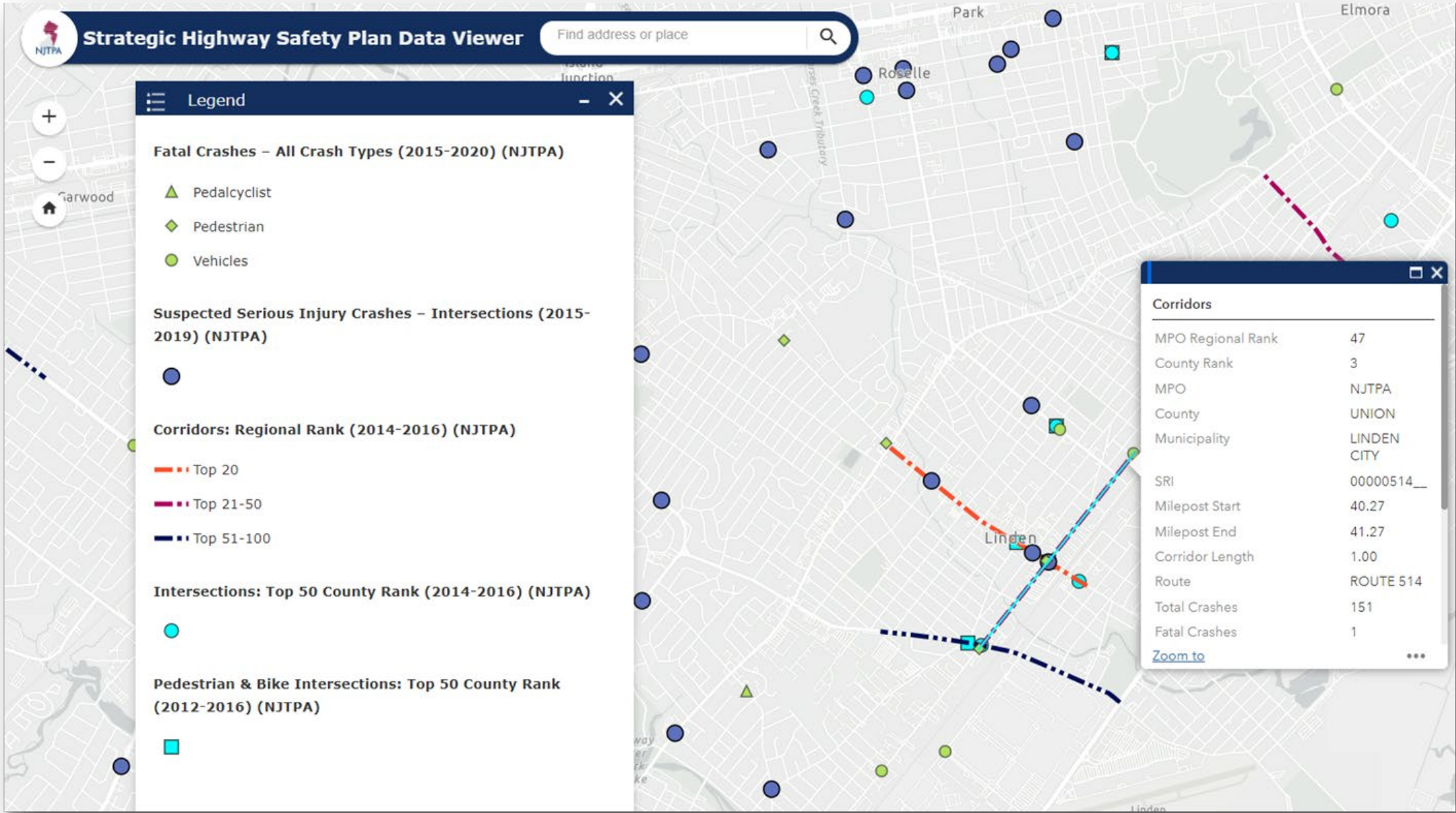


# Strategic Highway Safety Plan Data Viewer

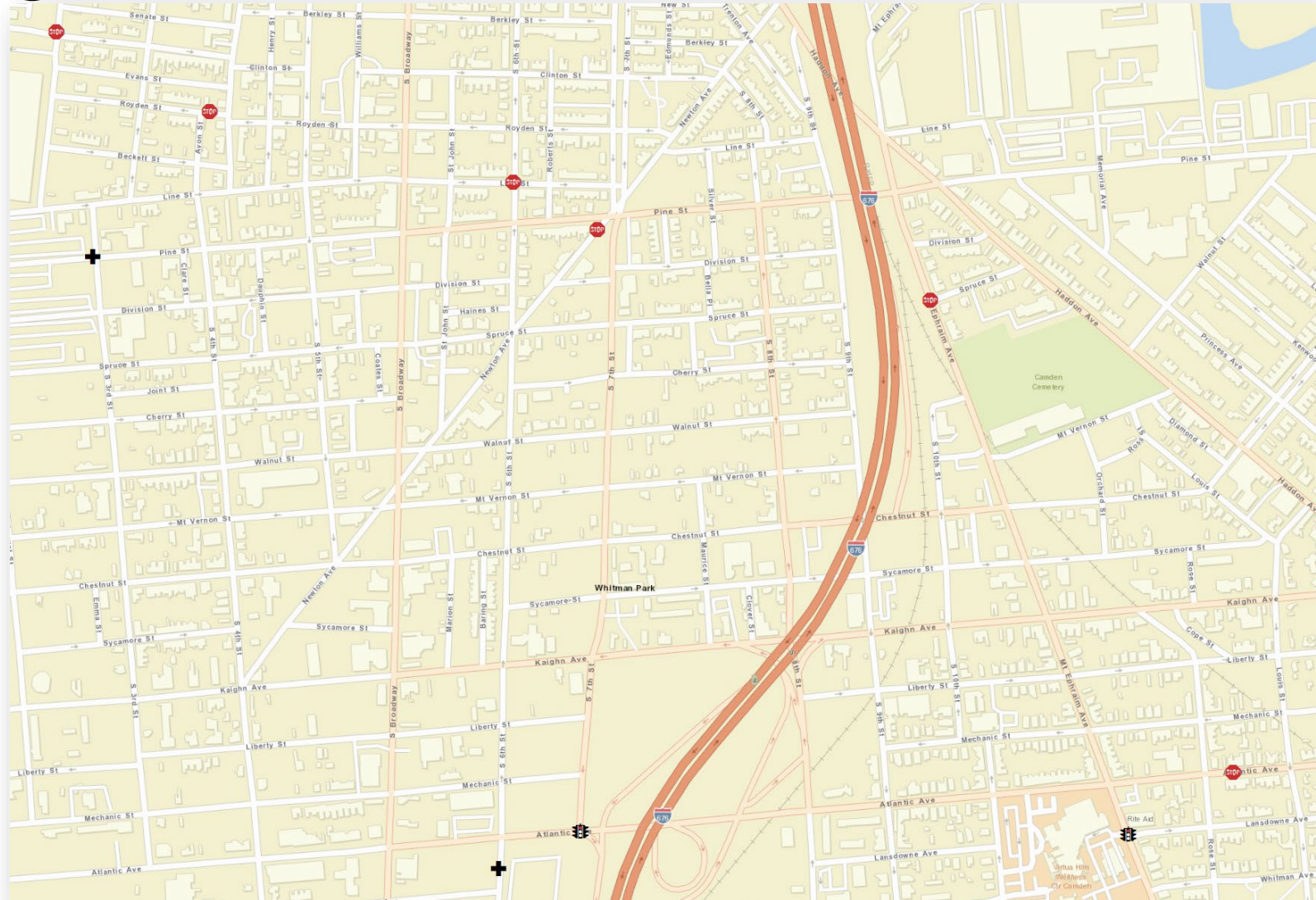
- Created by NJTPA Using ArcGIS Online Map Tool
- Link: [www.njtpa.org](http://www.njtpa.org)
- Data Layers Include:
  - Fatal and Suspected Serious Injury Crashes
  - Network Screening Lists
  - HSIP Funded Projects
  - Road Safety Audits
  - EPA EJ Screening Tool Data

The screenshot displays the NJTPA website interface. At the top, the NJTPA logo is visible with the tagline "Defining the Vision. Shaping the Future." and social media icons. A search bar is located in the top right corner. The main navigation menu includes "Home", "About NJTPA", "Planning", "Projects & Programs", "Data & Maps", "Newsroom", and "Get Involved". The "Projects & Programs" dropdown menu is open, showing various categories like "TRANSPORTATION IMPROVEMENT PROGRAM (TIP)", "LOCAL PROGRAMS", and "REGIONAL PROGRAMS". The "LOCAL PROGRAMS" sub-menu is highlighted, and the "Local Safety/Rural Roads" link is circled in red. Below the navigation, the page title "Local Programs" is displayed. The main content area features a section titled "Local Safety Program/High Risk Rural Roads" with a "Print" button. A blue arrow points from the "Local Safety Program/High Risk Rural Roads" section to the "Strategic Highway Safety Plan Data Viewer" link, which is also circled in red. The link text reads: "This tool (link [here](#)) combines data from other sources in a map format that aids in crash analysis and project development for three MPO regions in New Jersey. Data includes fatal and serious injury crashes, high-crash locations and corridors, Federal Highway Administration - Highway Safety Improvement Program (HSIP) funded projects, Road Safety Audits, and Environmental Justice communities. Click on the link to open the data viewer and the user guide for instructions. The user guide is available [here](#)."





# Strategic Highway Safety Plan Data Viewer



# New: Fatal and Suspected Serious Injury Crashes at Intersections by Control Type



## Legend

-  Traffic Signal-County
-  Flasher-County
-  Stop Control-County
-  Yield Control-County
-  No Control-County





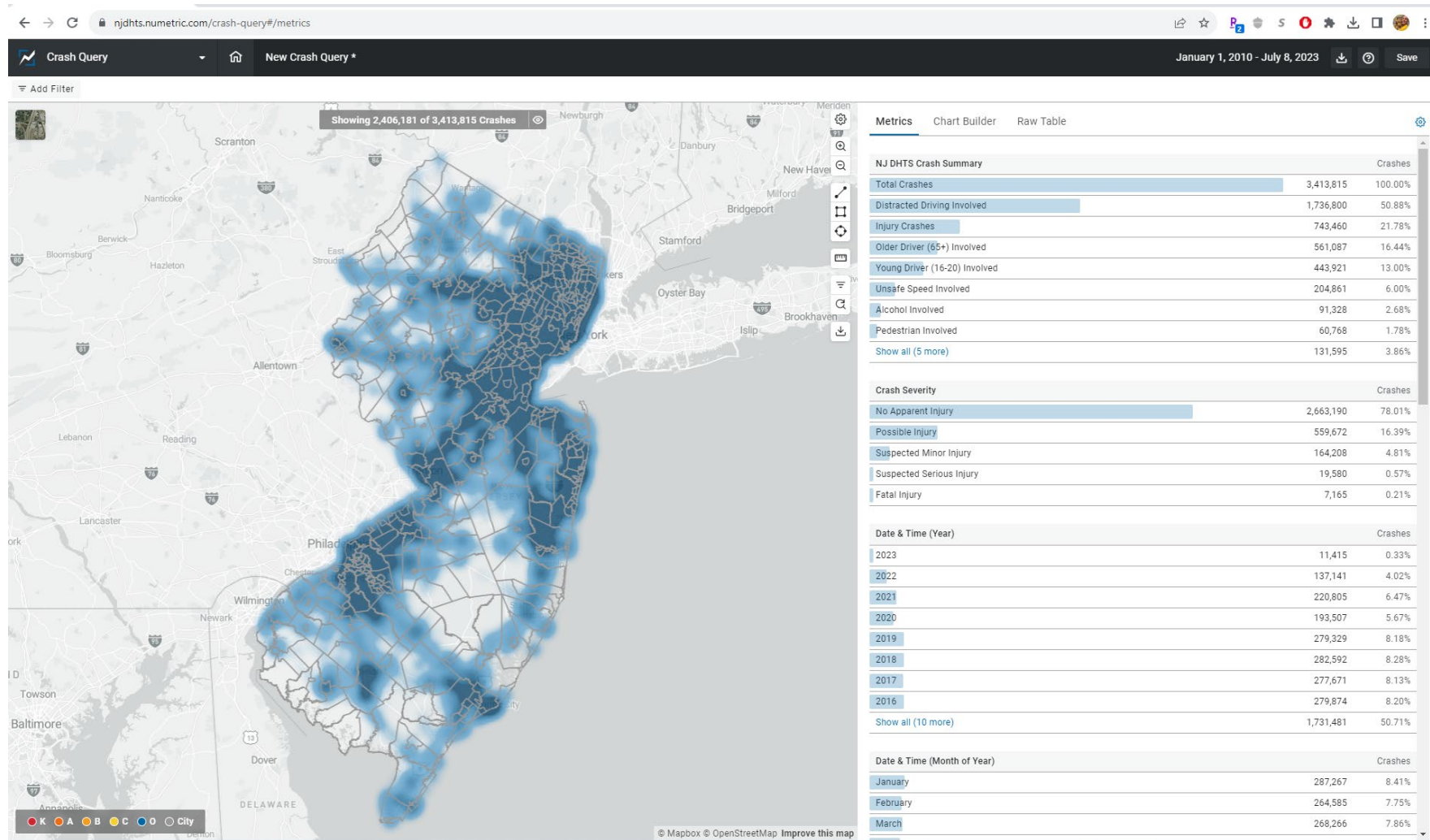
# Numetric Crash Data Analysis

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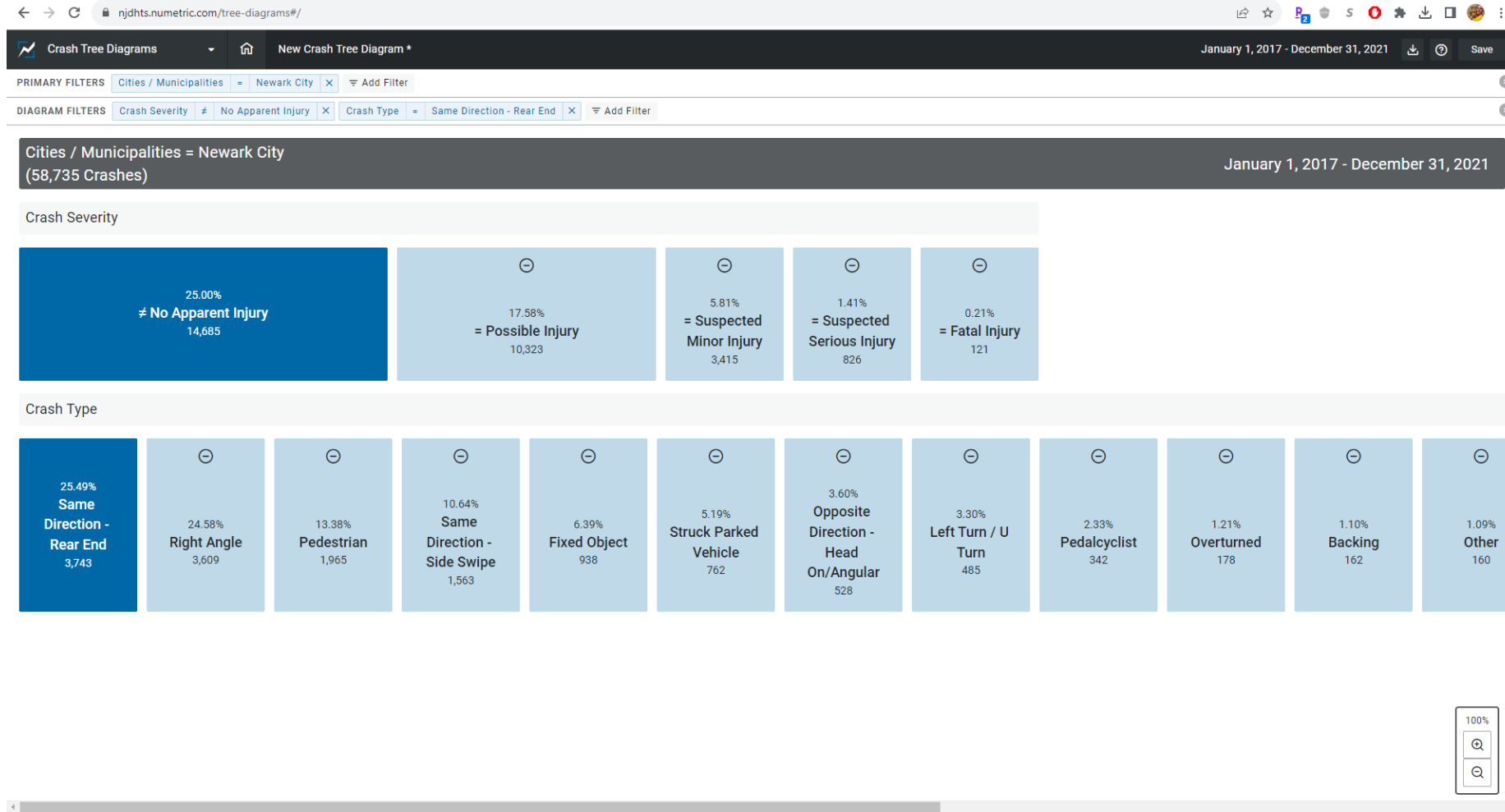
## **Data-First Safety Solutions**

Joseph Weiss, New Jersey Division of Highway Traffic Safety

# Crash Query Application



# Crash Tree Diagram



# Network Screening Application

← → ↻ njdhts.numeric.com/network-screening-segments#/

Network Screening - Segments January 1, 2017 - December 31, 2021 Save

Crash Severity (Crashes) # No Apparent Injury x County (Segments) ESSEX x Pedestrian Involved (Crashes) Yes x Add Filter

Rank	Route / MP	Crashes	Fatal Crashes	Crash Rate
1 / 2	07141865 / 0.6 - ...	63	2	0.0
2 / 11	07141844 / 0 - 1...	38	0	0.0
3 / 13	07000667 / 1.06 ...	37	0	0.0
4 / 16	000005068 / 2.7...	33	0	70.9
5 / 24	00000510 / 29.1...	29	2	242.5
6 / 37	00000510 / 27.8 ...	25	0	271.9
7 / 49	07141912 / 0.44 ...	22	0	0.0
8 / 54	00000510 / 26.6 ...	21	2	136.6
9 / 57	07141895 / 1.33 ...	20	0	0.0
10 / 71	07141895 / 0 - 1...	18	0	0.0
11 / 76	00000510 / 28.4...	17	2	118.0
11 / 76	07000667 / 0 - 1...	17	0	0.0
13 / 87	00000509 / 9 - 1...	16	0	66.9
13 / 87	07051828 / 0 - 1...	16	0	0.0
13 / 87	07141895 / 2.66 ...	16	0	0.0
16 / 97	00000509 / 15.7 ...	15	1	34.9
16 / 97	07000602 / 0 - 0.4	15	1	0.0
16 / 97	07000603 / 3.03...	15	0	0.0
19 / 109	00000021 / 3.05 ...	14	5	11.4
19 / 109	07141893 / 0 - 1...	14	0	0.0
19 / 109	07141916 / 0.27 ...	14	0	0.0
22 / 126	00000508 / 7.95 ...	13	0	119.3
22 / 126	07141885 / 1.75...	13	0	0.0

07141865 / 0.6 - 2.38

Rank	Filtered	State
This Screening	1	2
2022		169
2021		3
2020		11
2019		3
2018		2

Crashes by Milepoint

Summary

Crashes	63
Fatal Crashes	2
ePDO	788.6
Crashes Per Mile	7.1

Hide/Show Columns

# Custom Reporting


← → ↻ njdhts.numeric.com/crash-query#/report

Report Preview Save & Download

CRASH SUMMARY REPORT

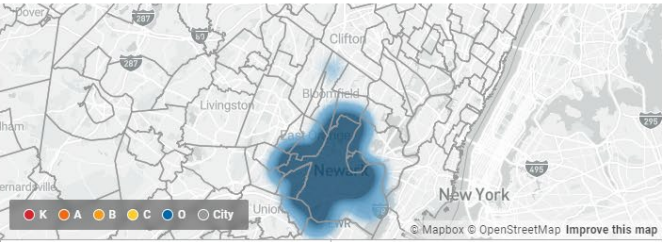
## Pedestrian Injury Crashes Newark 2017-2021

Created on August 24, 2023  
Created by Joseph Weiss  
Data extents: January 1, 2017 to December 31, 2021



**Applied Filters**

Cities / Municipalities = Newark City Crash Severity ≠ No Apparent Injury Pedestrian Involved = Yes



Total Crashes	1,989	Fatal Crashes	55
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NJ DHTS Crash Summary		Crashes	
Pedestrian Involved	1,989	100.00%	
Total Crashes	1,989	100.00%	
Injury Crashes	1,934	97.23%	
Distracted Driving Involved	502	25.24%	
Older Driver (65+) Involved	143	7.19%	
Unsafe Speed Involved	86	4.32%	
Alcohol Involved	65	3.27%	
Fatal Crashes	55	2.77%	
+ 5 more	78	3.92%	

Crash Severity	Crashes
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# NJ Center for Integrated Data



# Thank you

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*Defining the Vision. Shaping the Future.*



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