

2016 CCMTA ANNUAL MEETING

HALIFAX, NOVA SCOTIA

CONCURRENT SESSIONS

TOPIC:

ENHANCED TRAFFIC RECORDS ELECTRONIC DATA SYSTEM

PRESENTER:

GEORGE W. BISHOP IV

DEPUTY COMMISSIONER, VIRGINIA DEPARTMENT OF MOTOR VEHICLES



16

Enhanced Traffic Records Electronic Data System (TREDS)

George Bishop
Deputy Commissioner
June 2016

What is TRENDS?

- Single source for crash data in Virginia
- Collects electronic crash data reports from law enforcement
- Identifies problem areas
- Leads to safety programs that reduce crashes, injuries, and fatalities

What is TRENDS?

- Available to the public
- Top in the U.S. for crash data analysis and reporting
 - Award-winning
 - Led to federal initiatives to transmit data electronically

Why TRENDS?

- Replace outdated, inefficient manual system
- Took police 45 minutes to complete crash report
- 120,000 reports processed annually
- Data available 8 to 12 months later

Why TREDIS?

- Lack of inter-agency sharing
- Crash report information entered manually three different times
- Data was incomplete, inconsistent, and inaccurate
- Received rating of red from the U.S. Federal Motor Carrier Safety Administration (FMCSA)

Former CMV Crash Report

Commonwealth of Virginia • Department of Motor Vehicles
Police Crash Report DMV Copy FR30P (Rev 8/01)

Page ___ of ___ pages Supplemental report

1. Crash date: MM / DD / YYYY, Day of week, Military time (24 hr clock), County of crash, Official DMV use
 2. City of _____, Suburban or scenic, GPS Lat. _____
 3. Location of crash (route/road), Railroad crossing ID no. (if within 100 ft), GPS Long. _____, Mile marker number, Local case number
 4. Location of crash (route/road), Location of crash (route/road), Number of vehicles
 5. Vehicle No. 1: Driver's name (last, first, middle), Driver's license number, State, Address (street and no.), City, State, ZIP, Birth date, MM / DD / YYYY, Gender, Drivers license number, State, Vehicle owners name (last, first, middle) or Commercial motor carrier, Address (street and no.), City, State, ZIP, Veh. type, Veh. year, Veh. make, Veh. model, CMV? (boxed), Veh. type, Veh. year, Veh. make, Veh. model, CMV? (boxed), Vehicle plate number, State, EMV type, EMV in service, Appropriate repair cost, VIN, U.S. DOT no. or VA no., Placard no. and class or name, U.S. DOT no. or VA no., Placard no. and class or name, No. of axles, Truck cover, GVWR, HAZMAT, Cargo spill, Override, Underride, Vehicle no. 1 damage, Name of insurance company (not agent), Vehicle no. 2 damage, Name of insurance company (not agent), Crash Diagram, Speed, Before crash, Low, Max safe, Low ok, After crash, Low, Max safe, Low ok, Photographs page count, Loss 6, 8-17, 18-21, Over 21, Damage to property other than vehicles, Appropriate repair cost, Object struck (tree, fence, etc.), Property owner's name (last, first, middle) and address, Crash description, Drivers charged driver, Names of injured (if deceased give date of death), EMS transport, Date of death MM/DD/YYYY, Investigating officer, Badge/code no., Agency/department name and code, Reviewing officer, Report file date

7. VIN, repair cost, VIN, repair cost
 8. CMV only: U.S. DOT no. or VA no., Placard no. and class or name, U.S. DOT no. or VA no., Placard no. and class or name, No. of axles, Truck cover, GVWR, HAZMAT, Cargo spill, Override, Underride, Vehicle no. 1 damage, Name of insurance company (not agent), Vehicle no. 2 damage, Name of insurance company (not agent), Crash Diagram, Check impact area(s), Circle initial impact, Check impact area(s), Circle initial impact



Current CMV Crash Report

Officer Initials _____ Badge # _____ Commonwealth of Virginia - Department of Motor Vehicles FR300P (Rev 1/12)

Police Crash Report

Revised Report **CRASH** Page _____ of _____

Crash Date MM DD YYYY MILITARY Time (24 hr clock) County of Crash _____ City of _____ Local Case Number _____
or Town of _____

COMMERCIAL MOTOR VEHICLE SECTION
 This form is being completed because the vehicle is:

A Truck or Truck Combination Rating Greater Than 10,000 lbs. (GVWR/GCWR) Any Motor Vehicle That Seats 9 or More People, Including the Driver A Vehicle of Any Type with a Hazardous Materials Placard Regardless of Weight

AND The crash resulted in:

A fatality: any person(s) killed in or outside of any vehicle (truck, bus, car, etc.) involved in the crash or who dies within 30 days of the crash as a result of an injury sustained in the crash **OR** An injury: any person(s) injured as a result of the crash who immediately receives medical treatment away from the crash scene **OR** A tow-away: any motor vehicle (truck, bus, car, etc.) disabled as a result of the crash and transported away from the scene by a tow truck or other vehicle

VEHICLE # _____

Vehicle Configuration V10	Cargo Body Type V11	License Class P8	Commercial Endorsement P9
<input type="checkbox"/> 1. Passenger Car (Only if Vehicle Has Hazardous Materials Placard) <input type="checkbox"/> 2. Light Truck (Only if Vehicle Has Hazardous Materials Placard) <input type="checkbox"/> 3. Bus (Seats 9-15 People, Including Driver) <input type="checkbox"/> 4. Bus (Seats for 16 People or More, Including Driver) <input type="checkbox"/> 5. Single Unit Truck (2 Axles, 6 Tires) <input type="checkbox"/> 6. Single Unit Truck (3 or More Axles) <input type="checkbox"/> 7. Truck Trailer(s) [Single-Unit Truck Pulling Trailer(s)] <input type="checkbox"/> 8. Truck Tractor (Bobtail) <input type="checkbox"/> 9. Tractor/Semi-trailer (One Trailer) <input type="checkbox"/> 10. Tractor/Doubles (Two Trailers) <input type="checkbox"/> 11. Other Truck Greater Than 10,000 lbs. (Not Listed Above)	<input type="checkbox"/> 1. Bus (Seats 9-15 People, Including Driver) <input type="checkbox"/> 2. Bus (Seats For 16 People or More, Including Driver) <input type="checkbox"/> 3. Van/Enclosed Box <input type="checkbox"/> 4. Cargo Tank <input type="checkbox"/> 5. Flatbed <input type="checkbox"/> 6. Dump <input type="checkbox"/> 7. Concrete Mixer <input type="checkbox"/> 8. Auto Transporter <input type="checkbox"/> 9. Garbage/Refuse <input type="checkbox"/> 10. Grain/Chips/Gravel <input type="checkbox"/> 11. Pole-Trailer <input type="checkbox"/> 12. Vehicle Towing Another Motor Vehicle <input type="checkbox"/> 13. Intermodal Container Chassis <input type="checkbox"/> 14. Logging <input type="checkbox"/> 15. Other Cargo Body (Not Listed Above) <input type="checkbox"/> 16. Not Applicable <input type="checkbox"/> No Cargo Body	<input type="checkbox"/> Class A <input type="checkbox"/> Class B <input type="checkbox"/> Class C <input type="checkbox"/> Class DRL (regular drivers license) <input type="checkbox"/> Class M <input type="checkbox"/> GVWR/ V12 GCWR	<input type="checkbox"/> T-Double Trailer P- <input type="checkbox"/> Passenger Vehicle N- <input type="checkbox"/> Tank Vehicle H-Required <input type="checkbox"/> To Be Placarded for Hazardous Material s <input type="checkbox"/> X-Combined Tank/HAZMAT <input type="checkbox"/> O-Other <input type="checkbox"/> 1. 10,000 lbs. or Less <input type="checkbox"/> 2. 10,001-26,000 lbs. <input type="checkbox"/> 3. Greater Than 26,000 lbs.

Hazardous Material
 Hazardous Material Placard:

HM 4-Digit: HM Placard Name: _____ HM Class: _____ HM Cargo Present: HM Cargo Released:

Carrier Identification

Commercial Motor Carrier Name: _____ Address (P.O. Box if No Street Address): _____

Carrier's ID Number: _____ State (use 2 digit): _____ City: _____ State: _____ Zip: _____

USDOTA: _____

Commercial/Non-Commercial V13

1. Interstate Carrier
 2. Intrastate Carrier
 3. Not in Commerce-Government (Trucks and Buses)
 4. Not in Commerce-Other Truck (Over 10,000 lbs.)

VEHICLE # _____

Vehicle Configuration V10	Cargo Body Type V11	License Class P8	Commercial Endorsement P9
<input type="checkbox"/> 1. Passenger Car (Only if Vehicle Has Hazardous Materials Placard) <input type="checkbox"/> 2. Light Truck (Only if Vehicle Has Hazardous Materials Placard) <input type="checkbox"/> 3. Bus (Seats 9-15 People, Including Driver) <input type="checkbox"/> 4. Bus (Seats for 16 People or More, Including Driver) <input type="checkbox"/> 5. Single Unit Truck (2 Axles, 6 Tires) <input type="checkbox"/> 6. Single Unit Truck (3 or More Axles) <input type="checkbox"/> 7. Truck Trailer(s) [Single-Unit Truck Pulling Trailer(s)] <input type="checkbox"/> 8. Truck Tractor (Bobtail) <input type="checkbox"/> 9. Tractor/Semi-trailer (One Trailer) <input type="checkbox"/> 10. Tractor/Doubles (Two Trailers) <input type="checkbox"/> 11. Other Truck Greater Than 10,000 lbs. (Not Listed Above)	<input type="checkbox"/> 1. Bus (Seats 9-15 People, Including Driver) <input type="checkbox"/> 2. Bus (Seats For 16 People or More, Including Driver) <input type="checkbox"/> 3. Van/Enclosed Box <input type="checkbox"/> 4. Cargo Tank <input type="checkbox"/> 5. Flatbed <input type="checkbox"/> 6. Dump <input type="checkbox"/> 7. Concrete Mixer <input type="checkbox"/> 8. Auto Transporter <input type="checkbox"/> 9. Garbage/Refuse <input type="checkbox"/> 10. Grain/Chips/Gravel <input type="checkbox"/> 11. Pole-Trailer <input type="checkbox"/> 12. Vehicle Towing Another Motor Vehicle <input type="checkbox"/> 13. Intermodal Container Chassis <input type="checkbox"/> 14. Logging <input type="checkbox"/> 15. Other Cargo Body (Not Listed Above) <input type="checkbox"/> 16. Not Applicable <input type="checkbox"/> No Cargo Body	<input type="checkbox"/> Class A <input type="checkbox"/> Class B <input type="checkbox"/> Class C <input type="checkbox"/> Class DRL (regular drivers license) <input type="checkbox"/> Class M <input type="checkbox"/> GVWR/ V12 GCWR	<input type="checkbox"/> T-Double Trailer P- <input type="checkbox"/> Passenger Vehicle N- <input type="checkbox"/> Tank Vehicle H-Required <input type="checkbox"/> To Be Placarded for Hazardous Material s <input type="checkbox"/> X-Combined Tank/HAZMAT <input type="checkbox"/> O-Other <input type="checkbox"/> 1. 10,000 lbs. or Less <input type="checkbox"/> 2. 10,001-26,000 lbs. <input type="checkbox"/> 3. Greater Than 26,000 lbs.

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Commercial Motor Carrier Name: _____ Address (P.O. Box if No Street Address): _____

Carrier's ID Number: _____ State (use 2 digit): _____ City: _____ State: _____ Zip: _____

USDOTA: _____

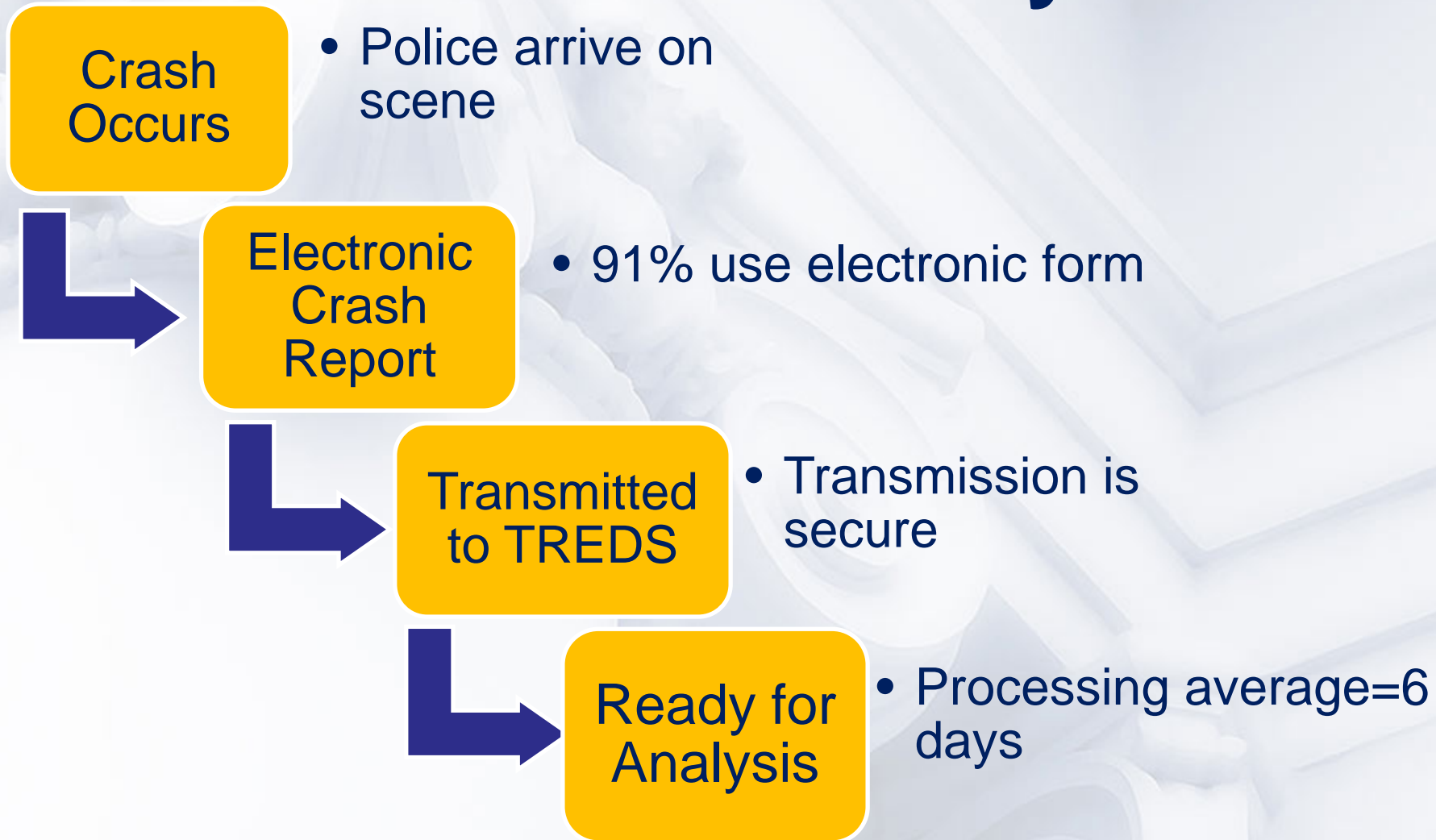
Commercial/Non-Commercial V13

USDOTA

TREDS' Beginnings

- Virginia DMV selected by FMCSA to pilot improved crash data collection
- Designed electronic crash report
 - Law enforcement input and feedback
 - Trained law enforcement
- Designed new traffic safety database

From Crash to Analysis



Inter-Agency Sharing

- TRENDS information available to Virginia State Police (VSP) and Virginia Department of Transportation (VDOT)
- Secure access
- Protects sensitive information

TREDS Features

TREDS Features

- Analyze data by multiple factors
 - Crash event factors: weather, light conditions, road conditions, surface type
 - Driver factors: alcohol, speed, driver distraction
 - Demographic factors: age, gender
- More than 150 dimensions and growing

TREDS Features

- Virginia Tech University partnership
 - Imports crash location data submitted by law enforcement
 - Pinpoints crash location to latitude and longitude
- System IDs specific medical terms
- TREDS exports driver crash data to DMV's medical review office

TREDS Features

- Information sharing
 - Emergency medical services (EMS)
 - Medical examiner's office
 - Vital records
 - Safety programs – Click It or Ticket, Checkpoint Strikeforce
 - Motorcycle training programs

TREDS Features

- TREDS ignition interlock system
 - Work with Virginia Alcohol Safety Action Program (VASAP)
 - Tracks DUI offenders
 - Alerts VASAP to ensure offender compliance

TREDS Enhancements

TREDS Enhancements

- High crash location map
 - Accessible to law enforcement and the public
 - Crash data by street level with statewide imagery
 - Obtain specific information about crashes

High Crash Location Map



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Online Services

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Vehicles

Commercial

Highway Safety

Forms

Locations

Online Services

- Vehicle Registration Renewal
- Address Change
- Driver's License Renewal
- Report a Vehicle Sold / Traded
- Driver's License Replacement
- Plate Purchase

All >



Driver / ID Services

- Applying for a Driver's License
- Points and Violations
- Practice Exams
- Medical Information
- Applying for a Commercial Driver's License
- Obtaining a Virginia Vital Record

All >



Vehicle Services

- Titling a Vehicle in Virginia
- Registration Information
- Insurance Verification
- Disabled Placards & Plates
- Selling / Donating a Vehicle

All >



Commercial Services

- Motor Carriers
- EZ Fleet
- webCAT
- Dealer Services
- Size and Weight Enforcement
- Online Dealer

All >



Department of Motor Vehicles



High Crash Location Map



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Highway Safety

Safety Programs

- Aggressive Driving
- Bicycle Safety
- Child Safety Seats
- Crash Investigation and Reconstruction
- Drinking and Driving
- Mature Driver Safety
- Motor Carrier Safety
- Motorcycle Safety
- Motorcycle Safety Course - Enroll Online
- Pedestrian Safety

Safety Programs

- Aggressive Driving
- Bicycle Safety
- Child Safety Seats
- Crash Investigation and Reconstruction
- Drinking and Driving
- Motorcycle Safety

[All](#)



Traffic Crash Data

- Create an Interactive Crash Data Report
- Explore the High Crash Location Map
- Create an Interactive Crash Map
- View Other Highway Safety Related Data
- Request a Police Crash Report

[All](#)



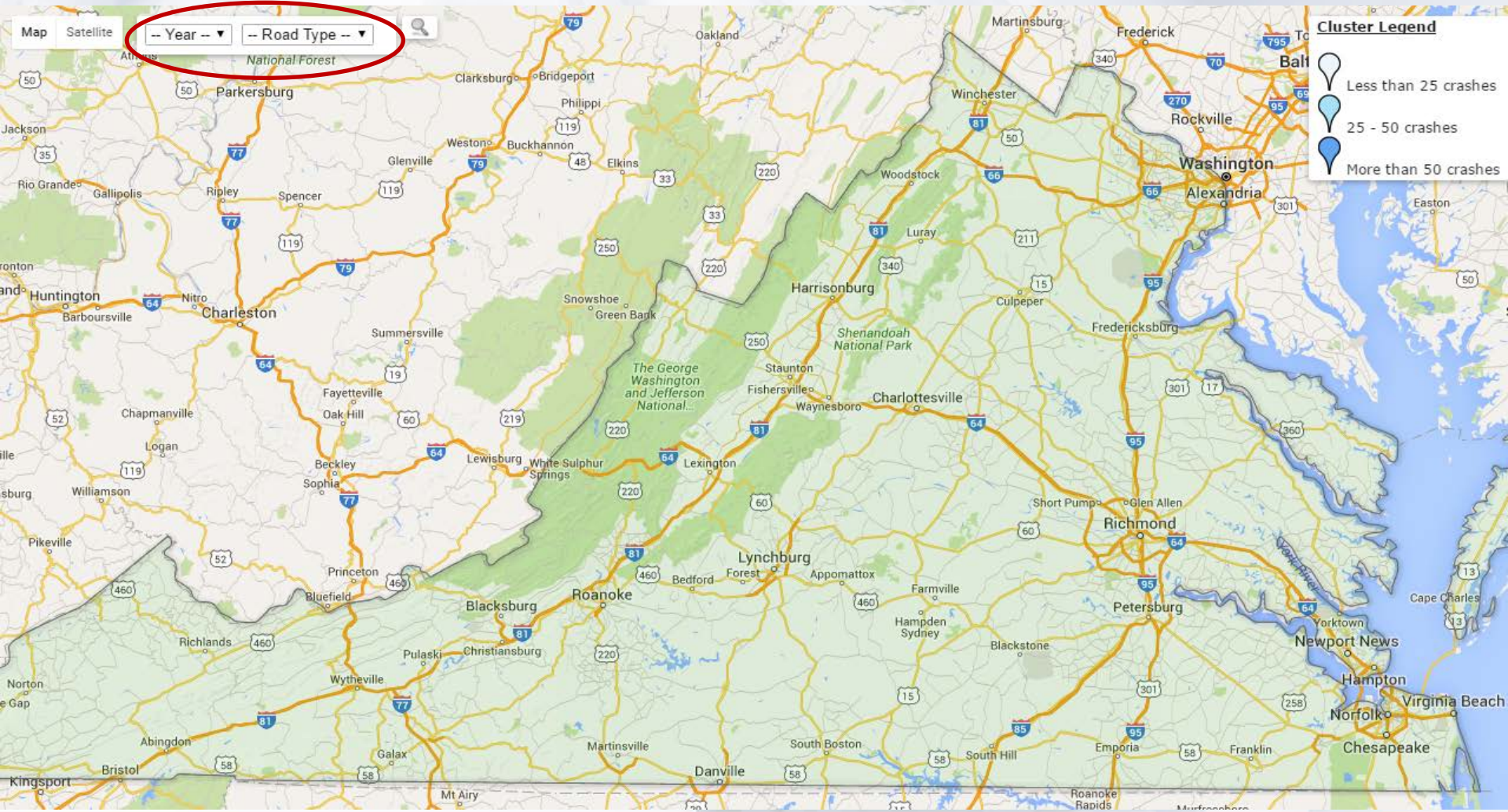
Grants Management

- Aggressive Driving & Speeding
- Alcohol and Impaired Driving
- Occupant Protection
- Pedestrian and Bicycle Safety

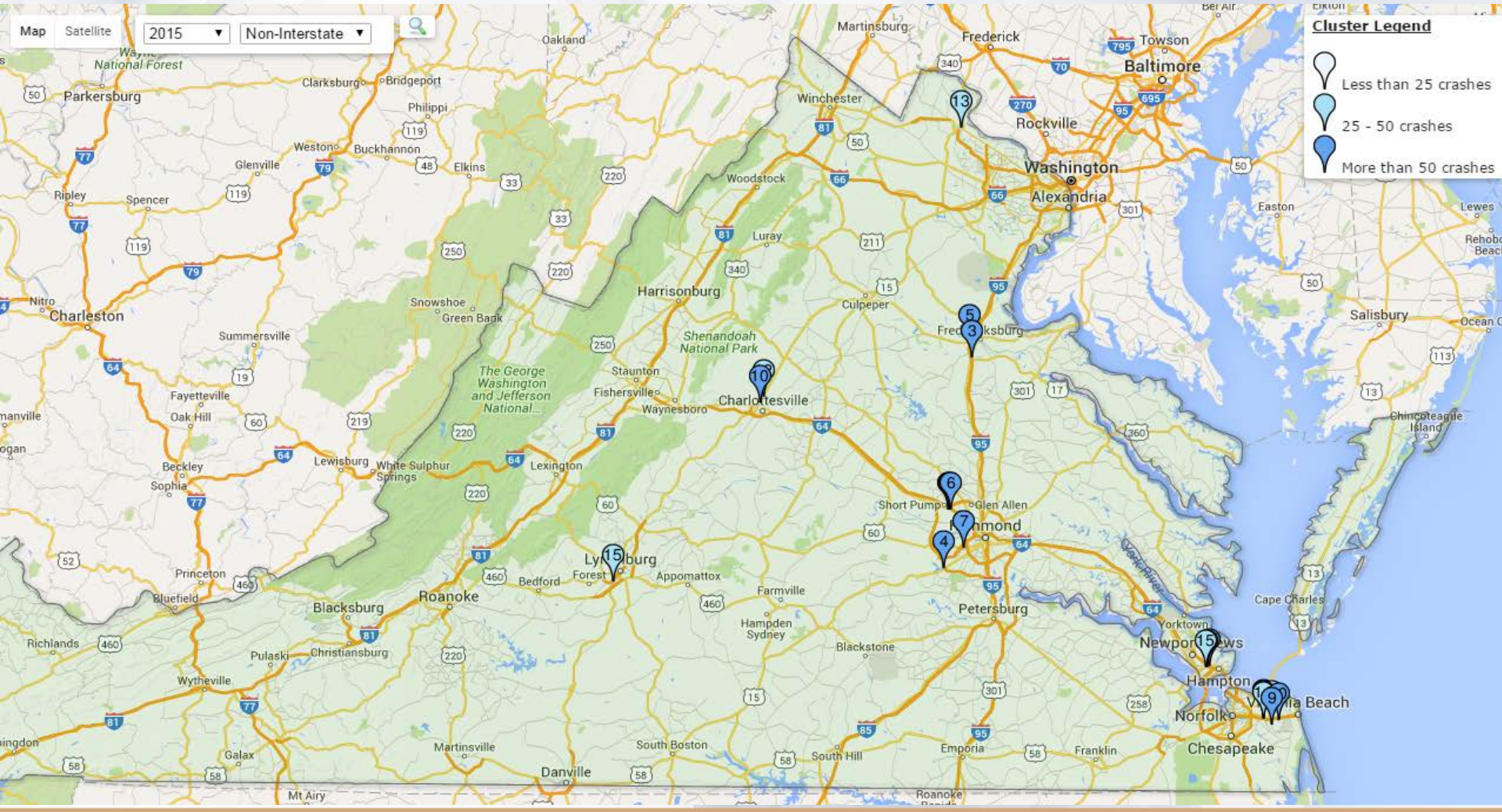
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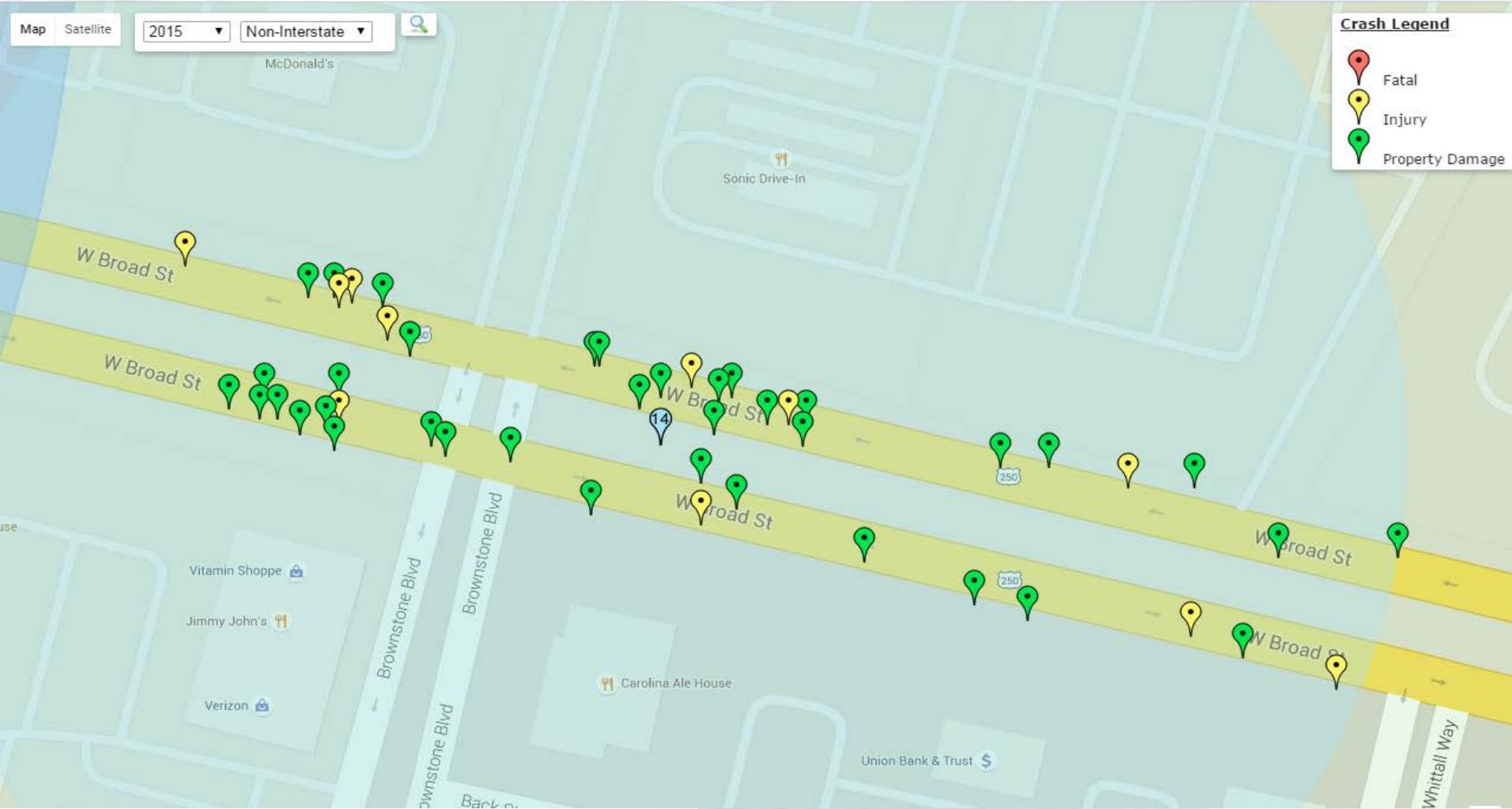
High Crash Location Map



High Crash Location Map

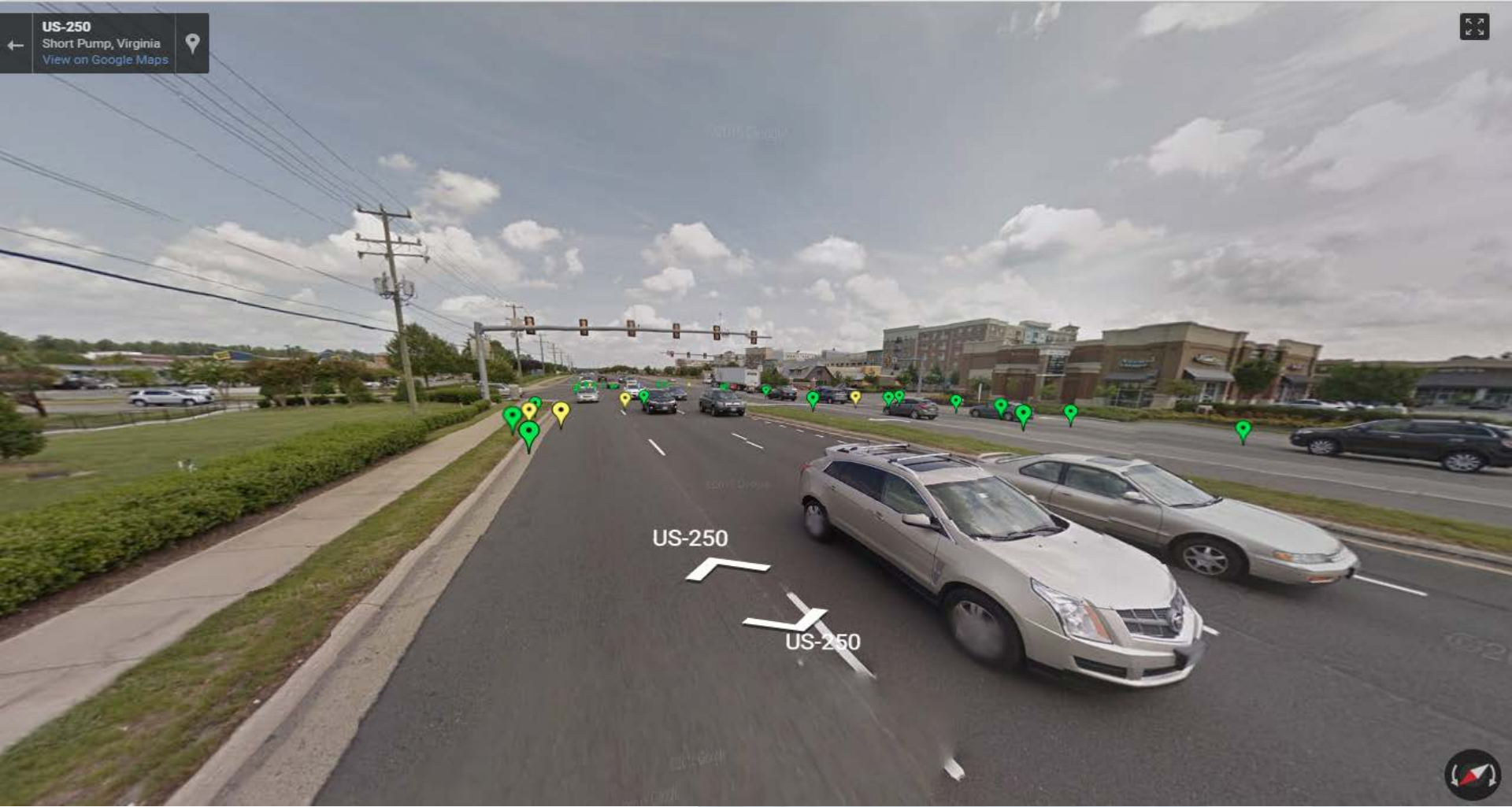


High Crash Location Map

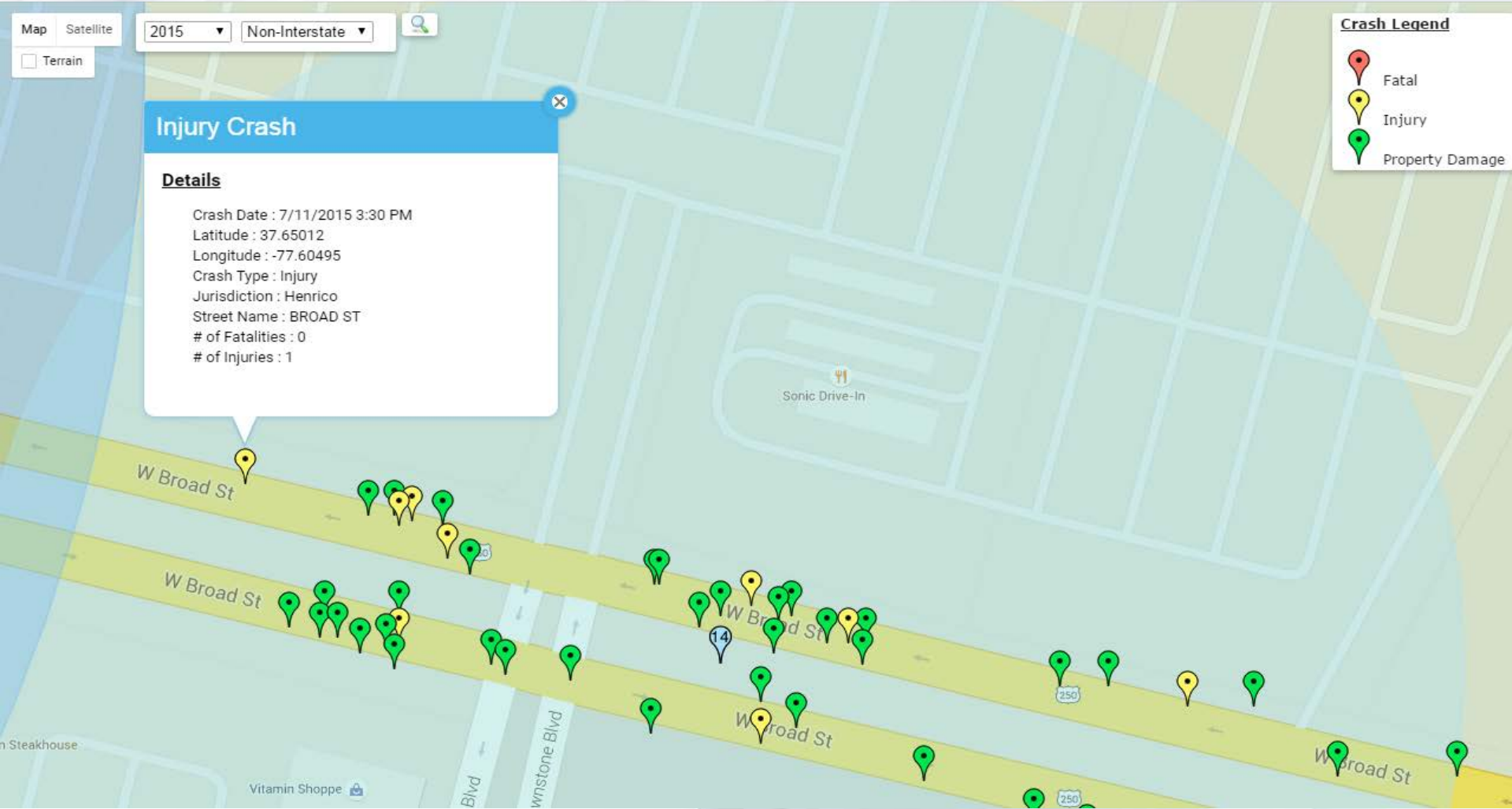


High Crash Location Map

← US-250
Short Pump, Virginia
[View on Google Maps](#)



High Crash Location Map



TREDS Enhancements

- Crash data report
 - Create reports for a particular area and/or time period
 - 13 new search options added (alcohol, motorcycle, bicycle, pedestrian, teen driver crashes)
 - More specific and usable data

Crash Data Report



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[Locations](#)

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[All](#)



Grants Management

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Crash Data Report

StartDate	<input type="text" value="1/1/2015 12:00:00 AM"/>	EndDate	<input type="text" value="2/1/2015 12:00:00 AM"/>	<input type="button" value="View Report"/>
Region	<input type="text" value="Richmond"/>	Jurisdiction	<input type="text" value="Henrico County"/>	
Group By	<input type="text" value="Month"/>	Filter Crashes By	<input type="text" value="Alcohol-Related"/>	
Filter People By	<input type="text" value="All"/>			



Crash Data Report

StartDate: 1/1/2015 12:00:00 AM EndDate: 2/1/2015 12:00:00 AM [View Report](#)
 Region: Richmond Jurisdiction: Henrico County
 Group By: Month Filter Crashes By: Alcohol-Related
 Filter People By: All

1 of 1 Select a format Export

Grouped By: Month

Month	2015		
	Crashes	Fatalities	Injuries
January	33	0	18
February	1	0	1
March			

Totals	34	0	19
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Report Created: 6/3/2016 11:37:29 AM

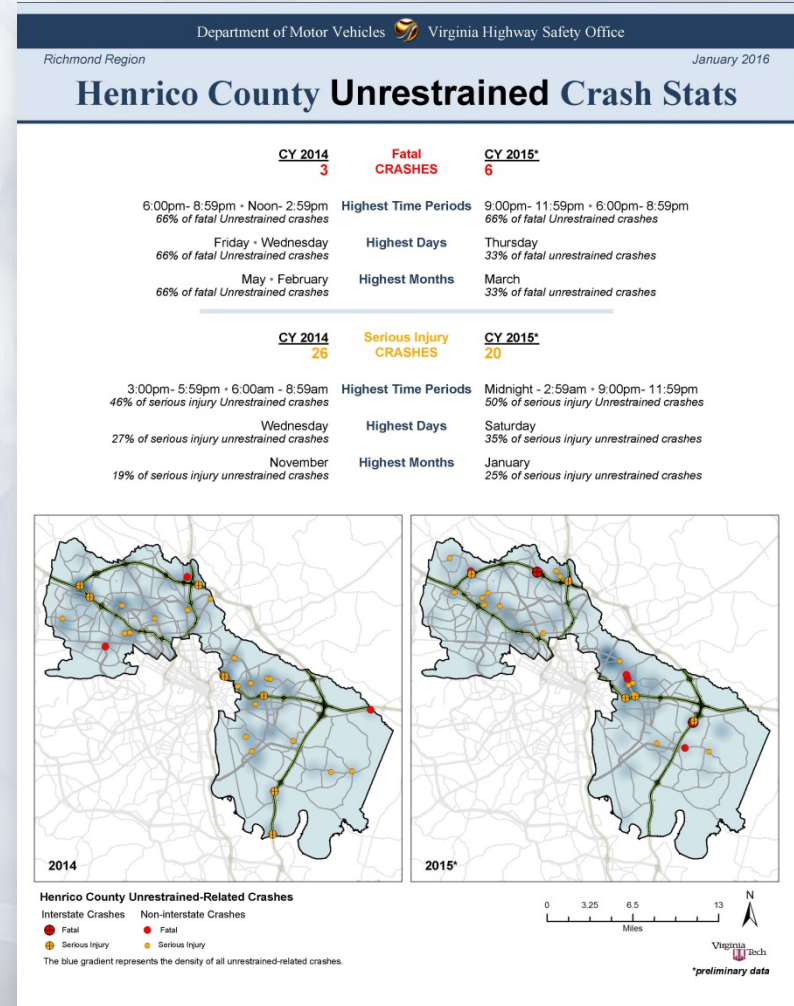
Page
1 of 1

TREDS in Action

- VDOT runs reports from TREDS data
- Highway safety improvements are prioritized based on data
 - Paving
 - Grading
 - Sign improvements/installations

TRENDS in Action

- Heat maps
- Illustrate high crash locations by locality
 - Time
 - Day of the week
 - Month

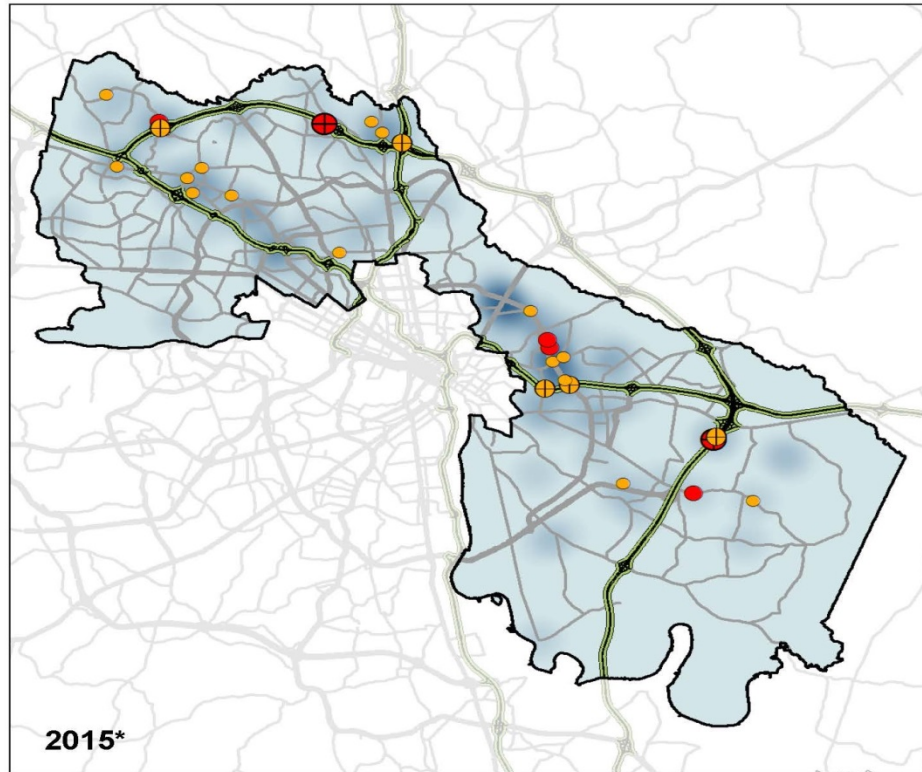
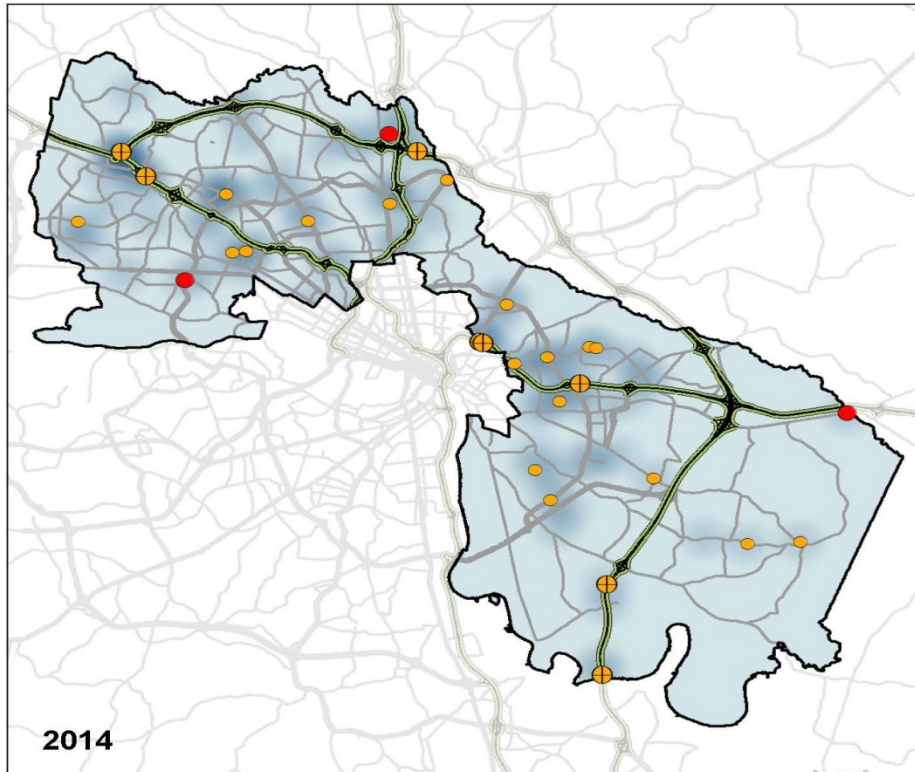


TREDS in Action

Henrico County Unrestrained Crash Stats

<u>CY 2014</u> 3	Fatal CRASHES	<u>CY 2015*</u> 6
6:00pm- 8:59pm • Noon- 2:59pm <i>66% of fatal Unrestrained crashes</i>	Highest Time Periods	9:00pm- 11:59pm • 6:00pm- 8:59pm <i>66% of fatal Unrestrained crashes</i>
Friday • Wednesday <i>66% of fatal Unrestrained crashes</i>	Highest Days	Thursday <i>33% of fatal unrestrained crashes</i>
May • February <i>66% of fatal Unrestrained crashes</i>	Highest Months	March <i>33% of fatal unrestrained crashes</i>
<u>CY 2014</u> 26	Serious Injury CRASHES	<u>CY 2015*</u> 20
3:00pm- 5:59pm • 6:00am - 8:59am <i>46% of serious injury Unrestrained crashes</i>	Highest Time Periods	Midnight - 2:59am • 9:00pm- 11:59pm <i>50% of serious injury Unrestrained crashes</i>
Wednesday <i>27% of serious injury unrestrained crashes</i>	Highest Days	Saturday <i>35% of serious injury unrestrained crashes</i>
November <i>19% of serious injury unrestrained crashes</i>	Highest Months	January <i>25% of serious injury unrestrained crashes</i>

TRENDS in Action



Henrico County Unrestrained-Related Crashes

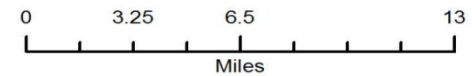
Interstate Crashes

- ⊕ Fatal
- ⊕ Serious Injury

Non-interstate Crashes

- Fatal
- Serious Injury

The blue gradient represents the density of all unrestrained-related crashes.



**preliminary data*

TREDS Outcomes

- Data quality improved
- Fewer errors
 - Use of crash report is uniform
 - Intuitive crash report

TREDS Outcomes

- Efficient
 - Ready for analysis in 6 days or less
 - Updates nightly
 - Saves about \$550,000/year in personnel costs
 - 15 minutes = the average time to complete an electronic crash report

TREDS Outcomes

- Identifies street-level problems
- Allows law enforcement to target problem areas
- Identifies where road engineering improvements are needed

TREDS Outcomes

- Data is accessible to private and public sector
 - dmvNOW.com
- Allows citizens to make better safety decisions
- Reducing crashes, injuries and fatalities

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