

Traffic Safety Data Trends, Project Funding, and Data Resources

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Connecting people, products and places safely and efficiently with custom er focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina

Presentation Overview

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Statewide Data
Trends

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Rural / Urban
Data Trends

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High Level
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Safety Data Resources 5

Questions / Discussion

Statewide Data Trends

- State Population
- Vehicle Miles Travelled
- Fatalities
- Serious Injuries
- Pedestrian Fatal and Serious Injuries
- Bicycle Fatal and Serious Injuries

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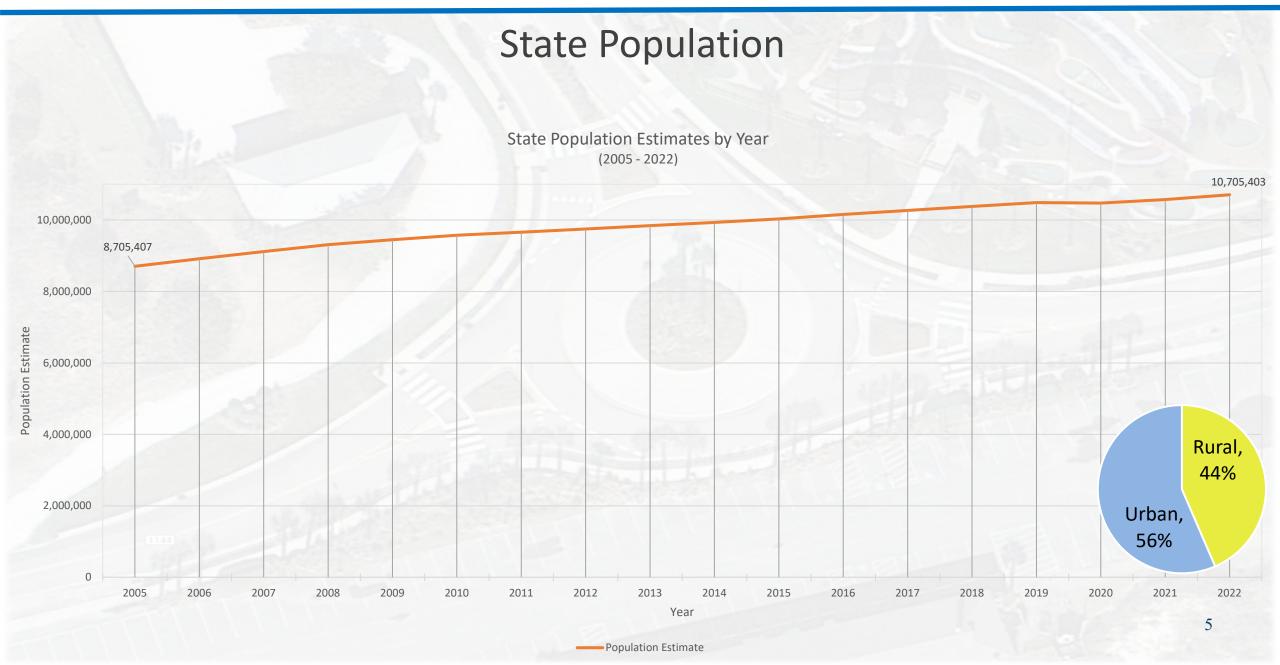
Questions / Discussion

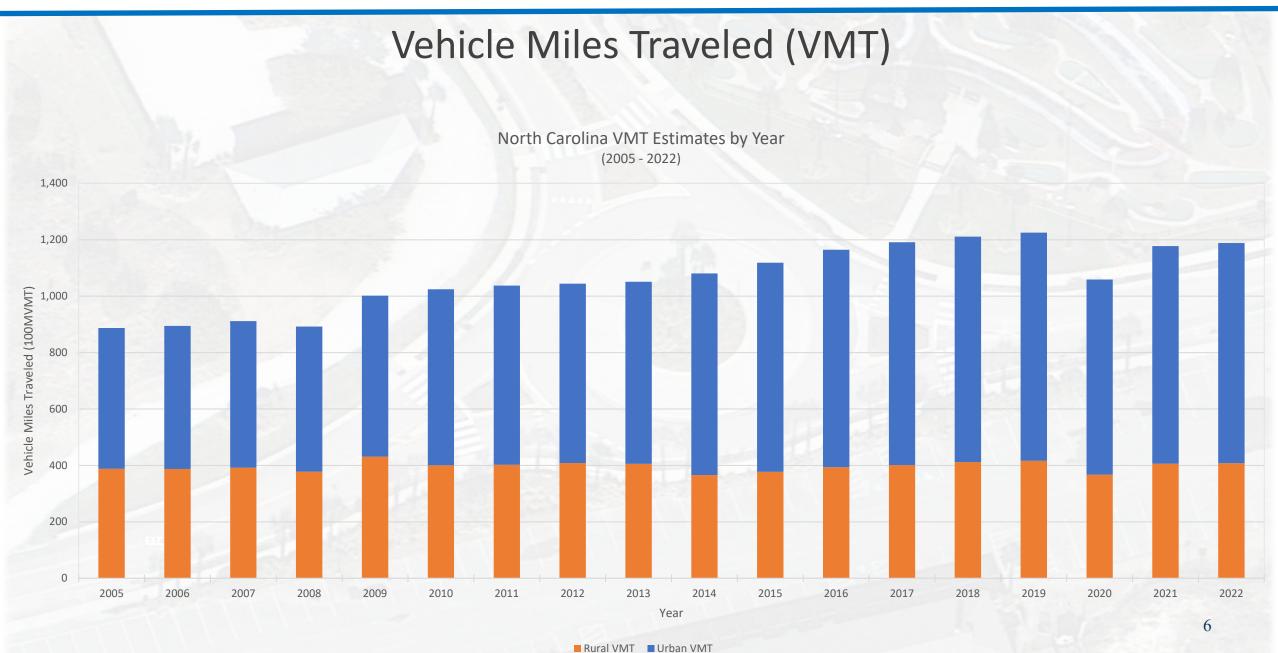


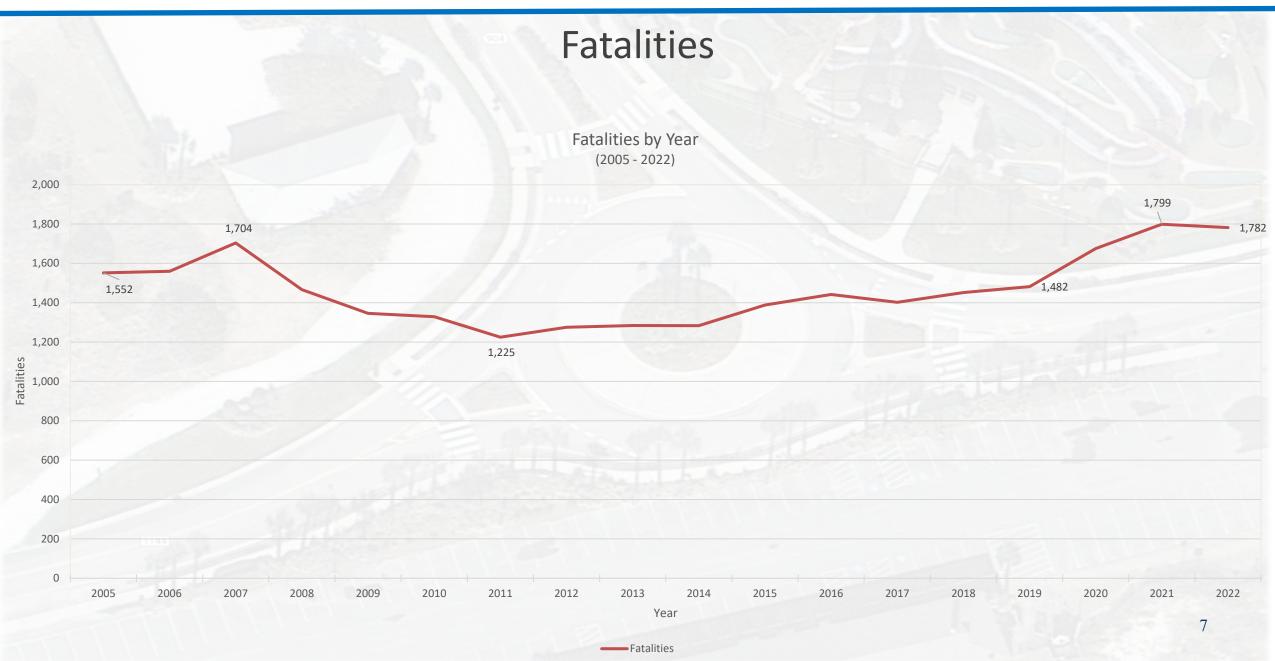
SHSP Goal

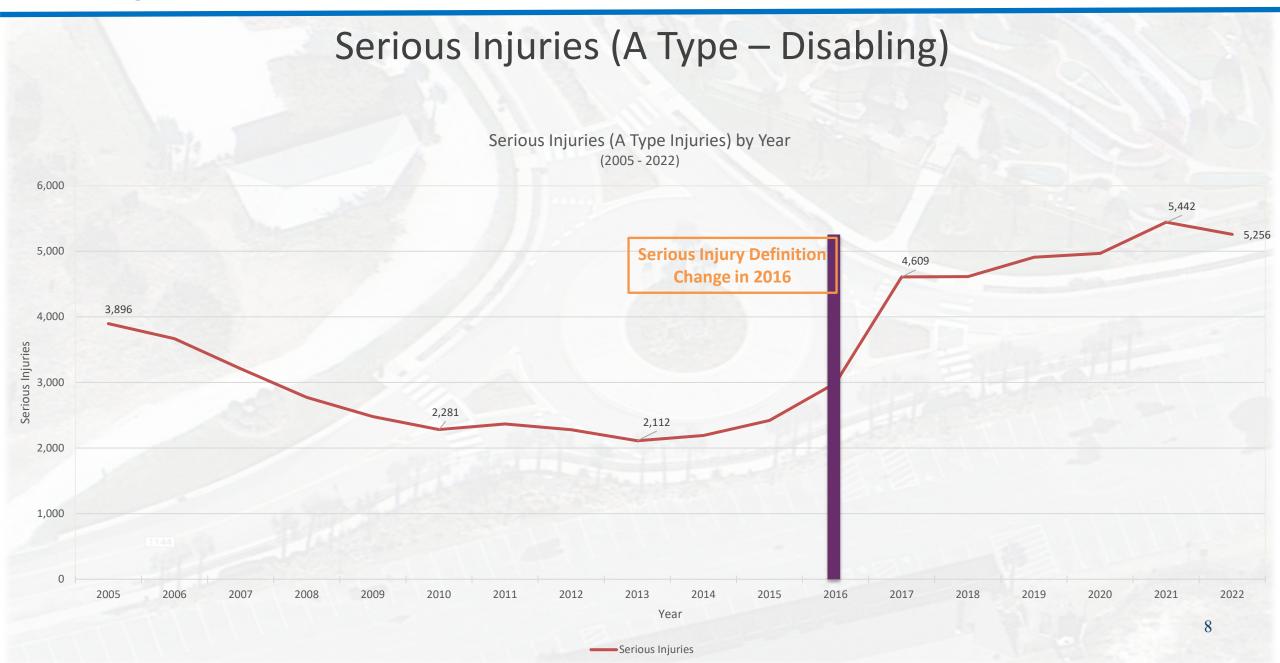
 Reduce <u>all</u> fatalities and serious injuries by half by 2035, moving towards zero by 2050.



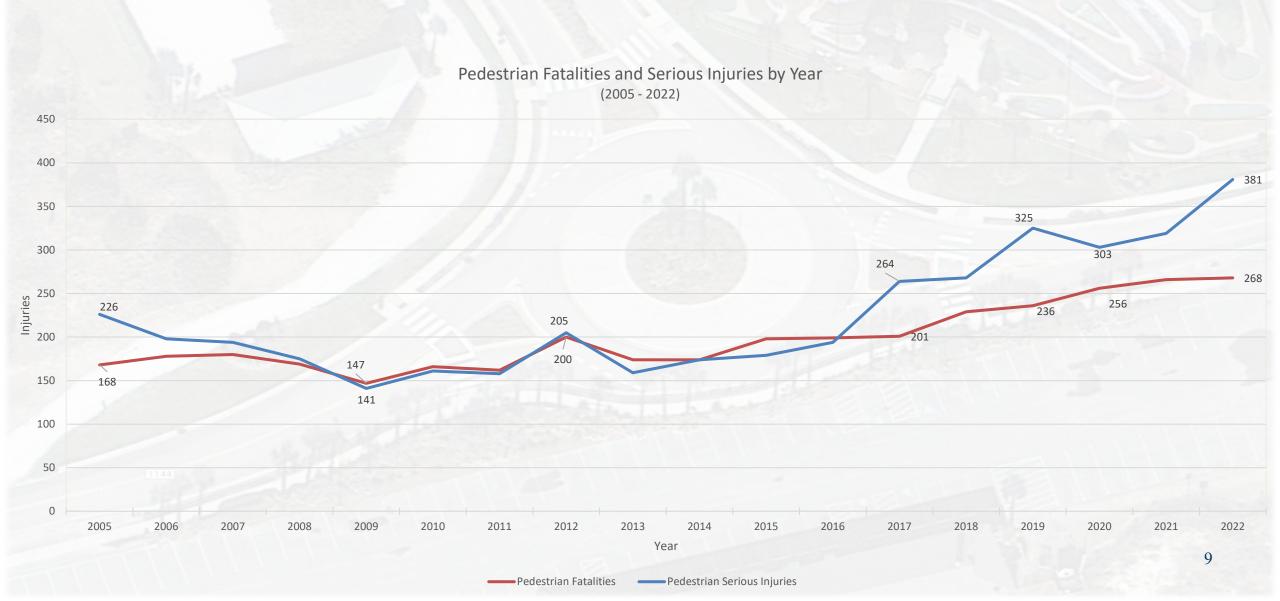


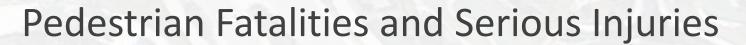


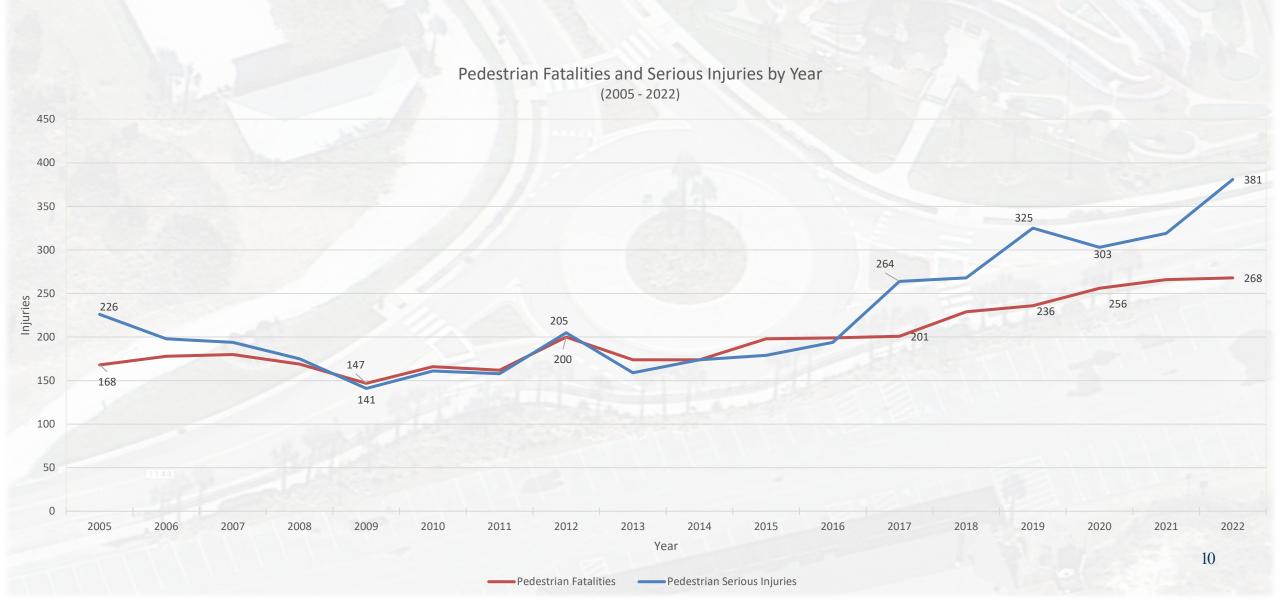


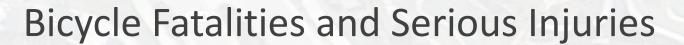


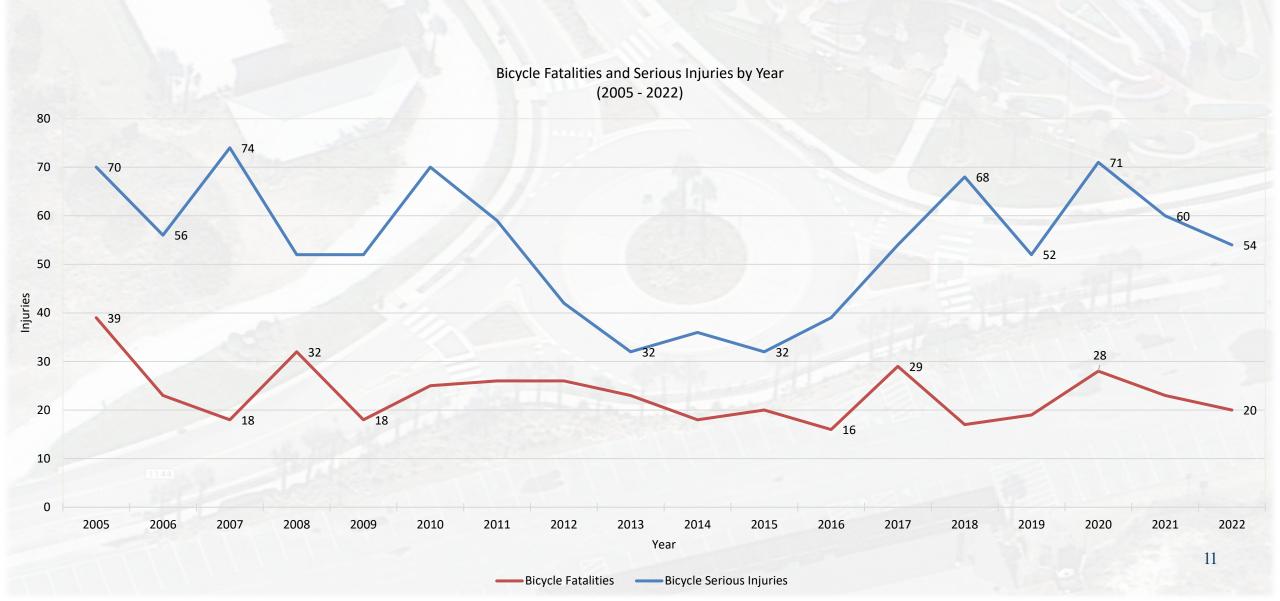


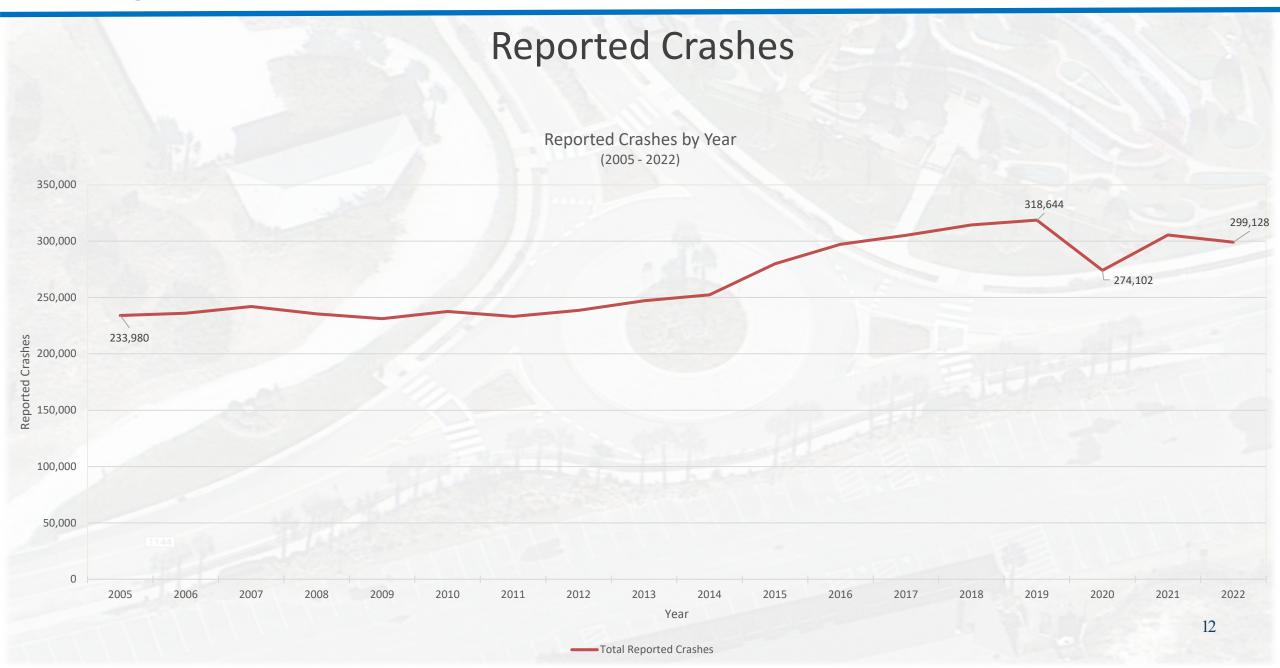




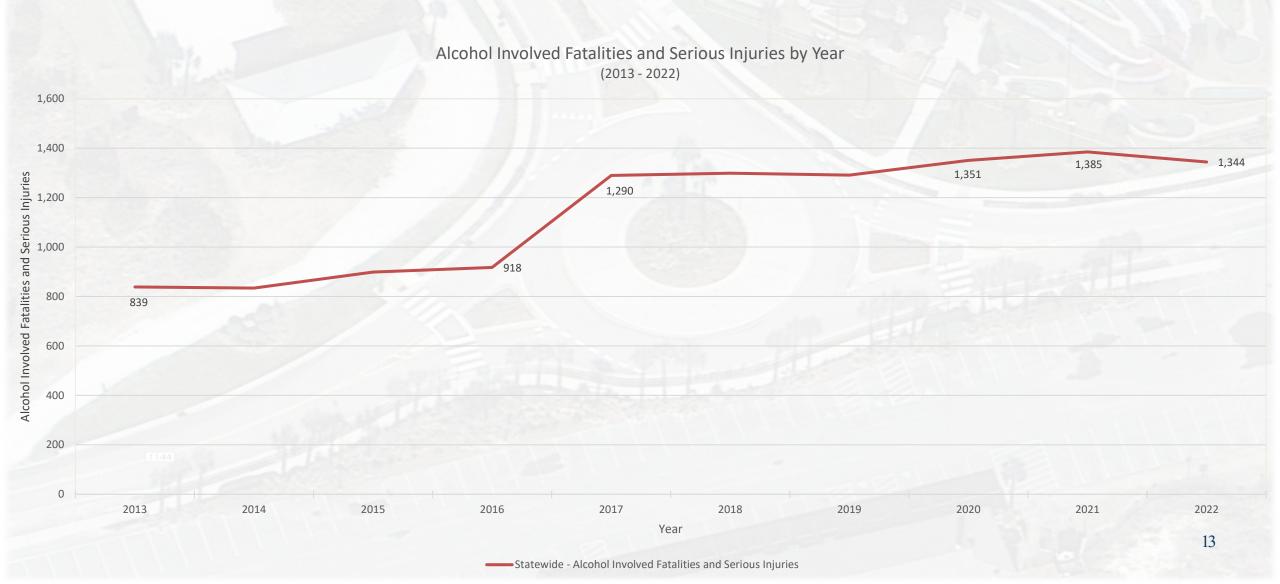




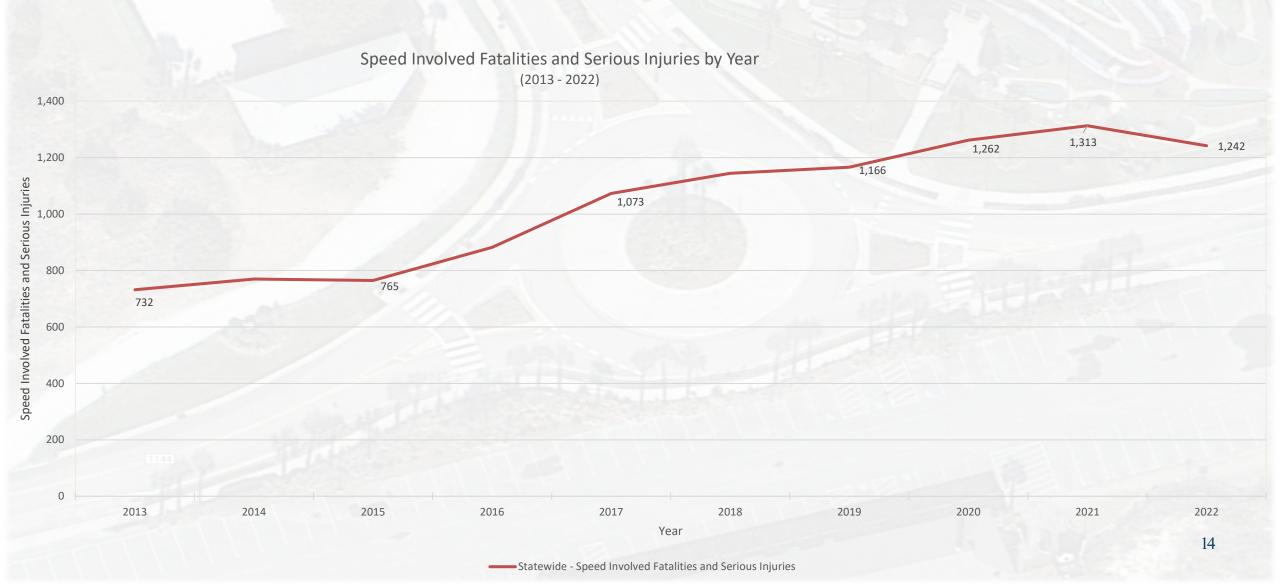


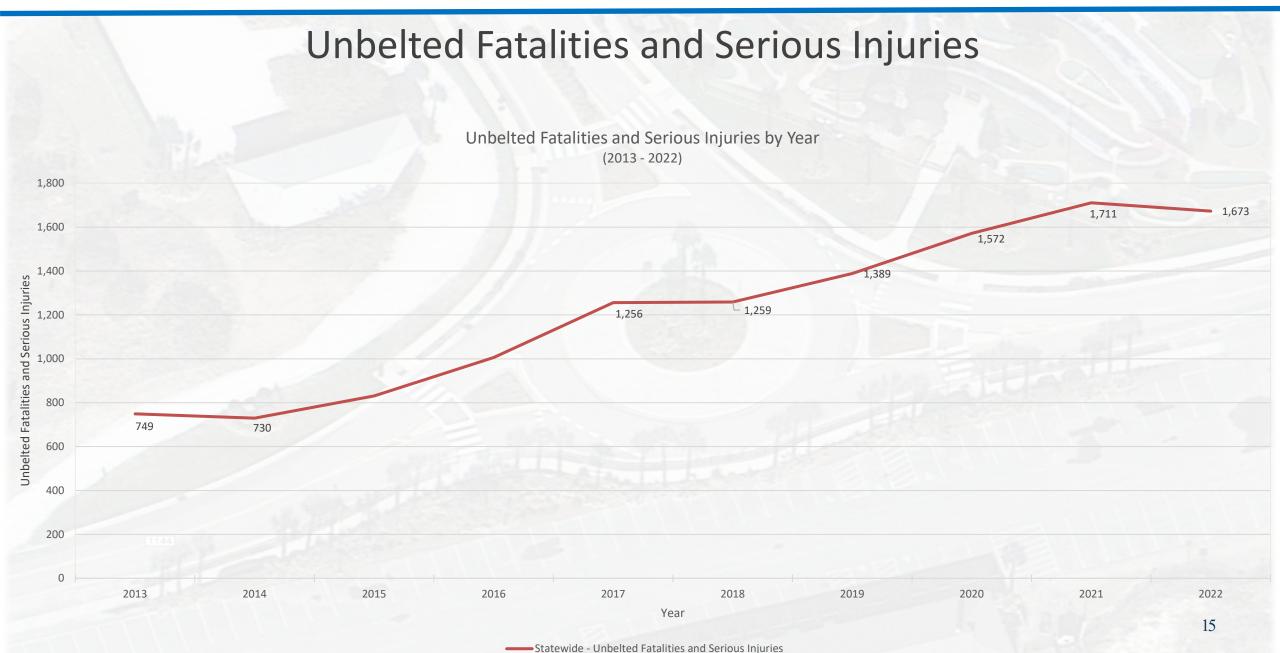












Rural / Urban Data Trends

- Fatalities
- Serious Injuries
- Pedestrian Fatal and Serious Injuries
- Bicycle Fatal and Serious Injuries
- Total Reported Crashes

1

Statewide Data Trends

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Rural / Urban Data Trends 3

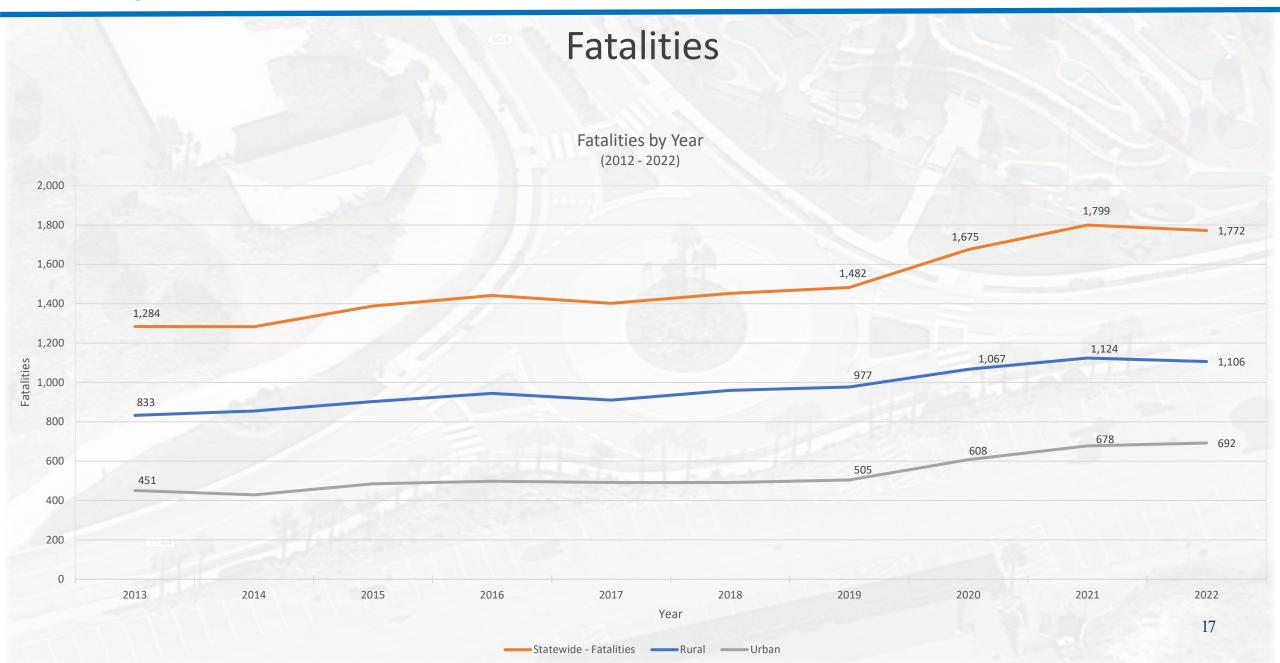
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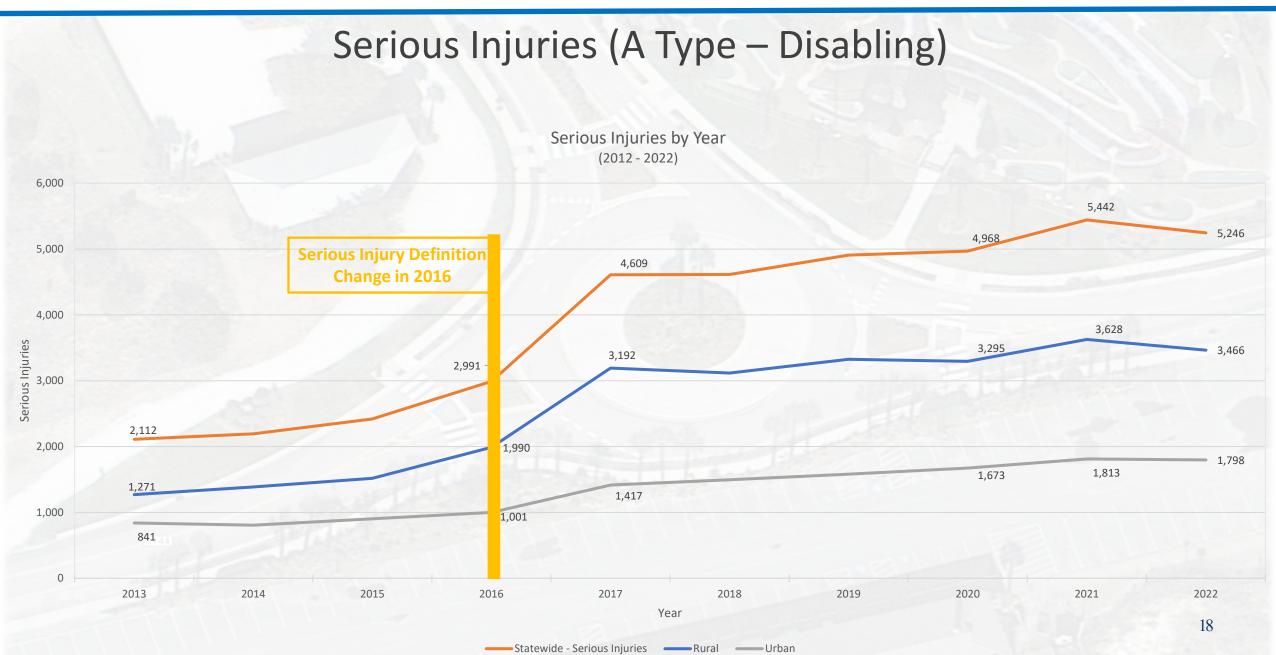
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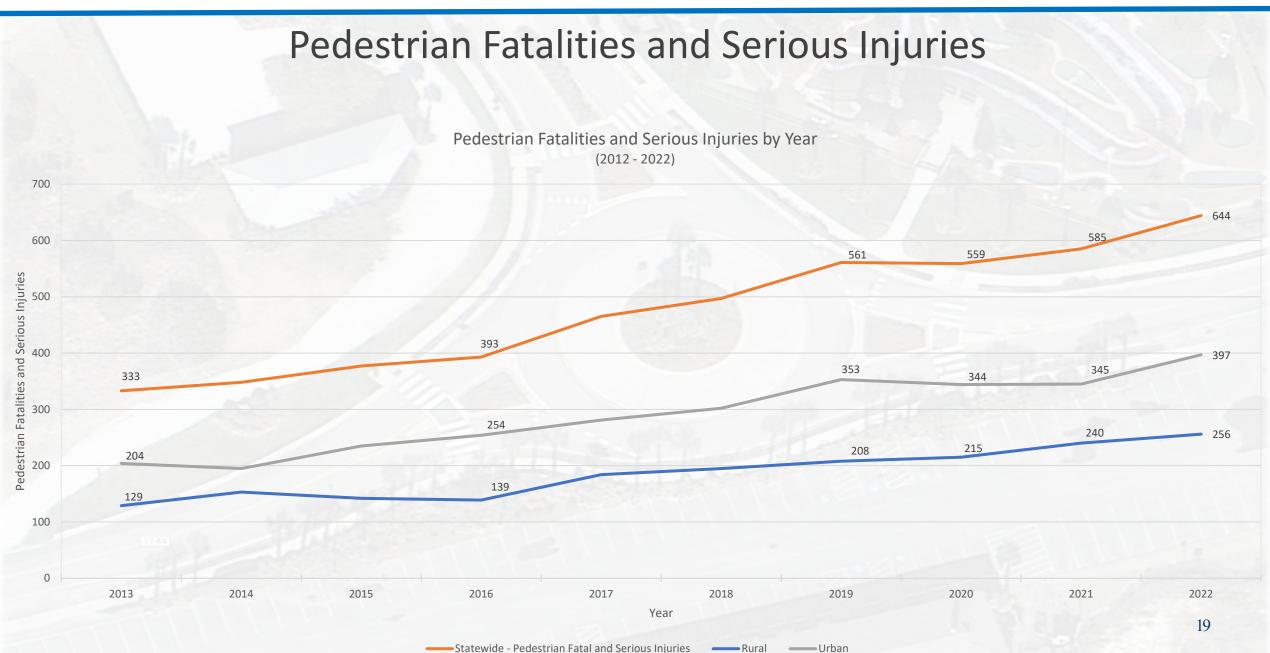
Safety Data Resources 5

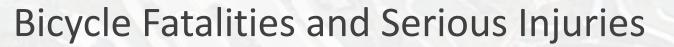
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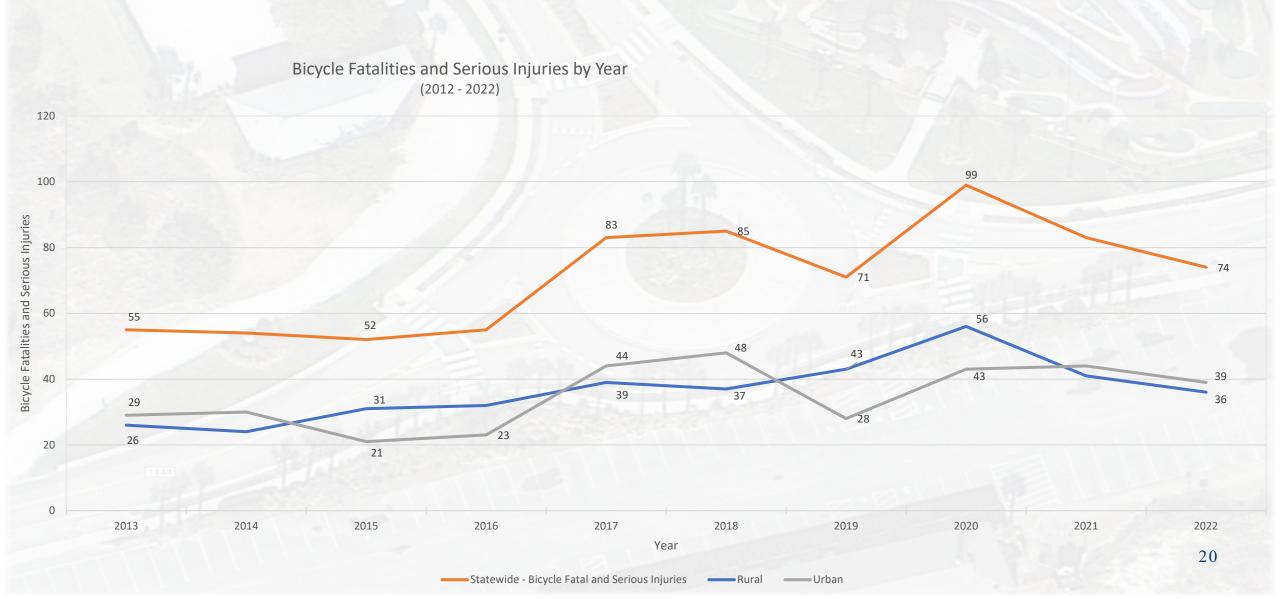
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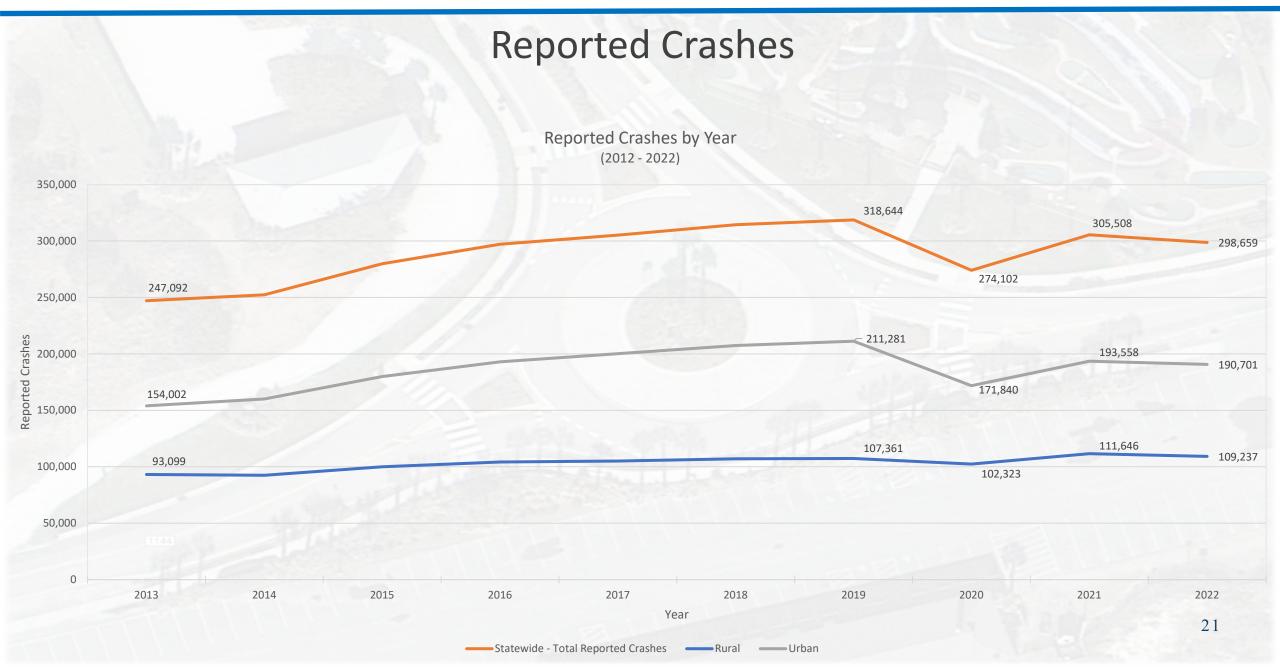




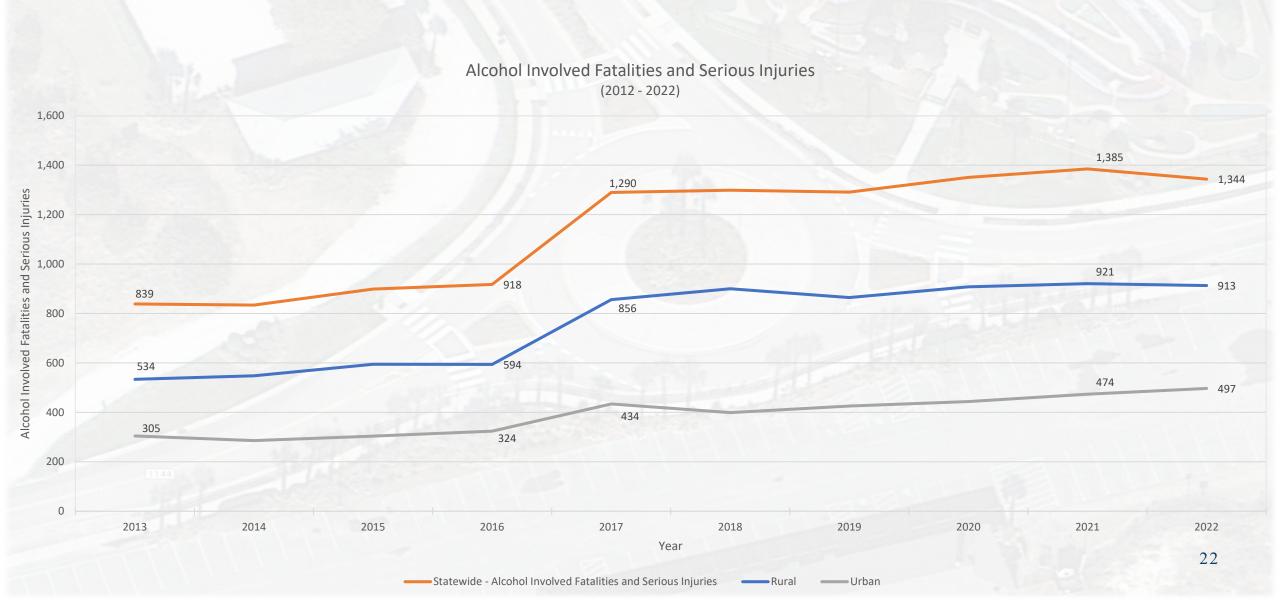




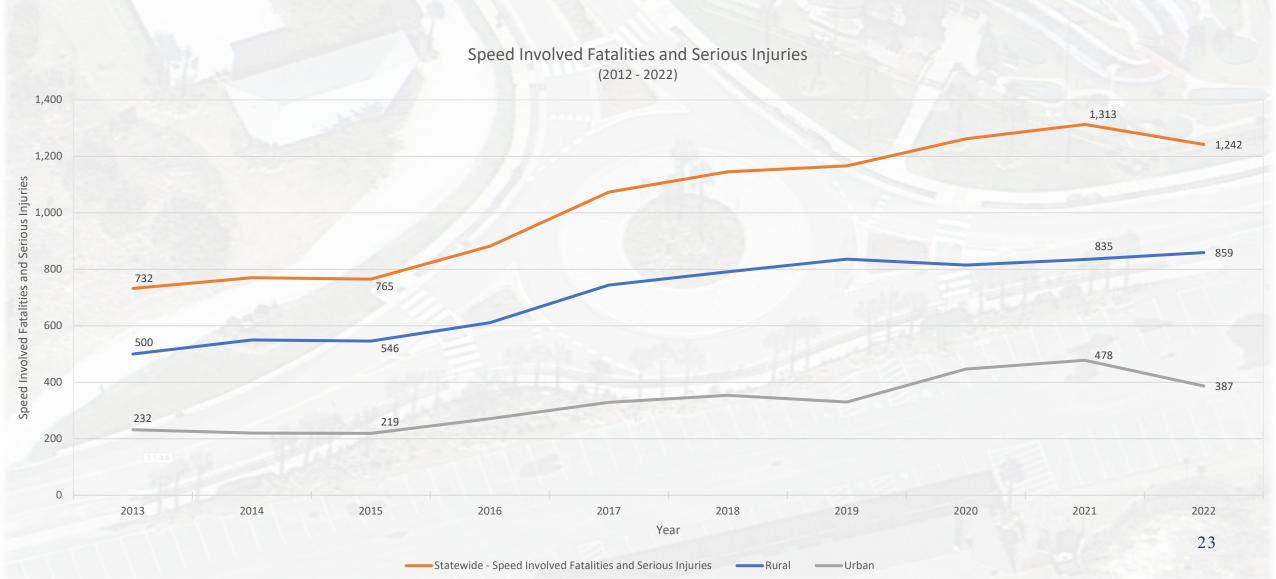


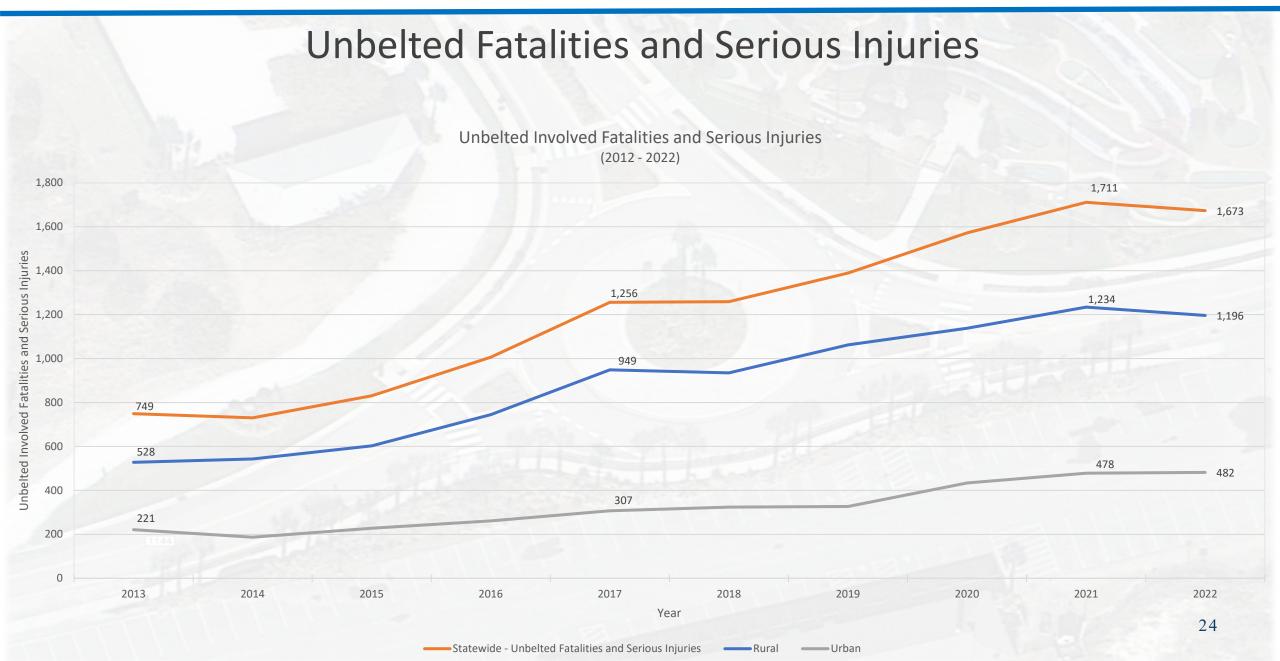












High Level Overview of Safety Programs

- Safety Funding
- Safety Projects

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Statewide Data Trends 2

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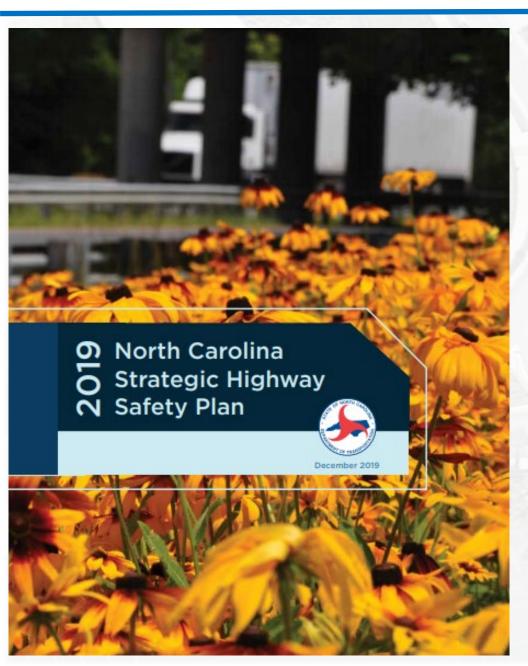
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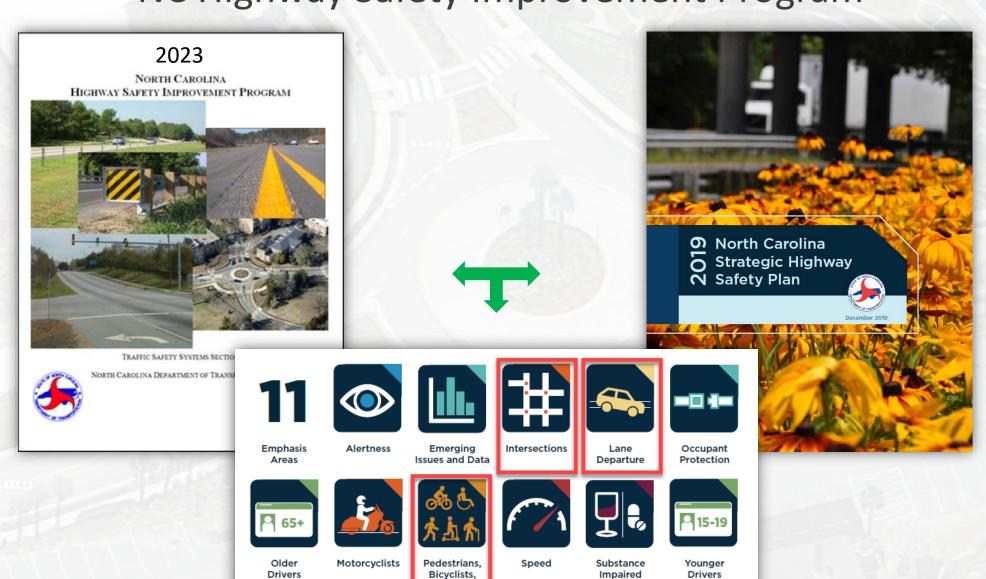


SHSP Goal

• Reduce <u>all</u> fatalities and serious injuries by half by 2035, moving towards zero by 2050.



NC Highway Safety Improvement Program



and Personal

Mobility

Driving

NC Highway Safety Improvement Program

Fatality and Serious Injury share by SHSP emphasis areas

Roadway Departure **55%**

Intersection 31%

Pedestrian & Bike
18%

Time to Next Fatality or Serious Injury

1144

Roadway Departure

2.6 Hours

Intersection
4.0 Hours

Pedestrian & Bike

13.4 Hours

Safety Funding Sources

HSIP (Highway Safety Improvement Program)	Spot Safety
\$79M Per Year	\$12.1M Per Year
Federal Funds	State Funds
Soft cap of \$1M per project (>\$1M requires advance approval from State Traffic Engineer)	\$400K cap per project
B/C based prioritization and systemic investments	Prioritization is based on the Spot Safety Index
Selected bi-annually	Selected quarterly

Safety Program Funding Targets

Roadway Departure **50%**

Intersection 35%

Pedestrian & Bike 15%

- Correlates with approximate share of fatal and serious injures by SHSP emphasis area
- Emphasis area goals are soft targets with flexibility
- Projects will be considered within context of Emphasis areas
 - Road Departure, Intersection, and Pedestrian & Bike

Vulnerable Road User (VRU) Safety Special Rule

Vulnerable Road User (VRU) Safety Special Rule

Statutory Reference

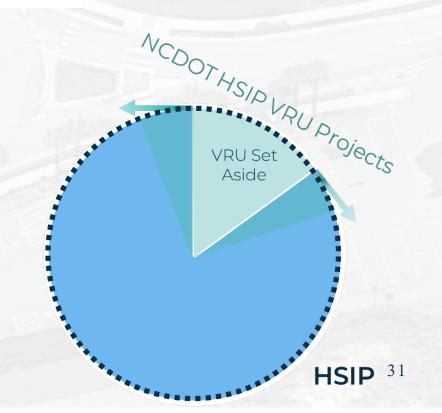
The new VRU Special Rule at 23 U.S.C. 148(g)(3) provides: "If the total annual fatalities of vulnerable road users in a State represents not less than 15 percent of the total annual crash fatalities in the State, that State shall be required to obligate not less than 15 percent of the amounts apportioned to the State under section 104(b)(3) for the following fiscal year for highway safety improvement projects to address the safety of vulnerable road users."

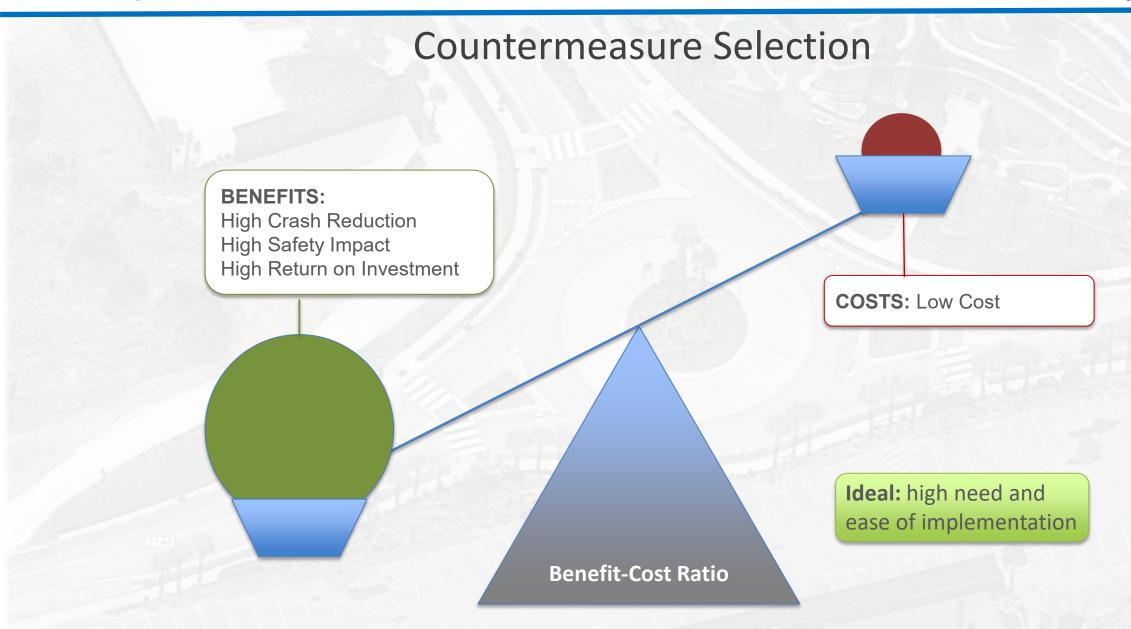
NC VRU Fatalities > 15% of Total Fatalities

VRU Special Rule Triggered

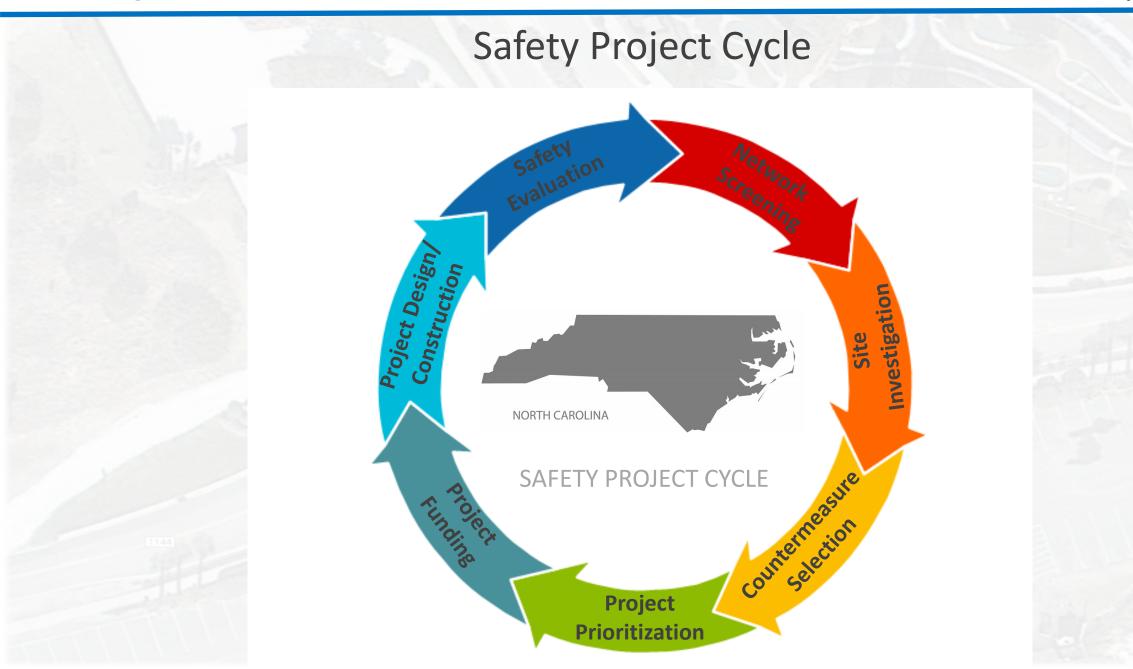
Key Points

- This is not new funding, but a set-aside of existing HSIP funds
- NCDOT HSIP funding model implemented before VRU special rule in line with this approach
- NCDOT approach may exceed this set-aside requirement
- This process is separate from SPOT and other FHWA funding programs
- HSIP projects are selected based on safety needs and a competitive selection





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Lane Departure Crash Strategies

Section Safety Countermeasures:

- Delineation
 - Pavement Markings
 - Chevrons
 - Advanced Warning
- Rumble Strips
 - Edgeline Stripe
 - Centerline Stripe
 - Shoulder Rumble Strip
- Speed 40,000 Miles of Statutory 55 MPH
- High and Low Shoulders
- Guardrail
- Super Elevation / Curve Realignments
- Widen / Paved Shoulders







Frontal Impact Crash Strategies

Intersection Safety Countermeasures:

- All Way Stop
- Reduced Conflict
- Roundabout
- Medians
- Signal
- Signal Updates
- Sight Distance Improvements







Pedestrian and Bicycle Crash Strategies

Pedestrian and Bike Safety Countermeasures:

- VISIBILITY
 - Signs
 - Markings
 - Lighting
 - Flashing beacons









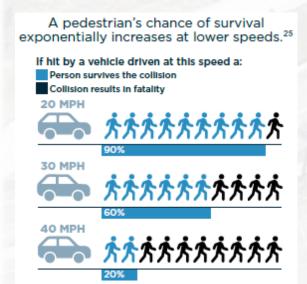
Pedestrian and Bicycle Crash Strategies

Pedestrian and Bike Safety Countermeasures:

PROTECTION

- Active control
- Signals
- Hybrid Beacons
- Speed management









Pedestrian and Bicycle Crash Strategies

Pedestrian and Bike Safety Countermeasures:

- CONTROL
 - Refuge islands
 - Marked crosswalks
 - Lead pedestrian interval at signals
 - Separate facilities, sidewalks, bridges, etc.







Safety Data Resources

- Safety Project Mapping
- Bicycle and Pedestrian Crash Data Dashboard

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ncdot.gov Resources

Resources

North Carolina Strategic Highway Safety Plan

•https://spatial.vhb.com/ncdotshsp/

General Safety Data Mapping Site / Dashboards

•Link to general safety data mapping site. Includes links to dashboards for total crashes, pedestrian and bicycle crashes, and MPO safety performance measures: https://www.ncdot.gov/initiatives-policies/safety/traffic-safety/Pages/safety-data-maps.aspx

Highway Safety Improvement Program (HSIP)

- *Our HSIP program is our primary method of identifying locations that are likely to produce a safety project. Locations are flagged if they exceed certain criteria and have patterns that we believe are correctable.
- *Link to webpage with description of program and tabular reports: https://connect.ncdot.gov/resources/safety/pages/nc-highway-safety-program-and-projects.aspx
- •Link to mapped HSIP locations for the last 5 years: http://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=bb6dd277ce6247438fc096200141949a

Total Crash Frequency Grouped By Intersection

- •This product contains planning level crash data grouped by intersection. This data should not be used for detailed design decisions.
 - Special consideration should be given to data at ramps or loop locations.
- •Link to ArcGIS Online mapped data: http://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=dc944f1c834f49a18479c17df1f783b9

Planning Level Safety Scoring Data

- •This product contains planning level crash data for each half mile section of roadway. This data should not be used for detailed design decisions. This is the dataset that is used to score projects from a safety perspective as they go through the STI process.
- •Link to ArcGIS Online mapped data: http://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=7415a4df4df1468585225bc74a77369b

Fatal and Serious Injury Crashes

- •This product contains fatal and severe injury crashes mapped for the last 10 years.
- •Link to ArcGIS Online mapped data: http://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=9a25021dbe91427a92f2eca57bd71ee2

Bicycle and Pedestrian Crash Data

- •This product contains bicycle and pedestrians crashes mapped back to 2007. Link to ArcGIS Online mapped data: https://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=b4fcdc266d054a1ca075b60715f88aef
- •Link to pedestrian and bicycle dashboard information: https://ncdot.maps.arcgis.com/apps/dashboards/78046d11cabd4658a4d45b88c52ab8af

Safety Project Mapping

- •This product displays completed, funded, and on-hold safety projects since 2019, and is updated quarterly.
- *Link to mapped safety project locations: https://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=3f8b32844ad04673b391033a86496852

Spot Mobility Project Mapping

- •This product displays completed, funded, and on-hold spot mobility projects since 2019, and is updated quarterly.
- •Link to mapped safety project locations: https://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=af5150835edb4502a26762e966cb5dfa

W-5805C|05-18-52595|1

1820 (Lead Mine Road) at

ramps, remark crosswalks with Hi-Viz and revise stop

SR 1827 (Lynn Road).

Project Construct pedestrian
Description refuge islands, revise curb

In Design 85,000

Intersection

W Millbrook Rd

Number

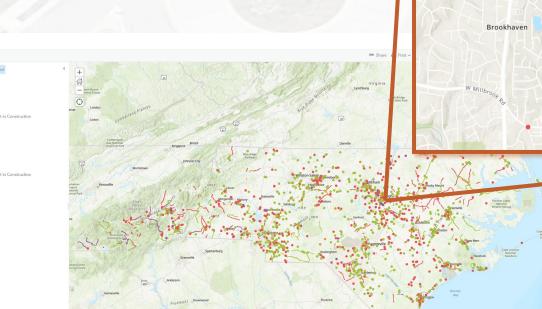
Safety Project Mapping

Safety Project Mapping

- Projects completed since 2019 are mapped
- All funded, but not completed projects are mapped
- Some systemic or area-wide projects are not mapped
 - e.g. regional guardrail projects, systemic signing projects

Home - Safety Projects

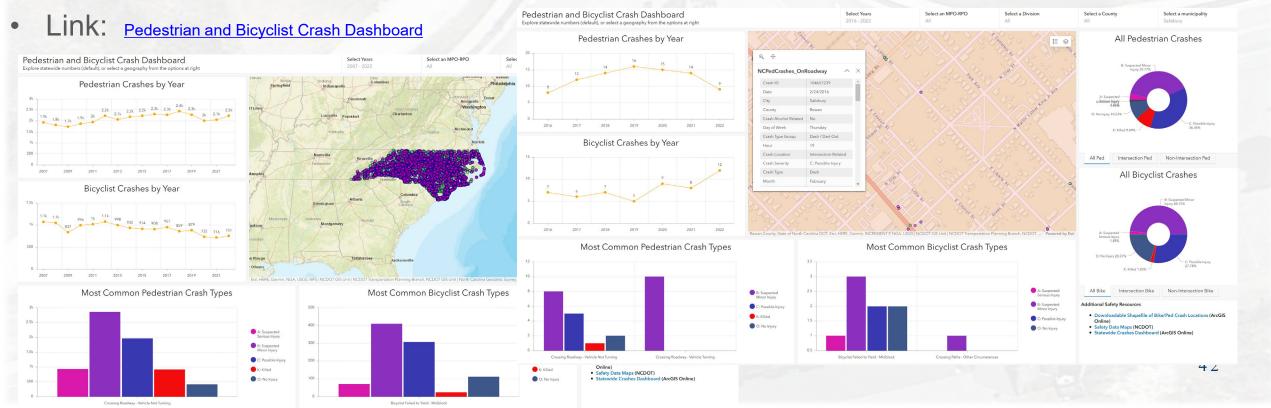
• Link: Safety Project Mapping



Bicycle and Pedestrian Crash Data Dashboard

Bicycle and Pedestrian Crash Data Dashboard

- All bicycle and pedestrian crashes geolocated and crash typed since 2007
- Query by boundary, get information on individual crashes



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Thank you!

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