

Rt. 1 Occupant Protection Analysis



Emphasis in Baltimore and
Harford Counties

**Sent to: Maryland Highway
Safety Office**

Washington College GIS Program
210 South Cross St., Suite 101
Chestertown, MD 21620
(410) 810-5034
wc_mhso@washcoll.edu

LIST OF PRODUCTS



2016 - 2020 Unrestrained Occupant Crashes (Map)



2017 - 2021 Unrestrained Occupant Stops (Map)



2017 - 2021 Unrestrained Occupant Stops by Home Address (Map)



Rt. 1 Seatbelt Observation Site Crashes (Map)



Rt. 1 Seatbelt Observation Site Stops (Map)

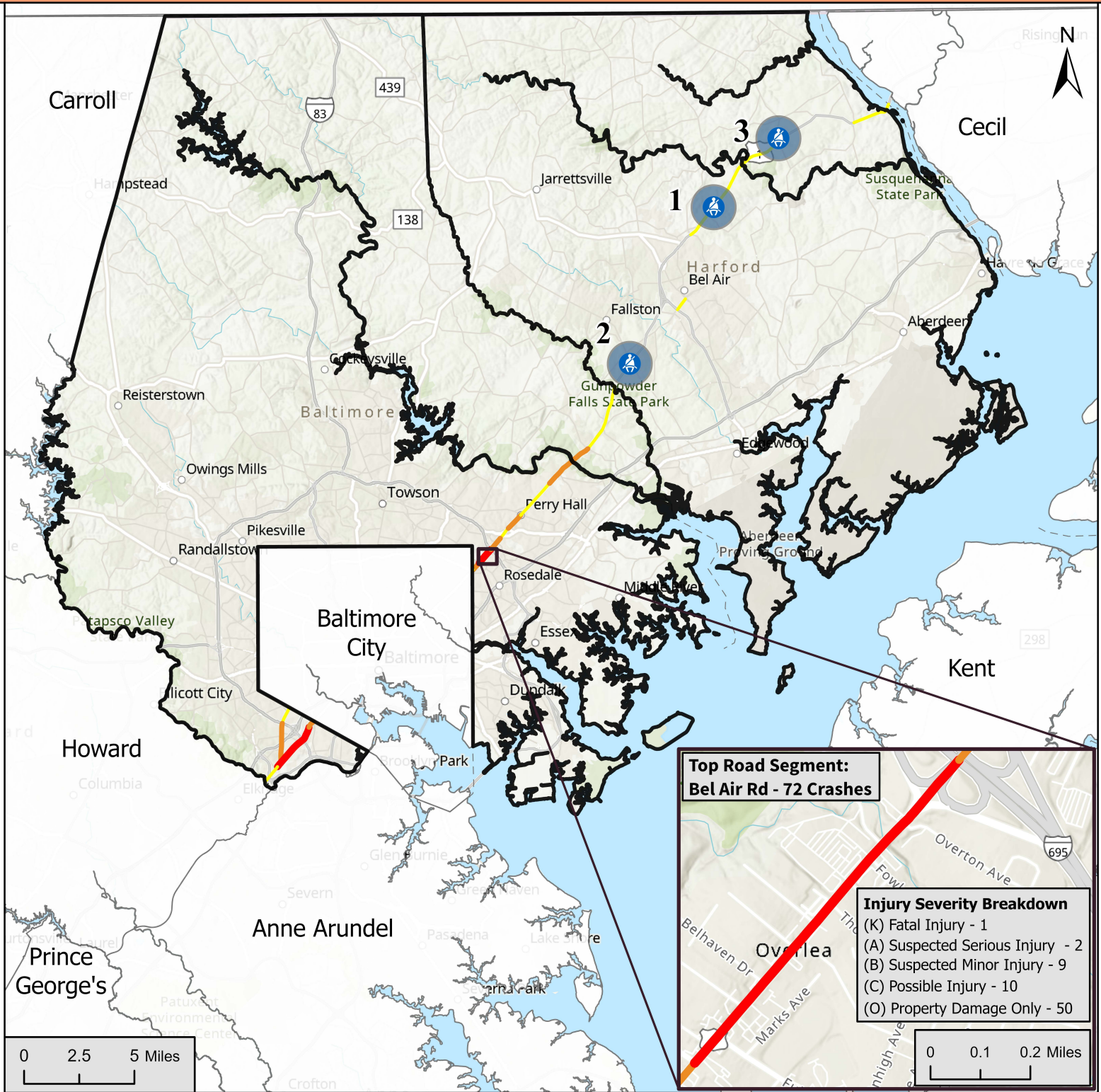


Unrestrained Occupant Crash and Stop Infographic



Appendix

Rt. 1 Unrestrained Occupant Crashes 2016 to 2020 Baltimore and Harford



Seatbelt Observation Sites 2021

Unrestrained Occupant Crashes 2016 to 2020 by One Mile Road Segments

- Low: 8 - 22
- Medium: 23 - 42
- High: 43 - 72

- Area within 1 Mile of Seatbelt Observation Sites
- County Boundaries
- Baltimore and Harford Counties

Injury Severity Breakdown

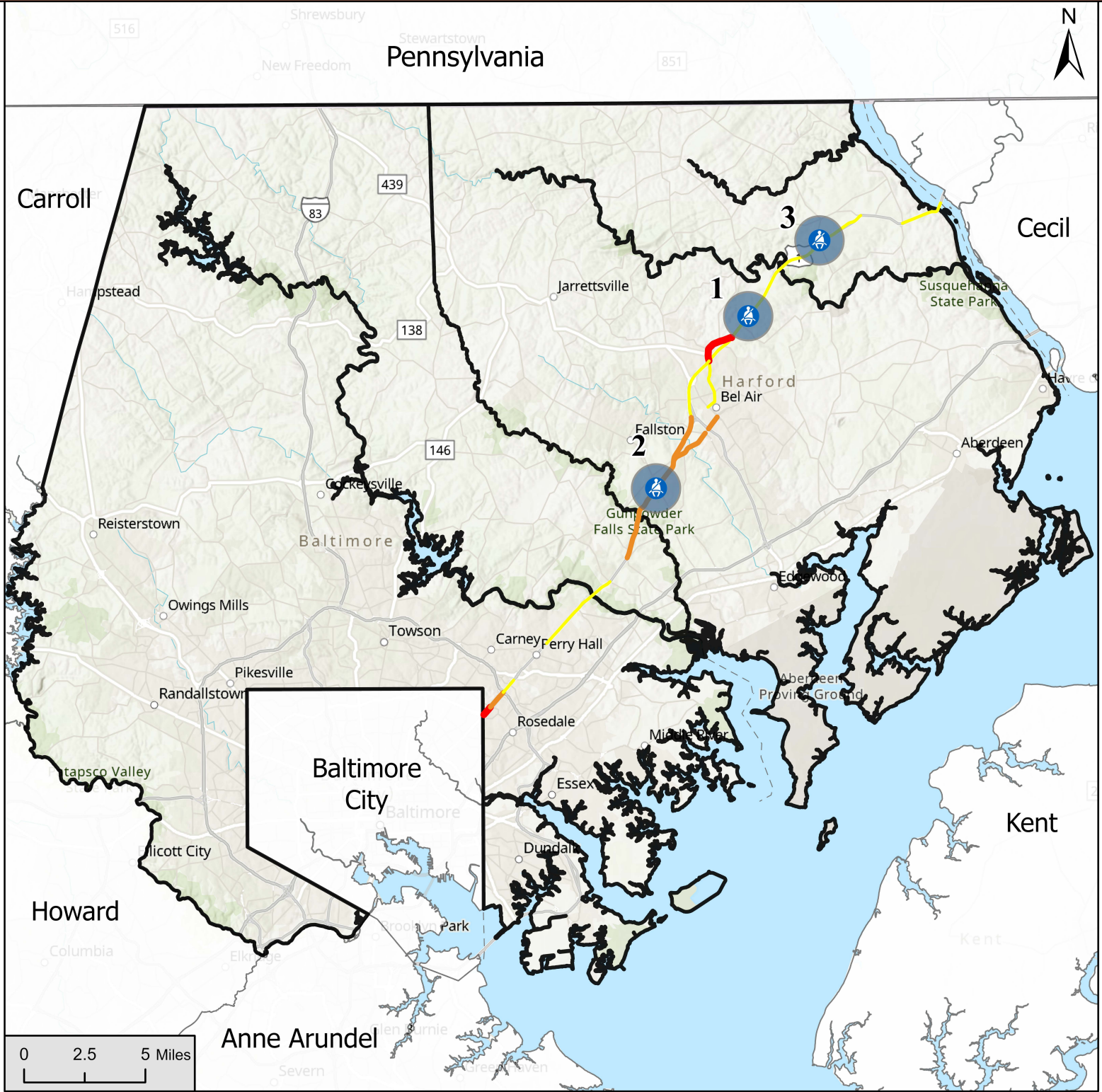
- (K) Fatal Injury - 5
- (A) Suspected Serious Injury - 18
- (B) Suspected Minor Injury - 53
- (C) Possible Injury - 53
- (O) Property Damage Only - 427

556
Unrestrained
Occupant
Crashes

Sources: MDOT State Highway Administration, University of Maryland Baltimore National Study Center for Trauma and EMS, Washington College GIS Program
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Disclaimer: The crashes displayed on the map as well as any other information is limited in its scope and purpose. It was compiled and collected for the purpose of identifying, evaluating, and planning safety enhancements, utilizing, Federal-aid highway funds pursuant to sections 130, 144 and/or 148 of Title 23 of the United States Code.

Rt. 1 Unrestrained Occupant Stops 2017 to 2021

Baltimore and Harford



Seatbelt Observation Sites 2021

Unrestrained Occupant Stops 2017 to 2021 by One Mile Road Segments

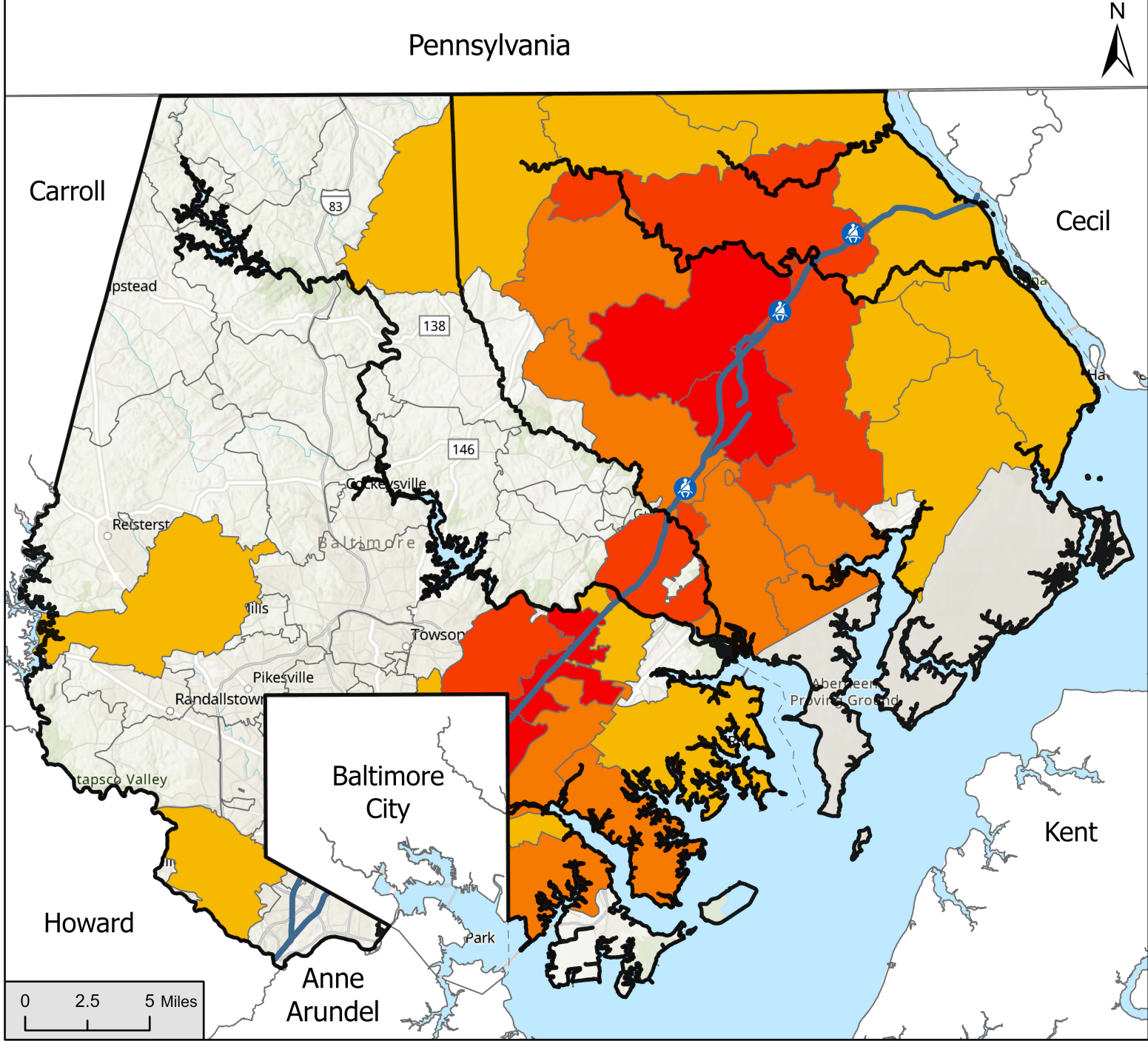
- Low: 18 - 40
- Medium: 41 - 65
- High: 66 - 186

- Area within 1 Mile of Seatbelt Observation Sites
- County Boundaries
- Baltimore and Harford Counties

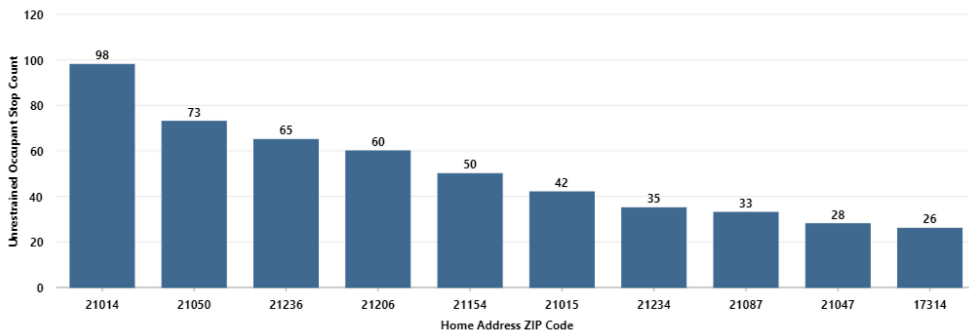
1,099
Unrestrained
Occupant
Stops

Sources: Maryland Judiciary Courts, University of Maryland Baltimore National Study Center for Trauma and EMS, Washington College GIS Program
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Rt. 1 Unrestrained Occupant Stops by Home Address ZIP Code 2017 to 2021 Baltimore and Harford



Unrestrained Occupant Stop Counts by Top 10 Home Address ZIP Codes 2017 to 2021

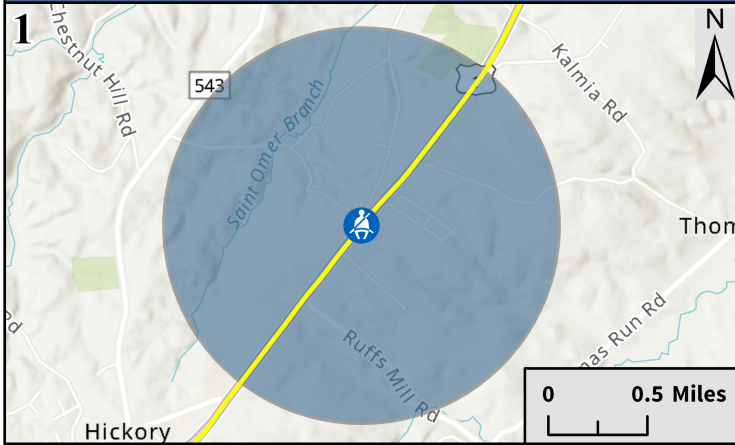


- Seatbelt Observation Sites 2021
- Rt. 1 Road Segment
- Stop Count by Home ZIP Code**
- 1 to 5
- 6 to 15
- 16 to 28
- 29 to 50
- 51 to 98
- Baltimore and Harford Counties
- County Boundaries

Sources: Maryland Judiciary Courts, University of Maryland Baltimore National Study Center for Trauma and EMS, Washington College GIS Program
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Rt. 1 Unrestrained Occupant Crashes Within One Mile of Seatbelt Observation Sites Baltimore and Harford

Site A Set D on Conowingo Rd in Harford County

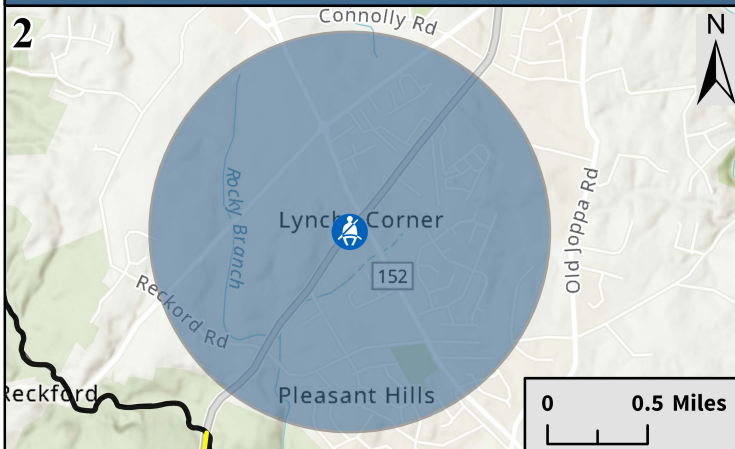


3 Unrestrained Occupant Crashes

2 Property Damage Crashes

1 Suspected Serious Injury Crash

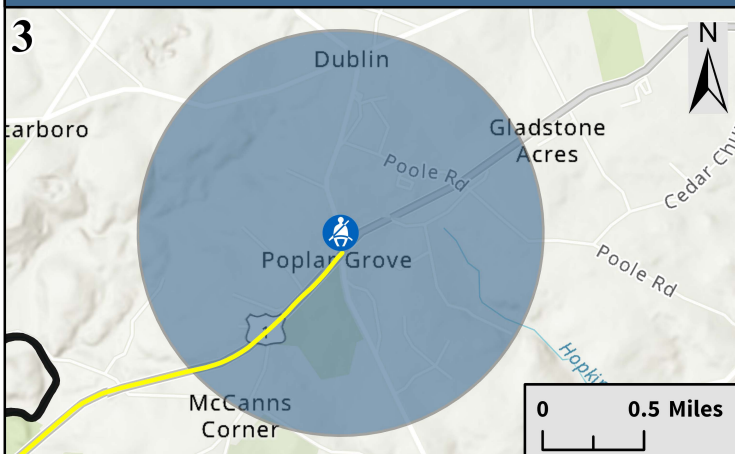
Site A Set E on Bel Air Rd in Harford County



5 Unrestrained Occupant Crashes

5 Property Damage Crashes

Site B Set A on Whiteford Rd in Harford County

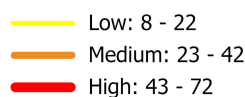


2 Unrestrained Occupant Crashes

1 Property Damage Crash

1 Fatal Crash

Unrestrained Occupant Crashes 2016 to 2020 by One Mile Road Segments



Seatbelt Observation Sites 2021



Area within 1 Mile of Seatbelt Observation Sites



Baltimore and Harford Counties

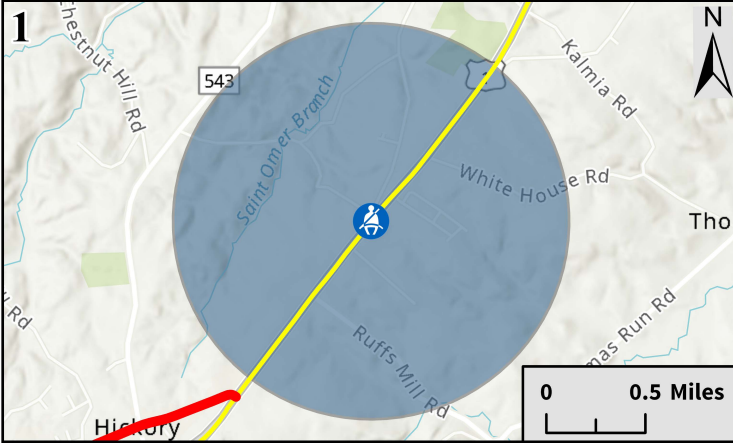
Sources: MDOT State Highway Administration, University of Maryland Baltimore National Study Center for Trauma and EMS, Washington College GIS Program

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Rt. 1 Unrestrained Occupant Stops Within One Mile of Seatbelt Observation Sites Baltimore and Harford

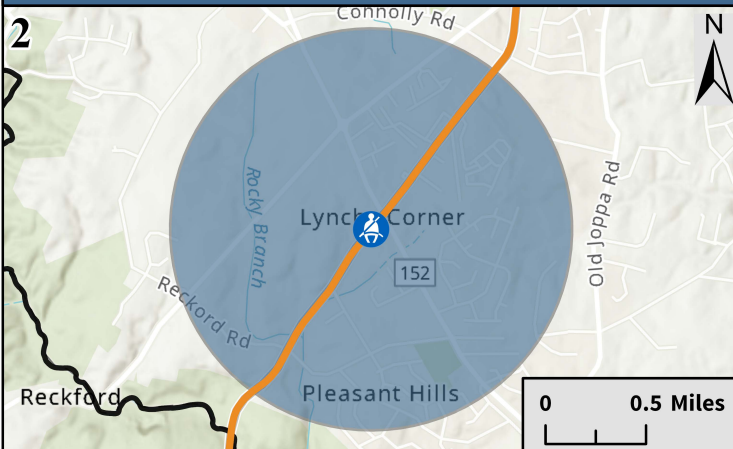
Site A Set D on Conowingo Rd in Harford County



7 Unrestrained Occupant Stops

0 Stops Involving a Passenger Under the Age of 8 Years Old

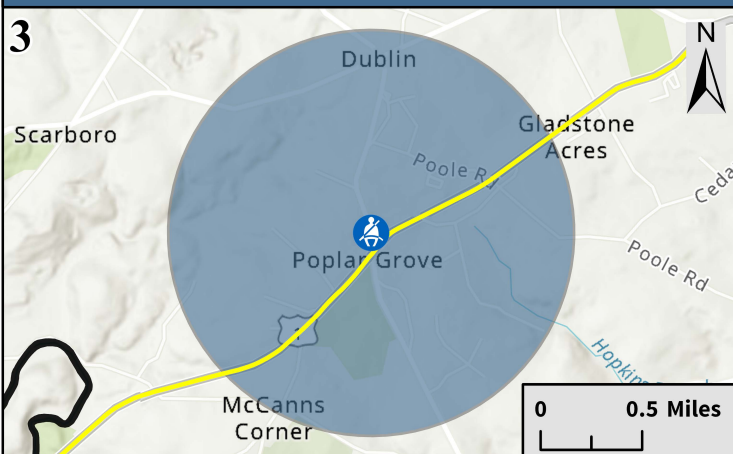
Site A Set E on Bel Air Rd in Harford County



61 Unrestrained Occupant Stops

3 Stops Involving a Passenger Under the Age of 8 Years Old

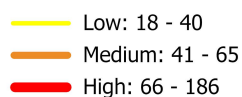
Site B Set A on Whiteford Rd in Harford County



38 Unrestrained Occupant Stops

0 Stops Involving a Passenger Under the Age of 8 Years Old

Unrestrained Occupant Stops 2017 to 2021 by One Mile Road Segments



Seatbelt Observation Sites 2021



Area within 1 Mile of Seatbelt Observation Sites



Baltimore and Harford Counties

Sources: Maryland Judiciary Courts, University of Maryland Baltimore National Study Center for Trauma and EMS, Washington College GIS Program
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Rt 1. Unrestrained Occupant Analysis Baltimore and Harford Crash and Stop Statistics

Crashes: 2016 to 2020 / Stops: 2017 to 2021

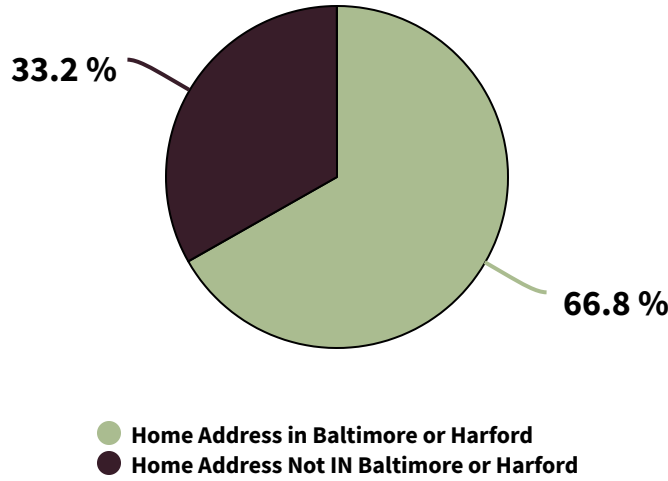
10

unrestrained occupant **crashes** occurred within one mile of a seatbelt observation site

106

unrestrained occupant **stops** occurred within one mile of a seatbelt observation site

Unrestrained Occupant Stops



64

unrestrained occupant **stops** involved a passenger under the age of 8 years old

Top Unrestrained Occupant Stop Home Address ZIP Codes

21014 - Bel Air - 98

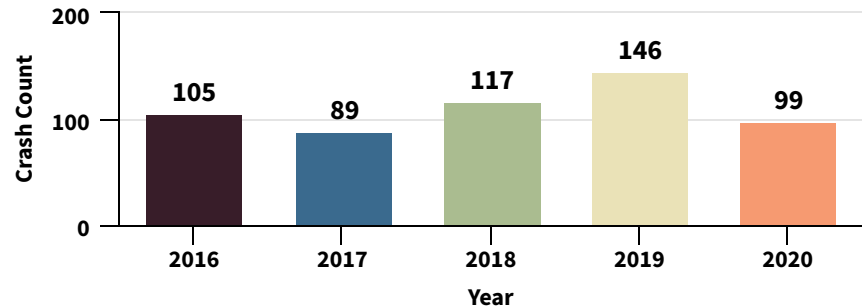
Unrestrained Occupant Stops

21154 - Street - 73 Unrestrained Occupant Stops

21047 - Fallston - 65

Unrestrained Occupant Stops

Unrestrained Occupant Crashes by Year



Average Distance between Seatbelt Observation Sites and Unrestrained Occupant Crashes within One Mile

Site	Site Set	Road Name	Unweighted % Belted	# of Crashes Within 1 Mile	Average Distance (Miles)
A	D	Conowingo Rd	95.0%	3	0.76
A	E	Bel Air Rd	95.5%	5	0.36
B	A	Whiteford Rd	90.1%	2	0.25

Average Distance between Seatbelt Observation Sites and Unrestrained Occupant Stops within One Mile

Site	Site Set	Road Name	Unweighted % Belted	# of Stops Within 1 Mile	Average Distance (Miles)
A	D	Conowingo Rd	95.0%	7	0.68
A	E	Bel Air Rd	95.5%	61	0.43
B	A	Whiteford Rd	90.1%	38	0.35

APPENDIX

Crash Queries:

Seatbelt_Code IN ('01', '12', '31', '88', '99') And (Body_Type_Vehicle_1 NOT IN ('01', '19') Or Body_Type_Vehicle_2 NOT IN ('01', '19'))

Stop Queries:

chargeCode IN ('TA 22-412.3(C2)', 'TA 22-412.3(B)', 'TA 22-412.2(D)', 'TA 22-412.2(E)', 'TA 22-412.2(G)', 'TA 22-412.3(C3)')

Charge Codes (Stops):

TA 22-412.2(D):

Failing to secure child under age of 8 in child safety seat when transporting in motor vehicle

Data:

Crash data was obtained directly from the Maryland Department of Transportation State Highway Administration (MDOT SHA). Stop data was obtained directly from the Maryland Judiciary Courts. The data that was used in this analysis consists of crashes reported between 2016 and 2020, and stops reported between 2017 and 2021.

Crash Segments:

The road segments were aggregated to include the crash counts by one mile segments and then symbolized with low, medium and high crash counts to display the areas in Baltimore and Harford counties that have a higher number of crashes.



APPENDIX

Seatbelt Observation Sites

Seatbelt Observation Sites for 2021 were obtained from the University of Maryland Baltimore National Study Center for Trauma and EMS.

Additional Notes

Sources: Maryland Department of Transportation State Highway Administration (MDOT SHA), Maryland Judiciary Courts, University of Maryland Baltimore National Study Center for Trauma and EMS, and Washington College GIS Program

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