

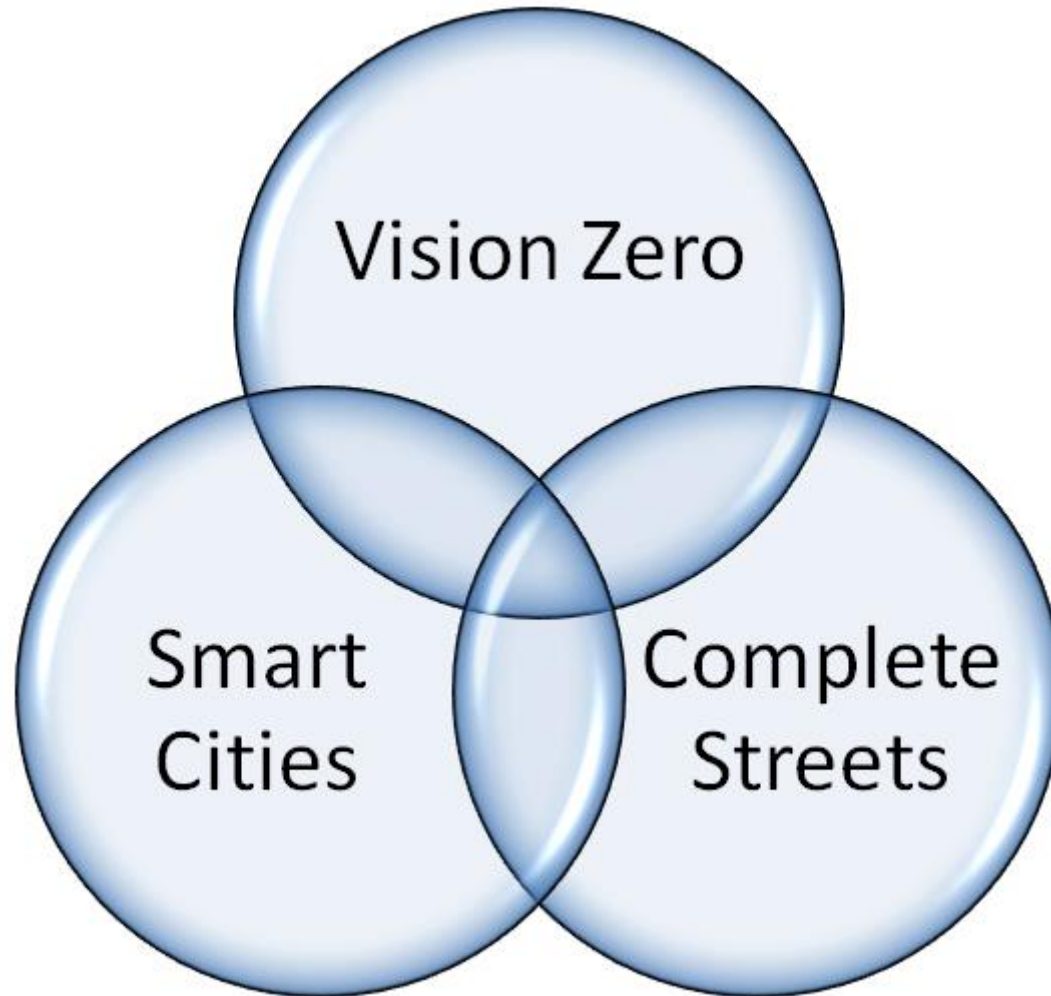


Vision Zero: Our Steps to Improve Public Health

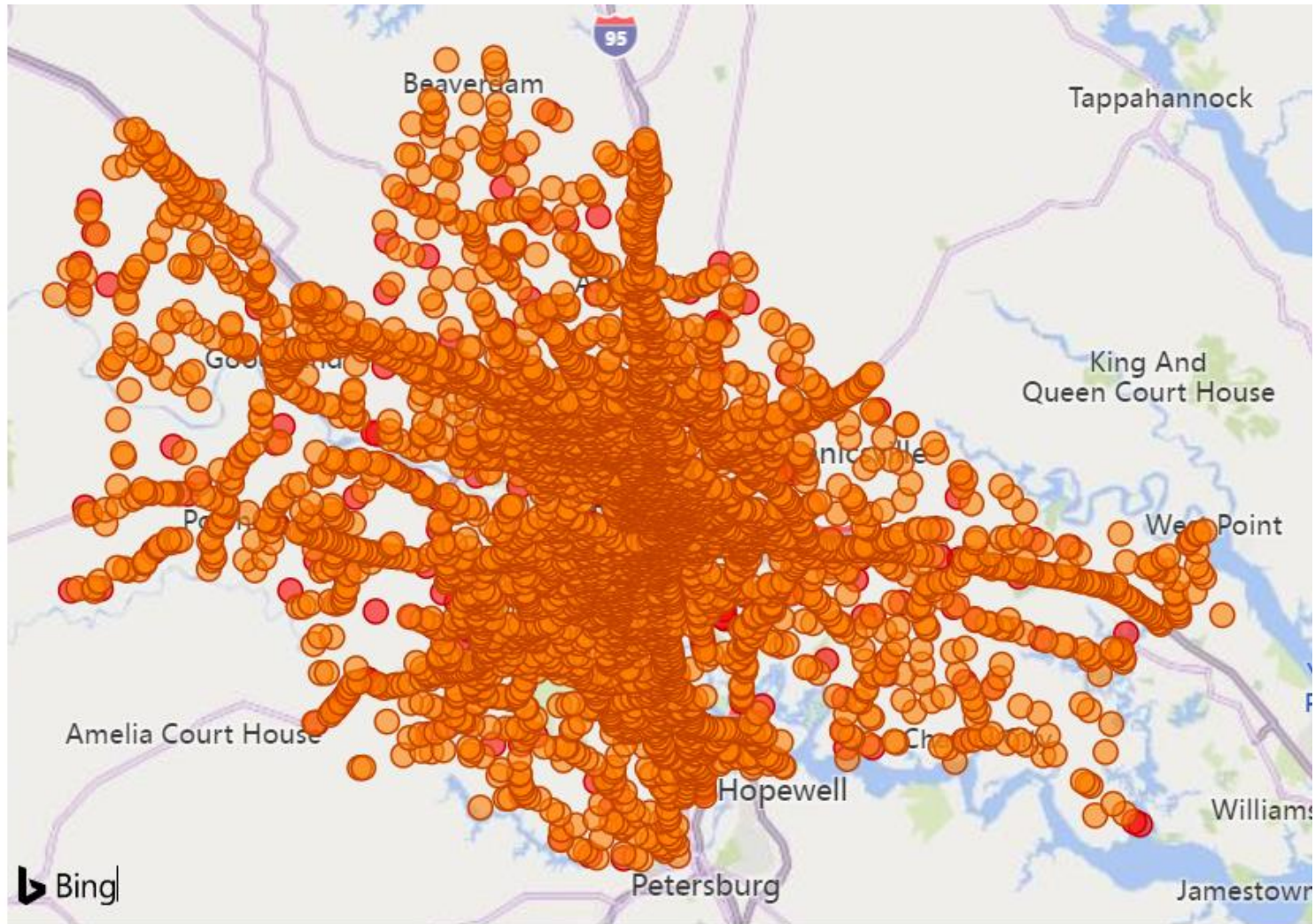
Michael B. Sawyer, PE
City Transportation Engineer
July 14, 2021



City's Transportation Emphasis



Why is Vision Zero important?

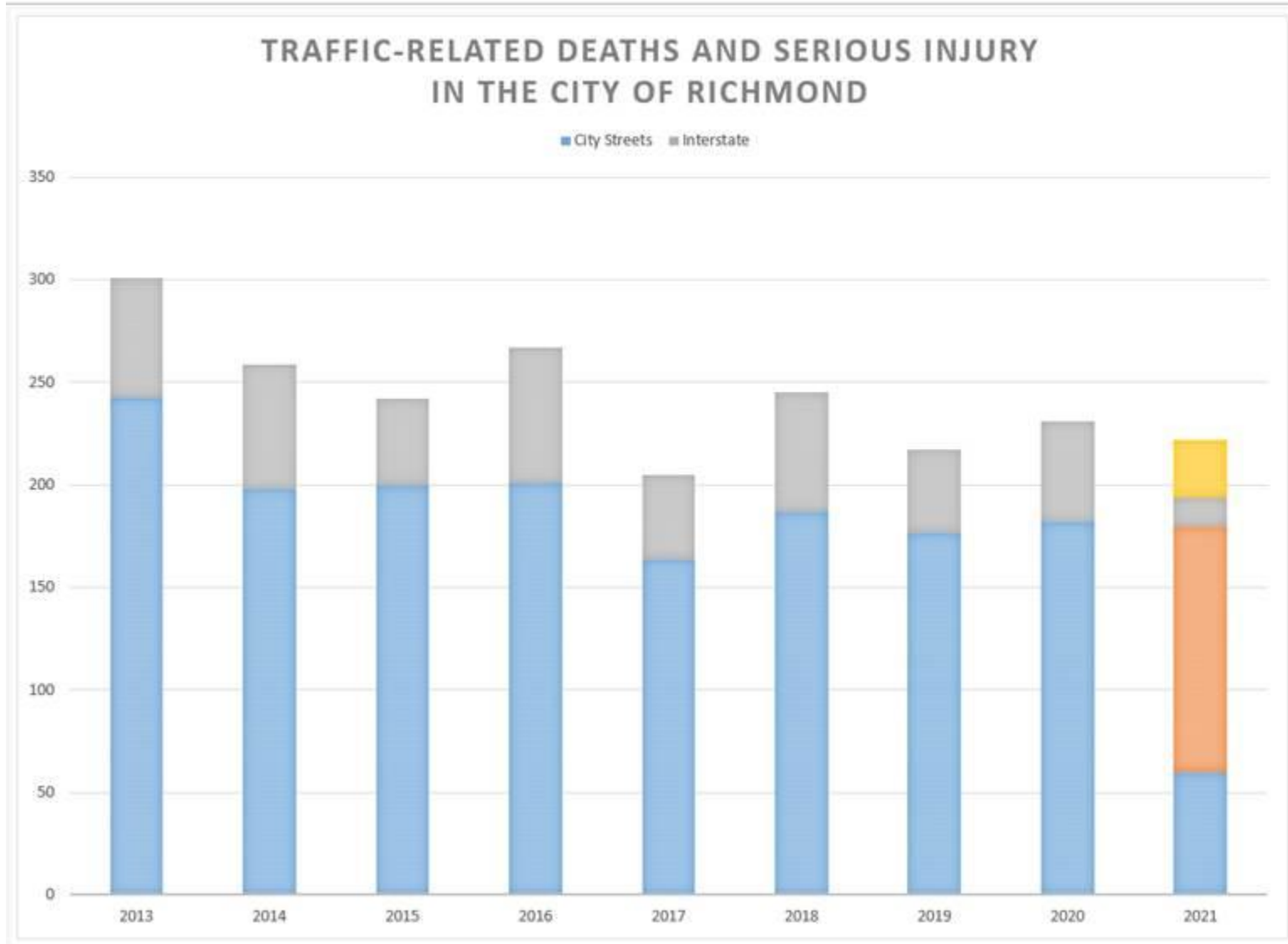


Crash Severity ● K. Fatal Crash ● A. Severe Injury

Since 2014...

- 6,066 Severe Crashes in the Region (139,812 total)
 - 690 people killed in traffic related deaths
 - 147 people were walking (1 in 5)
 - 6608 people suffer incapacitating injuries
 - 481 people were walking (1 in 13)
- **20 people per week** did not make it safely to their destination; instead they ended up in a morgue or in the hospital with life changing injuries.
 - One person every fourth day was walking

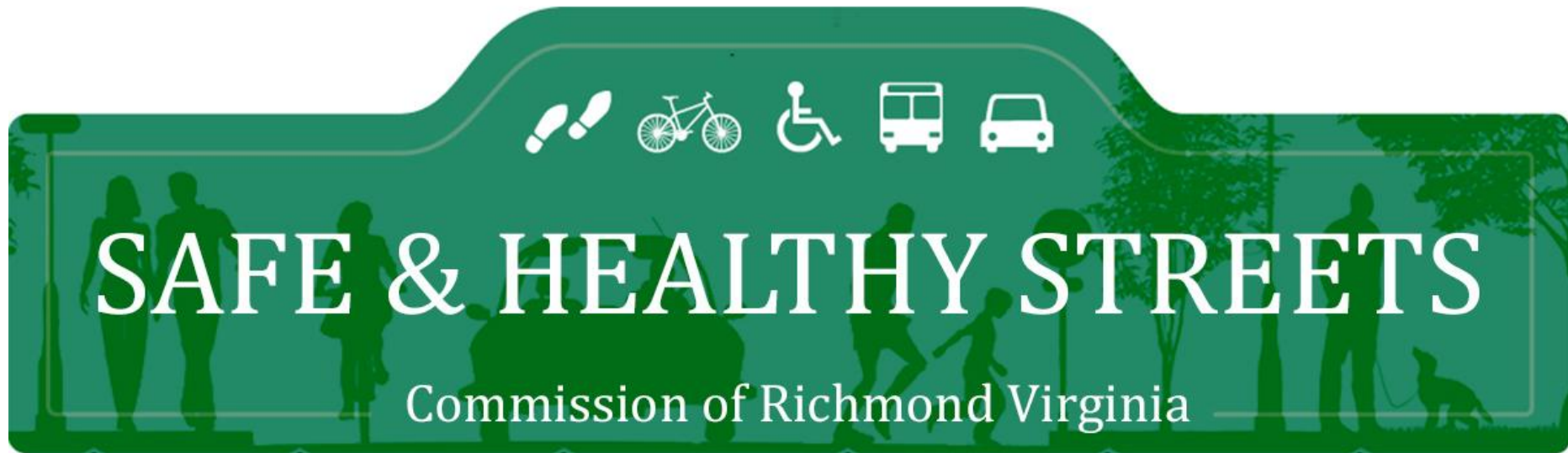
Why is Vision Zero Important?



Twelve Steps to Vision Zero

- STEP 1: Establish Safe and Healthy Streets Commission
- STEP 2: Adopt a Vision Zero Resolution
- STEP 3: Sign a Vision Zero Pledge
- STEP 4: Issue a Safe and Healthy Streets Challenge
- STEP 5: Adopt Vision Zero Action Plan
- STEP 6: Establish a Vision Zero Task Force
- STEP 7: Establish Year One Priorities and Metrics
- STEP 8: Engage community leaders
- STEP 9: Shift the safety culture
- STEP 10: Vision Zero as DNA
- STEP 11: Focus on resources
- STEP 12: Keep your head up

STEP 1: Establish a Safety Commission



Next Meeting:
Wednesday July 21, 2021

STEP 2: Adopt Vision Zero Resolution

- City Council adopted Resolution 2016-R011 in March 2016
 - Goal of reducing traffic fatalities and serious injuries in road traffic to zero by the year 2030
- Incorporated into the Master Plan



Goal 7: Vision Zero



Systemically change the built environment to shift our safety culture and ensure that individuals are not killed or seriously injured on city streets.

Existing Context

Richmond is a Vision Zero city.

Vision Zero emerged in the 1990s in Sweden when the Swedes realized that traditional road safety techniques and programs were never going to significantly reduce or eliminate fatal crashes. The Swedes lobbied their government to implement sweeping reforms to improve the safety of transportation infrastructure to reduce deaths and injuries in traffic crashes to zero. In 2018, the City of Richmond released its Vision Zero Action Plan, which outlines a number of actions and strategies, such as addressing dangerous behavior, designing a safe transportation system for all road users, and developing education and awareness campaigns, to reduce traffic deaths and injuries to zero by 2030.

Traffic deaths and injuries are a continuing problem.

The prevalence of traffic crashes is a health crisis. The top behaviors that lead to injury or death in crashes are not wearing a seatbelt, driving under the influence of alcohol and drugs, distracted driving, and speeding. People walking and biking are the most vulnerable users, 28% of pedestrians involved in traffic crashes are killed. From 2011 through 2016, there were a total of 22 deaths and 313 incapacitating injuries in Richmond involving pedestrians and cyclists, representing 1.9% and 27% of all crashes, respectively. Compare this to traffic crashes involving only vehicles, where during the same timeframe there were 56 deaths (0.2% of all vehicle crashes), and 1,062 incapacitating crashes (3.7% of all vehicle crashes). This suggests that a pedestrian or cyclist involved in a crash is 9.8 times more likely to die and 7.4 times more likely to experience an incapacitating injury than a motorist involved in a crash with another motorist. Pedestrian and cyclist deaths rose to a 30-year high in 2018 nationally. While the objectives in Goal 7 of *Richmond 300* seek to ensure Vision Zero is upheld in Richmond, there are many objectives in other parts of this Plan that will help the City reach its Vision Zero goal, such as the objectives listed in Goal 6, Goal 8, Goal 9, and Goal 10. Figure 25 shows the locations of pedestrian- and bicycle-involved crashes from 2011 to 2016 in the City of Richmond.



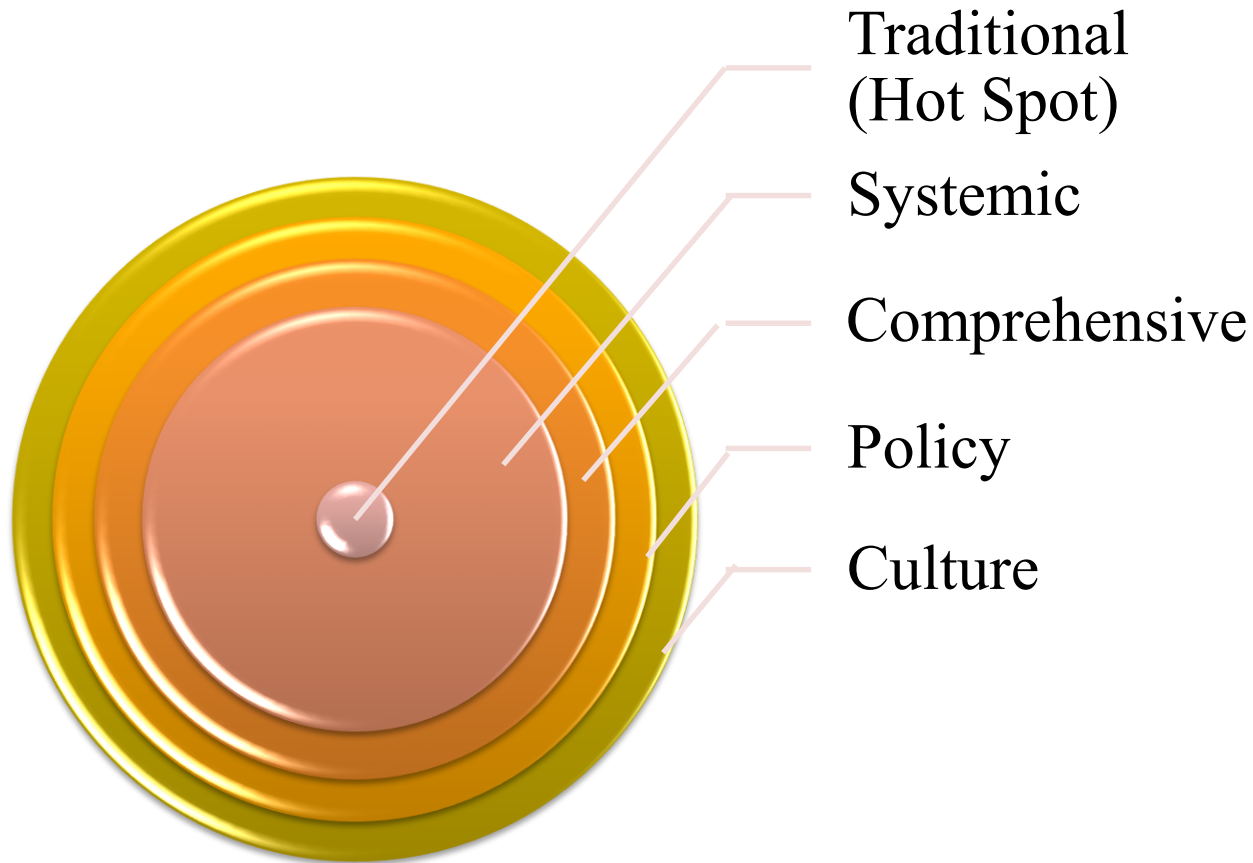
STEP 3: Our Vision Zero Pledge



Source: RTD



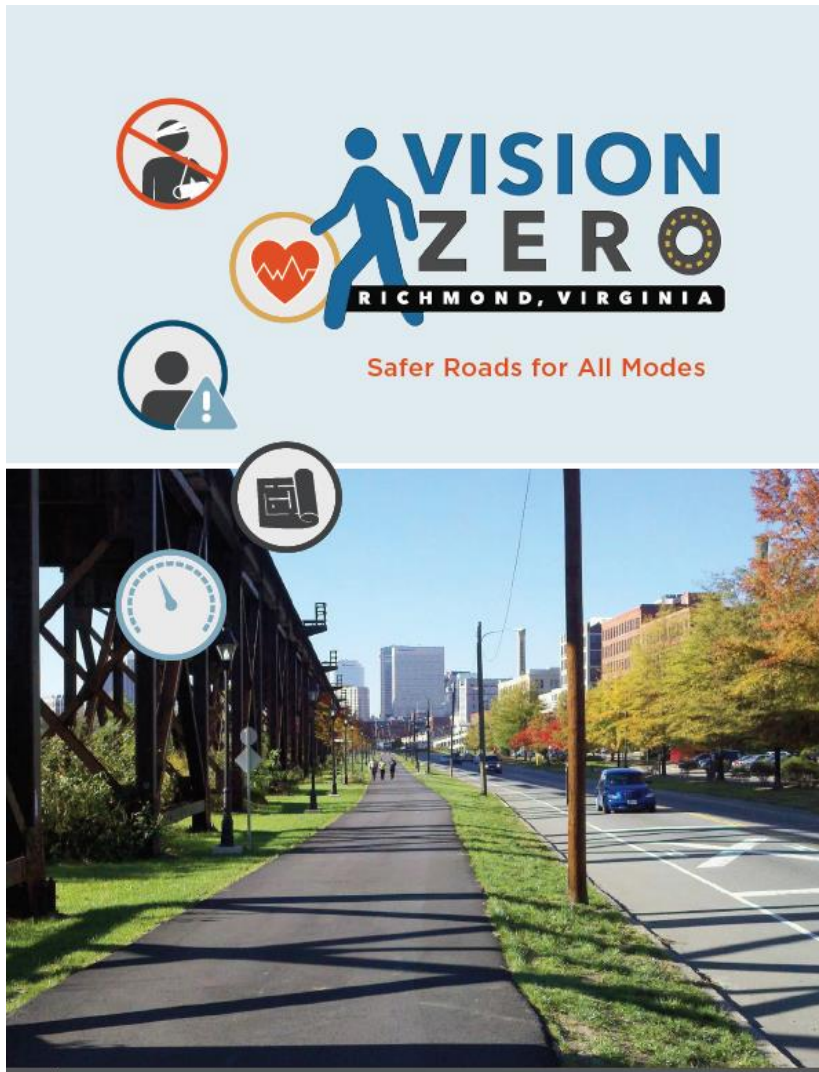
A Vision Zero Pledge affects Workplace Culture



STEP 4: Safe & Healthy Streets Challenge

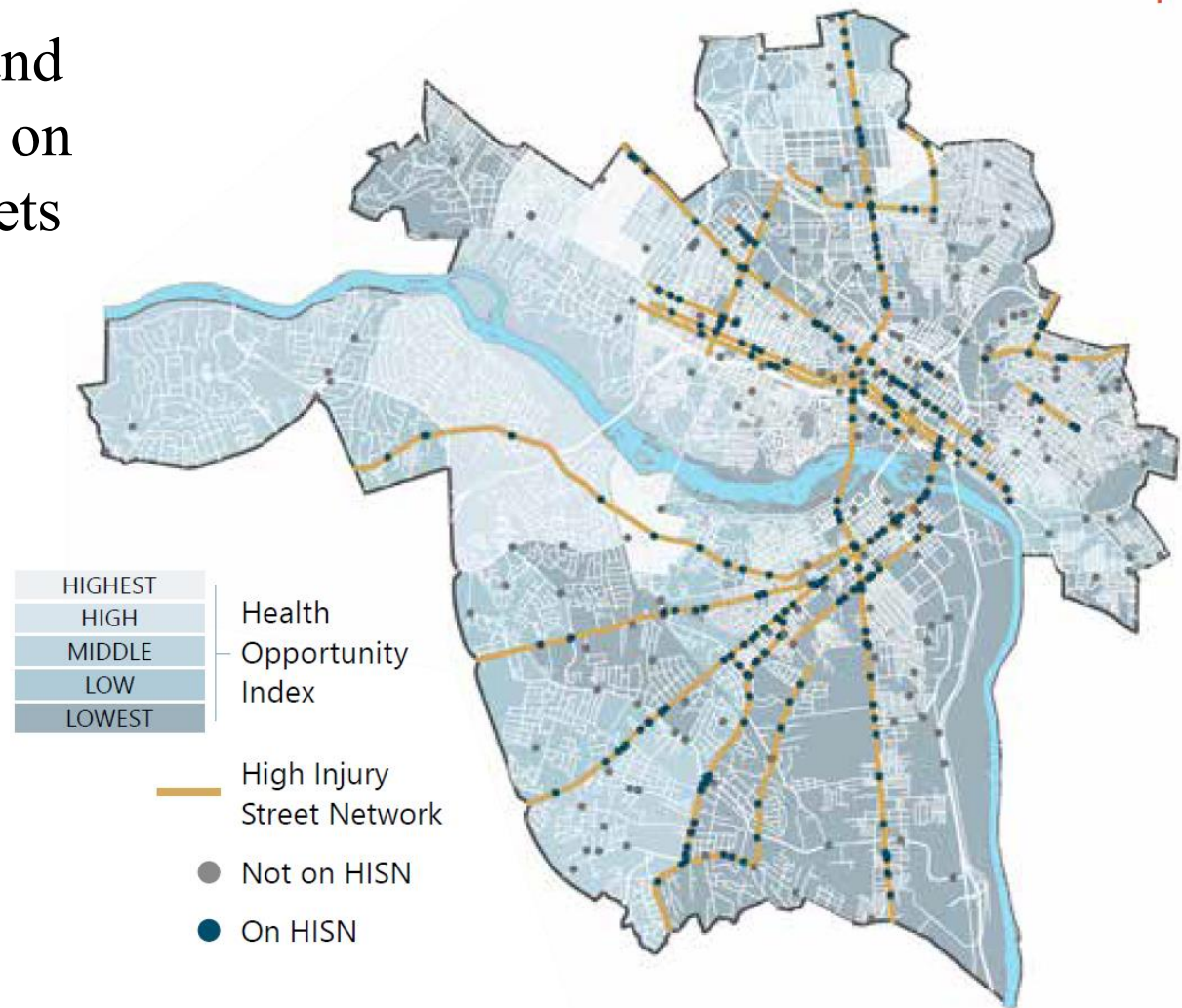
- Mayor Levar M. Stoney issued The Challenge (2017)
- Five things one can do...
 - Share the road
 - **O**bey speed limits
 - **B**uckle in
 - **A**void distractions
 - **D**rive sober
- If we did, it would not be **SO BAD...**

STEP 5: Our Vision Zero Action Plan



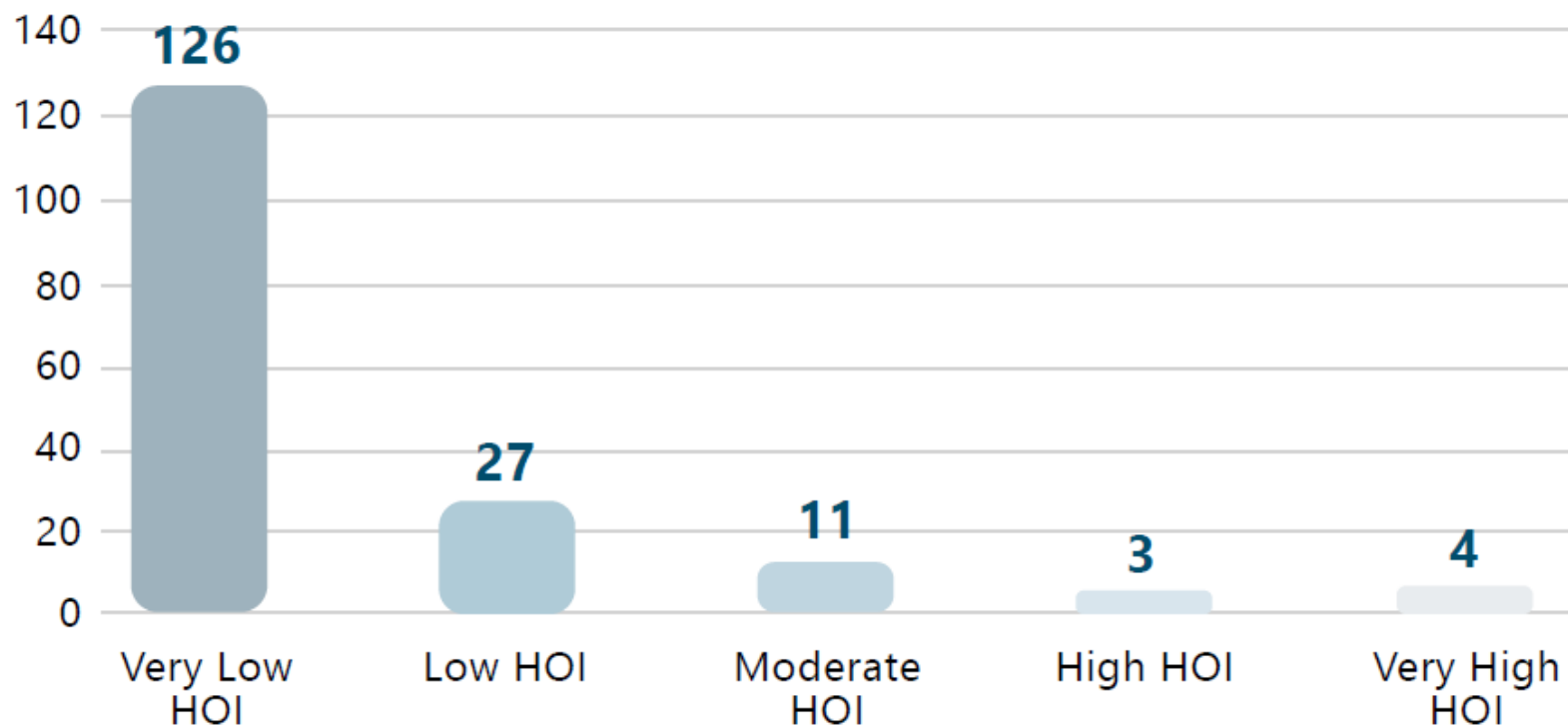
New High Injury Street Network (2017 to 2019)

62% of death and serious injuries on 7% of city streets



Equitable Transportation

Average Annual Fatality and Serious Injuries
by Health Opportunity Index Area



Source: Virginia Department of Health 2017-2019

586 Miles of Local Streets close to Vision Zero...

Crashes by Roadway Type and Speed Limit

Roadway Type	Fatal and Serious Injury Crashes			Pedestrian Fatal and Serious Injury Crashes			Miles of Roadway Type
	≤30MPH	35-45MPH	Unknown	≤30MPH	35-45MPH	Unknown	
Arterial	121	184	3	33	37	1	133
Collector	34	8	1	6	1	1	164
Local	3	4	0	1	0	0	586
Unknown	69	15	2	10	2	1	

Source: Virginia Department of Transportation, 2017-2019

- Additional Focus needed on the High Injury Street Network (58 miles)
- Local Streets form the backbone of the Vision Zero Street Network (586 miles)

Vision Zero Dashboard

City of Richmond, VA - Vision Zero Dashboard (2014 to March 2021)

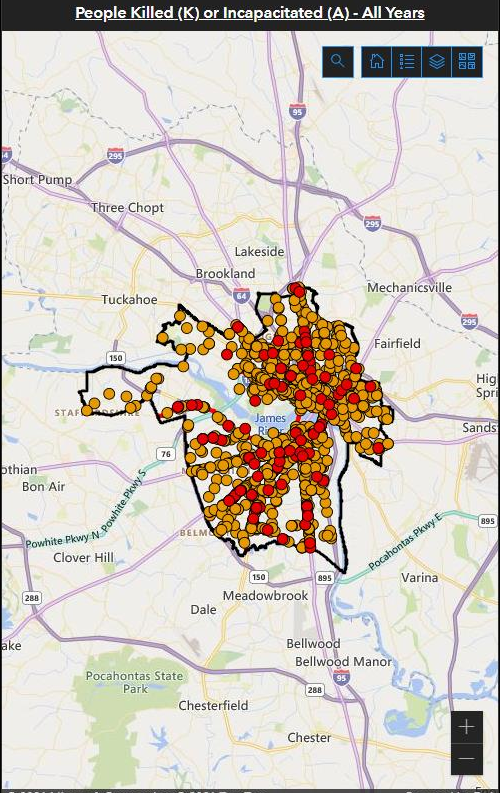
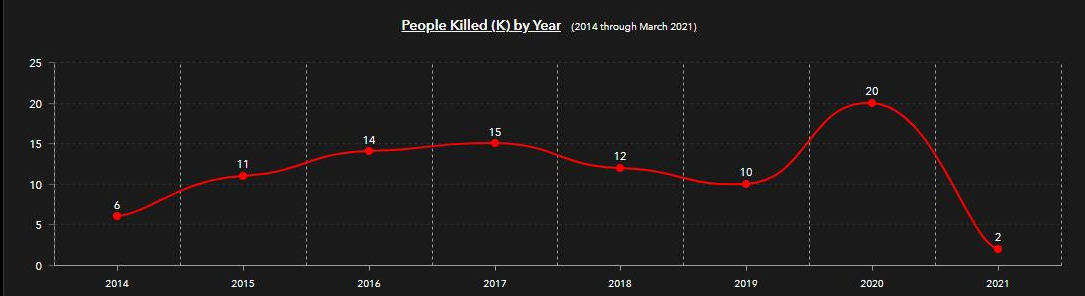
Select Years to Filter Map
Include all years

Use below filters to analyze the data.

- Motorcycle Involved?
Include all values
 - Pedestrian Involved?
Include all values
 - Bicycle Involved?
Include all values
 - Work Zone Related?
Include all values
 - School Zone Related?
Include all values
 - Alcohol Involved?
Include all values
 - Unbelted?
Include all values
- Press Clear Than Refresh To Clear All F...

CLEAR REFRESH

Total Crashes 13,638 3 Year Total	People Injured 6,971 3 Year Total	People Killed 42 3 Year Total
Total Crashes 4,546 3 Year Annual Average	People Injured 2,324 3 Year Annual Average	People Killed 14 3 Year Annual Average
Total Crashes 853 Current Year	People Injured 356 Current Year	People Killed 2 Current Year



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Vision Zero Credits



STEP 6: Vision Zero Task Force & Coordinator

- Strong Mayor / CAO vs. City Manager
- Implementation takes place in the executive branch
- Creates a multi-disciplinary team of involved departments, offices, and authorities led by a Vision Zero Coordinator
- Responsible for reporting progress and metrics to Safe and Healthy Streets Commission, City Council, and the Mayor's Office
- VZ Coordinator engages community, non-profit, institutional, private sector, regional, state and federal level resources

STEP 6: Vision Zero Task Force

Department Leaders

Adkins-Easley, Mona – Human Resources	Peters, Christie C. – Animal Care and Control
Almendarez-Ramos, Karla – Office of Multicultural Affairs	Reid, Lenora G. – CAO / DCAO of Finance and Administration
Avula, Danny – Richmond Community Health Department	Scott, Alfred – Department of Public Utilities
Burrell, Betty J. - Procurement Services	Sledge, Leonard. – Department of Economic Development
Carter, Melvin D. - Fire	Smith, Gerald - Police
Clarke, Dironna Moore – Office of Equitable Transit and Mobility	Steidel, Robert C. – DCAO of Operations
Ebert, Sharon – DCAO of Community Development	Stone, Robert – Department of Public Works – Capital Projects
Firestine, Scott R. – Richmond Public Library	Todd, Charles G. – Department of Information Technology
Foster, Patricia R. – Minority Business Development	Vincent, Bobby – Department of Public Works
Frelke, Christopher E. – Department of Parks and Recreation	Vonck, Kevin J.– Planning and Development Review
Giles, Shunda T. – Department of Social Services	White, Sheila D. - Finance
Gordon, Reginald E. – DCAO Human Services	Willoughby, Stephen M. – Department of Emergency Communications
Hampton, Sherill – Housing and Community Development	Decker, Chip – Richmond Ambulance Authority
May, Jason P. - Budget	Lindstrom, John – Richmond Behavioral Health Authority
Nolan, James S. – Office of Press Secretary	Simmons, Theresa – Richmond Metropolitan Transportation Authority
	Timm, Julie – Greater Richmond Transit Company



STEP 7: Yearly Priorities and Metrics

Year Three Priorities - FY21 Vision Zero Production Metrics					
No.	Action	Category	Lead Organization	Metric	Status
I-1	Establish and maintain right-sized law enforcement practices, traffic unit personnel, and equipment needs based upon national best practices.	Executive	RPD	# of FTEs by shift dedicated to safety enforcement; # of citations for top 5 crash related actions on HISN	In progress.
I-2	Create messaging on HISN to promote safe speeds and compliance with traffic laws.	Executive / Cultural	PIOs, VCU	# of messages per month	In progress.
I-3	Implement safety treatments on the high injury street network.	Executive	DPW	# safety treatments on HISN	In progress.
I-4	Conduct strategic, multi-modal high visibility enforcement campaigns with educational components that are designed to reach all users of the transportation system, particularly yielding behavior to people who walk.	Executive / Cultural	RPD, NPO, SHSC, VZC	# of campaigns by dangerous behavior (OP, DUI, Yielding Behavior, and Speed)	In progress.
I-5	Provide a parity of transportation choices for all users through a complete streets approach which allows for multiple modes to make the same trip safely.	Executive	DPW	# lane miles of bike infrastructure	In progress. 59 miles implemented with 18 miles under construction. 32 miles under design.
I-6	Provide safe access to transit stops on HISN partnering with GRTC.	Executive	GRTC / DPW	# accessibility treatments on HISN	In progress.
I-7	Establish a permanent, dedicated funding source for Vision Zero Implementation and coordination, particularly as it pertains to the traffic safety assets on the high injury street network.	Legislative and Budget	City Council	# regulatory/warning signs # signal upgrades # ft pavement markings	FY22 Budget Process
I-8	Identify and evaluate advanced tools and techniques to reduce speeding and red light running, such as automated enforcement.	Legislative and Budget	RPD	# of Enforcement Tools Deployed	FY22 Budget Process
I-9	Encourage the passage of a primary seat belt law for all vehicle occupants	Legislative and Budget	SHSC / VZ Coordinator	Law adopted	FY21 General Assembly
I-10	Work with the Commonwealth Transportation Board and other jurisdictions to establish street maintenance funding levels for cities and towns based upon an asset management program approach.	Legislative and Budget	CAO / DPW	Access management approach adopted	In progress.



STEP 8: Engage Community Leaders

- Start with WHY
 - 2,500 injuries and 14 deaths on city streets annually;
- Provide the WHAT
 - Worked with Richmond District Health Department on messaging;
 - Leadership Talking Points launched;
- Suggest HOW
 - Public engagement speeches
 - Community meetings
 - Neighborhood Newsletters
 - Attend safety calendar press events

STEP 8: Engage Community Leaders



Coordinating Education and Outreach

- **Coordinate a transportation safety calendar** to promote safety messaging and high visibility enforcement.
 - JUNE People who ride motorcycles
 - JULY People who drive impaired
 - AUGUST People who are new drivers
 - SEPTEMBER People who transport children
 - OCTOBER People who walk

STEP 9: Shift the Safety Culture

- Focus on culture:
 - Family
 - Neighborhood
 - Community
 - School / Workplace / Places of Worship
- Sustain outreach efforts through elected officials, thought leaders, community leaders
- Elevate the conversation to “people talking to people”
- Ask interesting questions

How do we change our safety culture?



How do we change our safety culture?



RVA Coffee Stain

@RVACoffeeStain



Been distracted lately by the energy of these roughed up signs around the city reminding cars to stop for pedestrians [#rva](#)

9:16 PM · Jun 9, 2021 · Twitter for iPhone

8 Retweets 76 Likes

Key Legislation – Commonwealth of Virginia

- A. Primary Seat Belt Law for all occupants
- B. Reckless Driving Threshold in 25MPH zones
- C. Expanded Photo Speed Enforcement
- D. 0.05 Blood Alcohol Concentration
- E. Annual State Maintenance Payment
- F. Stop signs as Yield for Bicyclist

Safety Culture is complex and multi-faceted

- It is the collection the following present in a community:
 - shared values,
 - attitudes,
 - beliefs,
 - behaviors,
 - rules,
 - policies, and
 - laws

Speed versus Height



Speed and Heights



Falls versus Motor Vehicle Crashes

- Average Annual Deaths and Serious Injuries in City of Richmond:
 - 423 from unintentional falls
 - 199 Slipping, Tripping, and Stumbling
 - 41 Stairs or Steps
 - 12 From Ladder
 - 241 from motor vehicle crashes

10 Leading Causes of Non-Fatal Injuries

National Estimates of the 10 Leading Causes of Nonfatal Injuries Treated in Hospital Emergency Departments, United States - 2017

Rank	Age Groups										Total
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
1	Unintentional Fall 120,007	Unintentional Fall 699,107	Unintentional Fall 530,390	Unintentional Struck By/Against 451,267	Unintentional Struck By/Against 755,114	Unintentional Fall 647,408	Unintentional Fall 623,997	Unintentional Fall 828,731	Unintentional Fall 1,047,959	Unintentional Fall 2,970,720	Unintentional Fall 8,591,683
2	Unintentional Struck By/Against 23,356	Unintentional Struck By/Against 254,793	Unintentional Struck By/Against 323,525	Unintentional Fall 451,183	Unintentional Fall 671,408	Unintentional MV-Occupant 579,446	Unintentional Other Specified 436,726	Unintentional Other Specified 473,983	Unintentional Other Specified 356,187	Unintentional Struck By/Against 312,954	Unintentional Struck By/Against 3,685,012
3	Unintentional Other Bite/Sting 13,505	Unintentional Other Bite/Sting 139,941	Unintentional Other Bite/Sting 107,577	Unintentional Overexertion 222,433	Unintentional MV-Occupant 595,092	Unintentional Struck By/Against 528,104	Unintentional Struck By/Against 396,695	Unintentional Overexertion 362,246	Unintentional Struck By/Against 278,211	Unintentional Overexertion 227,817	Unintentional Overexertion 2,569,850
4	Unintentional Other Specified 9,737	Unintentional Foreign Body 121,422	Unintentional Cut/Pierce 88,488	Unintentional Cut/Pierce 99,249	Unintentional Overexertion 493,072	Unintentional Other Specified 517,628	Unintentional Overexertion 395,791	Unintentional Struck By/Against 360,767	Unintentional Overexertion 258,488	Unintentional MV-Occupant 215,666	Unintentional MV-Occupant 2,500,353
5	Unintentional Foreign Body 8,618	Unintentional Cut/Pierce 60,421	Unintentional Overexertion 65,413	Unintentional Unknown/Unspecified 67,107	Unintentional Cut/Pierce 345,982	Unintentional Overexertion 482,430	Unintentional MV-Occupant 381,110	Unintentional Poisoning 337,444	Unintentional MV-Occupant 249,192	Unintentional Cut/Pierce 162,819	Unintentional Other Specified 2,365,891
6	Unintentional Inhalation/Suffocation 8,518	Unintentional Overexertion 58,727	Unintentional MV-Occupant 53,791	Unintentional MV-Occupant 64,349	Unintentional Other Specified 331,389	Unintentional Poisoning 401,819	Unintentional Poisoning 321,267	Unintentional MV-Occupant 331,388	Unintentional Poisoning 245,289	Unintentional Other Specified 143,563	Unintentional Cut/Pierce 1,823,358
7	Unintentional Fire/Burn 7,567	Unintentional Other Specified 47,348	Unintentional Foreign Body 52,756	Unintentional Other Bite/Sting 57,014	Other Assault* Struck By/Against 312,205	Unintentional Cut/Pierce 372,787	Unintentional Cut/Pierce 269,865	Unintentional Cut/Pierce 235,597	Unintentional Cut/Pierce 184,284	Unintentional Poisoning 137,849	Unintentional Cut/Pierce 1,755,044
8	Unintentional Unknown/Unspecified 4,618	Unintentional Fire/Burn 41,066	Unintentional Pedal Cyclist 39,388	Other Assault* Struck By/Against 54,366	Unintentional Poisoning 246,611	Other Assault* Struck By/Against 355,927	Other Assault* Struck By/Against 212,483	Other Assault* Struck By/Against 171,022	Unintentional Other Bite/Sting 115,933	Unintentional Other Bite/Sting 116,191	Other Assault* Struck By/Against 1,142,580
9	Unintentional Cut/Pierce 3,844	Unintentional Unknown/Unspecified 38,207	Unintentional Dog Bite 33,586	Unintentional Pedal Cyclist 49,283	Unintentional Other Bite/Sting 147,861	Unintentional Other Bite/Sting 176,855	Unintentional Other Bite/Sting 131,323	Unintentional Other Bite/Sting 135,907	Other Assault* Struck By/Against 95,550	Unintentional Unknown/Unspecified 96,304	Unintentional Other Bite/Sting 1,142,130
10	Unintentional Poisoning 3,459	Unintentional Poisoning 37,493	Unintentional Unknown/Unspecified 32,336	Unintentional Other Transport 40,876	Unintentional Unknown/Unspecified 122,980	Unintentional Unknown/Unspecified 120,116	Unintentional Unknown/Unspecified 98,759	Unintentional Unknown/Unspecified 95,913	Unintentional Unknown/Unspecified 78,898	Unintentional Other Transport 79,829	Unintentional Unknown/Unspecified 755,567

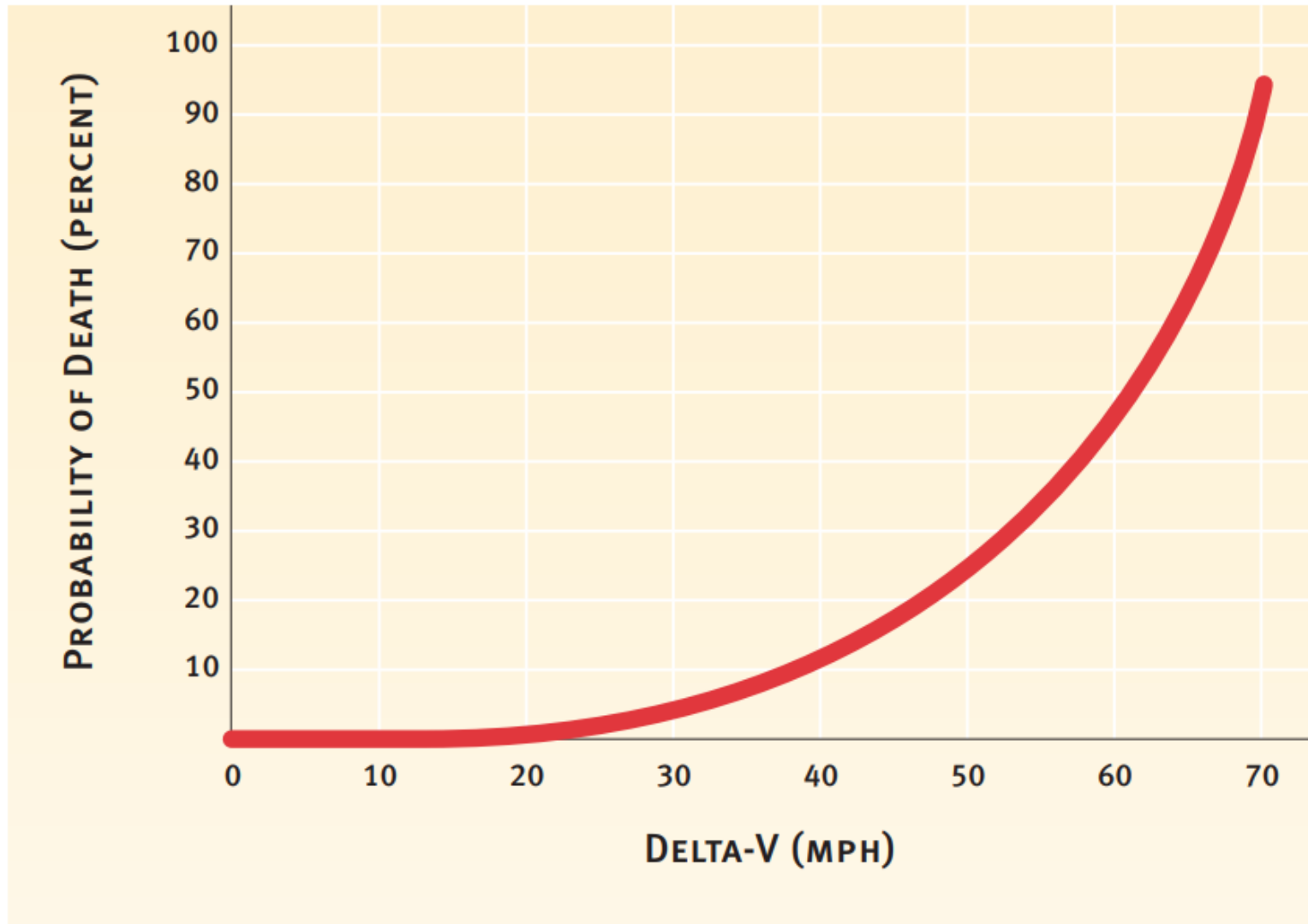
But my vehicle has FIVE Stars



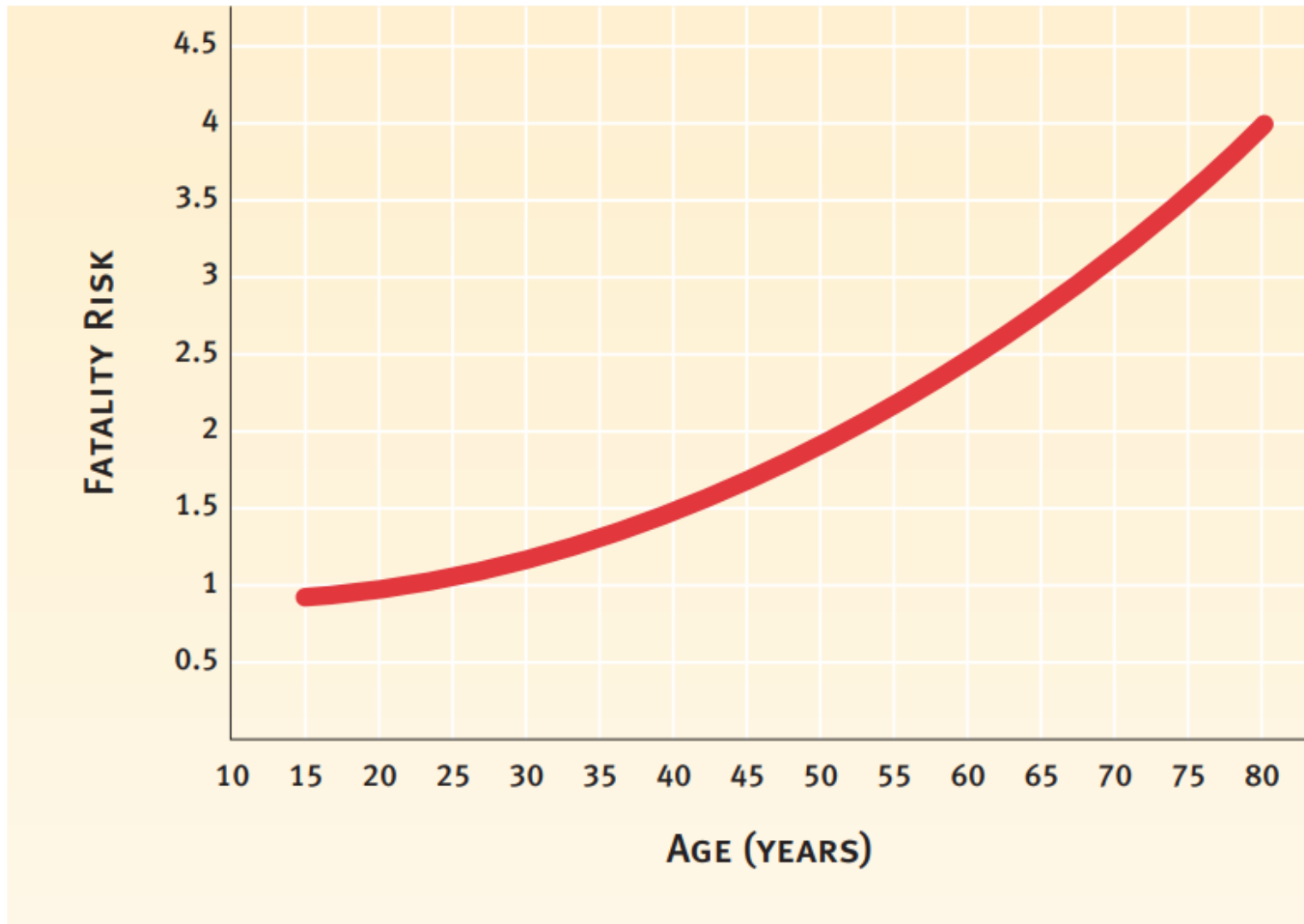
5-Star Safety Ratings

More Stars. Safer Cars.

Speed and Severity



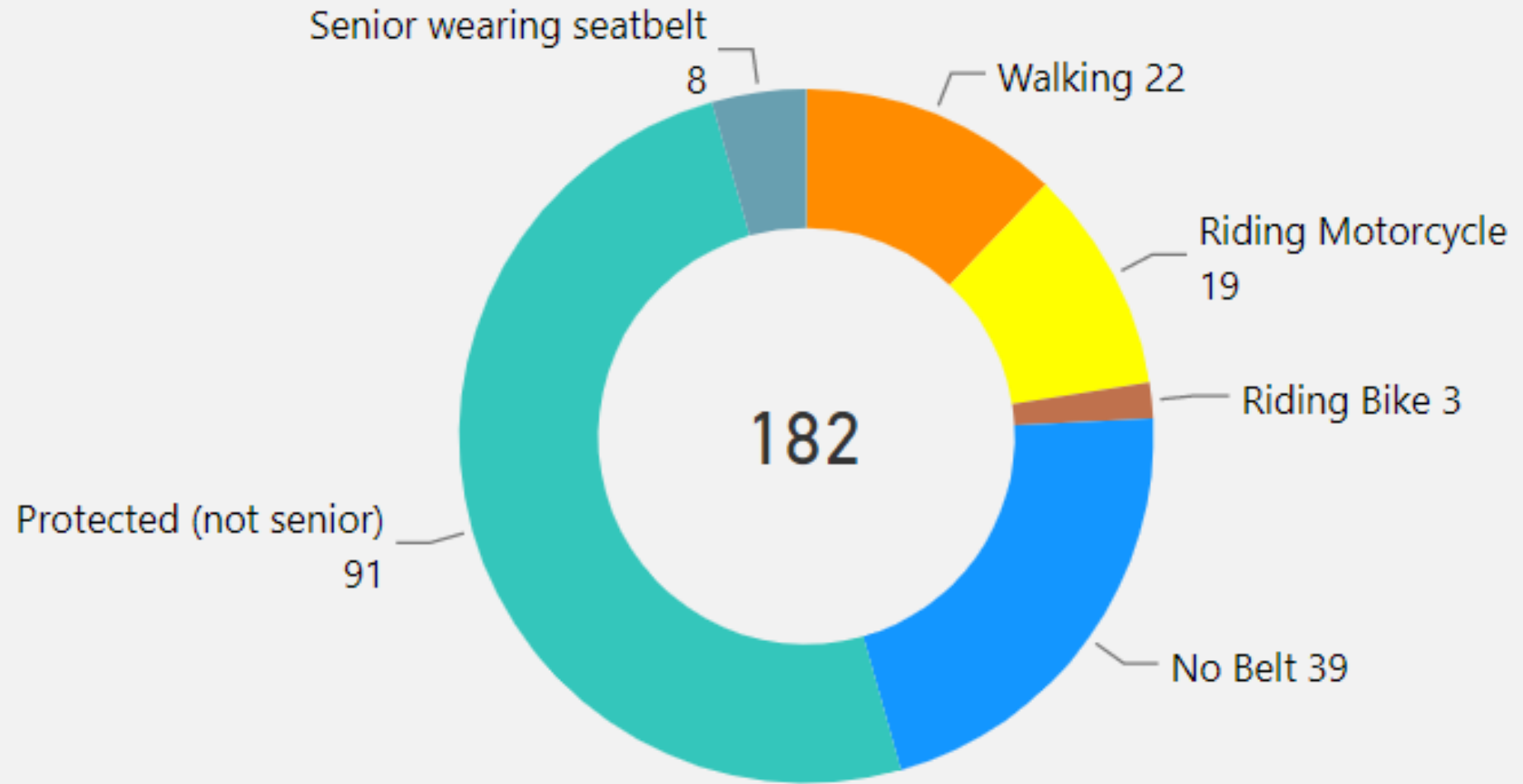
Same impact – Different Age



What do these have in common?

- Unbelted daughter in a motor vehicle
- Son crossing street to go to school
- Mother riding motorcycle
- Dad riding bicycle
- Grandmother jogging
- Grandfather buckled in back seat at 40MPH
- Dog running out front door
- Deer crossing to the park

Who is vulnerable on city streets?

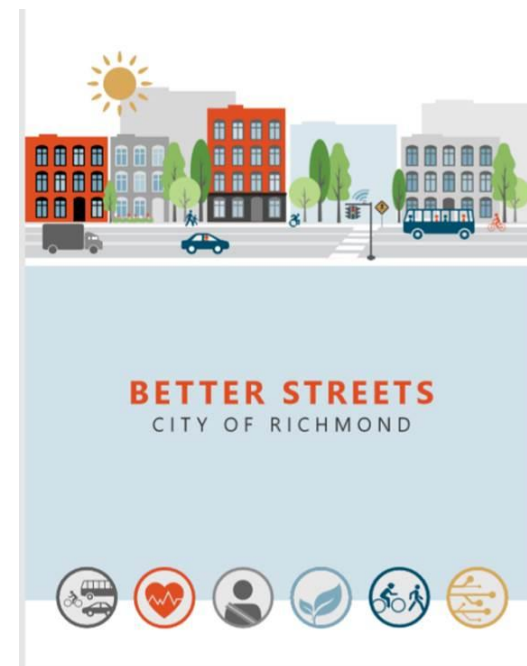


High Risk Impaired Driver Action Plan

- Based on work by GHSA Study
- Partnership with Richmond Behavioral Health Authority and other State / Local Agencies
- Individual Justice Model Recommendations
- Update:
 - Working with DMV and Courts on data collection
 - Driver Demographics
 - Conviction Data
 - Treatment Data
 - Citation Data
 - First stakeholder meeting to be scheduled

STEP 10: Vision Zero as DNA

- Partnerships
- Health in all Policies
 - City Master Plan
 - Better Streets Manual
 - Traffic Signal Operations
 - Bike Infrastructure
 - Pedestrian Infrastructure
 - Intersection Design
 - Typical Sections
 - New Development
 - Private Sector
 - Universities / City Owned



STEP 11: Focus on Resources

- Grant writing
- Local budget process
 - Transportation Operations and Enforcement
 - Traffic Safety Assets
 - Regulatory and Warning Signs
 - Crosswalks and School Markings
 - Traffic Signal Maintenance Replacement
- Training for excellent employees
- Leverage partnerships and technology

STEP 12: Keep your head up...

