

Vision Zero - Our Steps to Improve Public Health through a Safe Systems Approach

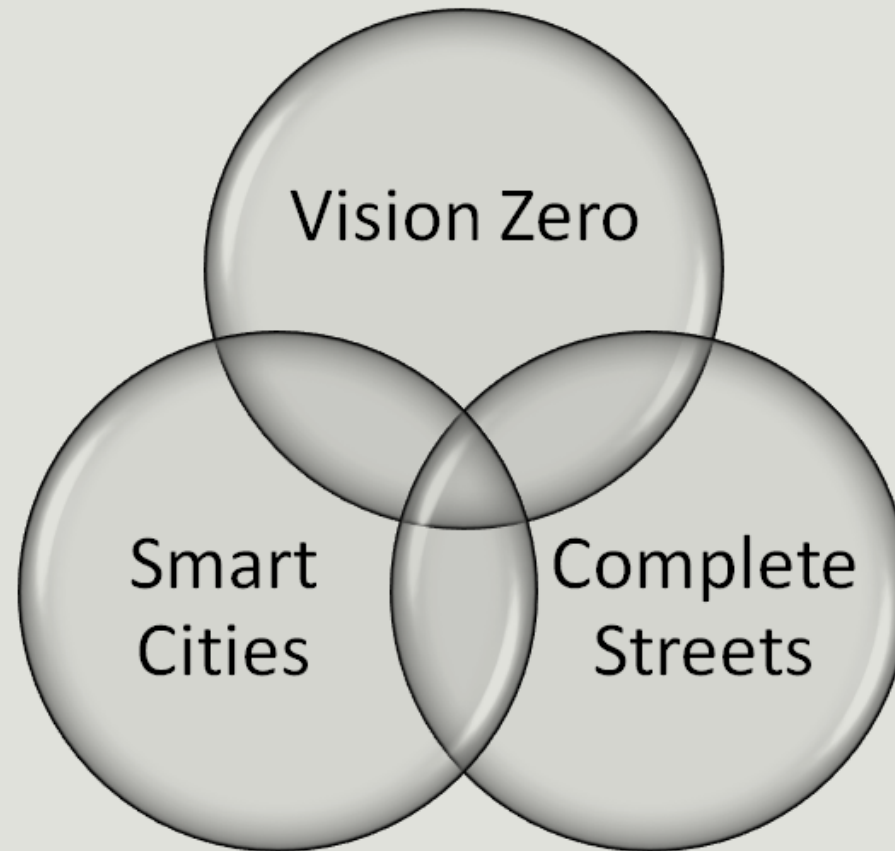
MICHAEL B. SAWYER, PE

CITY TRANSPORTATION ENGINEER

AUGUST 19, 2022



City's Transportation Emphasis



Towards Zero Deaths – Virginia's Plan

MOVING VIRGINIA TOWARD ZERO ROADWAY DEATHS

LEARN HOW YOU CAN MAKE A DIFFERENCE

Arrive Alive Virginia
Virginia Strategic Highway Safety Plan

WELCOME TO VIRGINIA
VIRGINIA IS FOR LOVERS

Old Town
Alexandria
Mt. Vernon
EXIT 177 C

EXIT 177 C-B-A
Alexandria
Fort Belvoir
EXIT ONLY

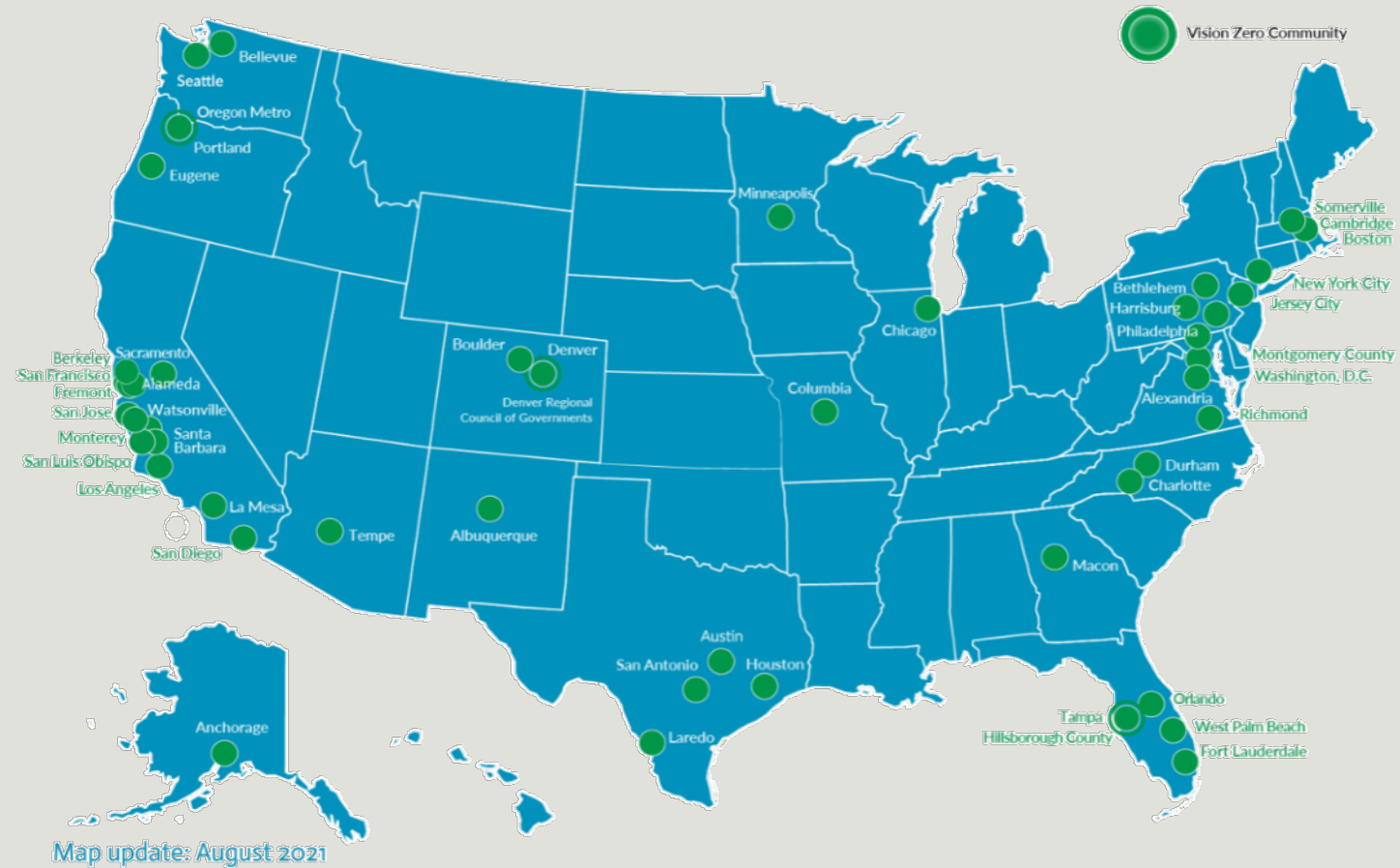
VIRG
VIRG
VIRG
VIRG
VIRG

Arrive Alive Virginia
VIRGINIA 2022-2026
STRATEGIC HIGHWAY SAFETY PLAN

Icons representing various road users: pedestrian, bicycle, motorcycle, car, truck, and wheelchair.



Vision Zero Cities in the United States



From 1925 to present...

3 Es (Education, Enforcement, Engineering)

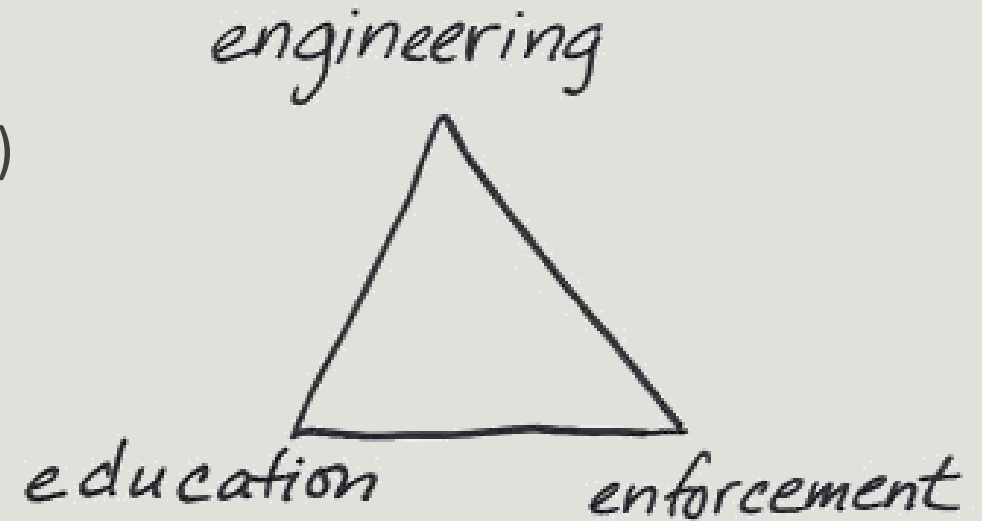
4 Es (Emergency Response)

5+ Es (Encouragement / Everyone / Evaluation)

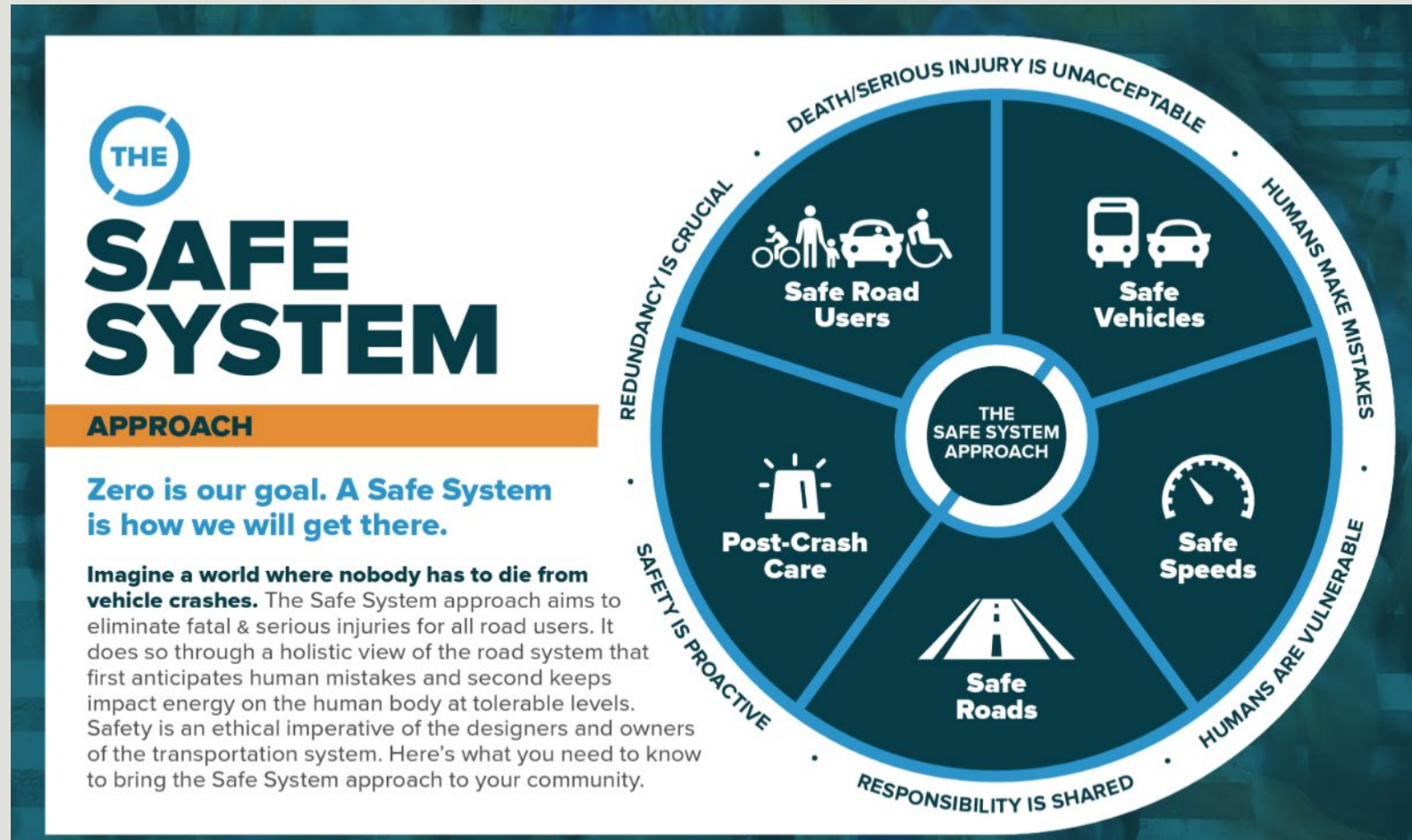
Towards Zero / Vision Zero

Safety Culture

Safe System Approach



The Safe System Approach



Safe System – Six Principles

SAFE SYSTEM PRINCIPLES



Death/Serious Injury is Unacceptable

While no crashes are desirable, the Safe System approach prioritizes crashes that result in death and serious injuries, since no one should experience either when using the transportation system.



Responsibility is Shared

All stakeholders (transportation system users and managers, vehicle manufacturers, etc.) must ensure that crashes don't lead to fatal or serious injuries.



Humans Make Mistakes

People will inevitably make mistakes that can lead to crashes, but the transportation system can be designed and operated to accommodate human mistakes and injury tolerances and avoid death and serious injuries.



Safety is Proactive

Proactive tools should be used to identify and mitigate latent risks in the transportation system, rather than waiting for crashes to occur and reacting afterwards.



Humans Are Vulnerable

People have limits for tolerating crash forces before death and serious injury occurs; therefore, it is critical to design and operate a transportation system that is human-centric and accommodates human vulnerabilities.



Redundancy is Crucial

Reducing risks requires that all parts of the transportation system are strengthened, so that if one part fails, the other parts still protect people.

Safe System - Five Elements

SAFE SYSTEM ELEMENTS

Making a commitment to zero deaths means addressing every aspect of crash risks through the five elements of a Safe System, shown below. These layers of protection and shared responsibility promote a holistic approach to safety across the entire transportation system. The key focus of the Safe System approach is to reduce death and serious injuries through design that accommodates human mistakes and injury tolerances.



Safe Road Users

The Safe System approach addresses the safety of all road users, including those who walk, bike, drive, ride transit, and travel by other modes.



Safe Vehicles

Vehicles are designed and regulated to minimize the occurrence and severity of collisions using safety measures that incorporate the latest technology.



Safe Speeds

Humans are unlikely to survive high-speed crashes. Reducing speeds can accommodate human injury tolerances in three ways: reducing impact forces, providing additional time for drivers to stop, and improving visibility.



Safe Roads

Designing to accommodate human mistakes and injury tolerances can greatly reduce the severity of crashes that do occur. Examples include physically separating people traveling at different speeds, providing dedicated times for different users to move through a space, and alerting users to hazards and other road users.



Post-Crash Care

When a person is injured in a collision, they rely on emergency first responders to quickly locate them, stabilize their injury, and transport them to medical facilities. Post-crash care also includes forensic analysis at the crash site, traffic incident management, and other activities.

What's New?

New Principles

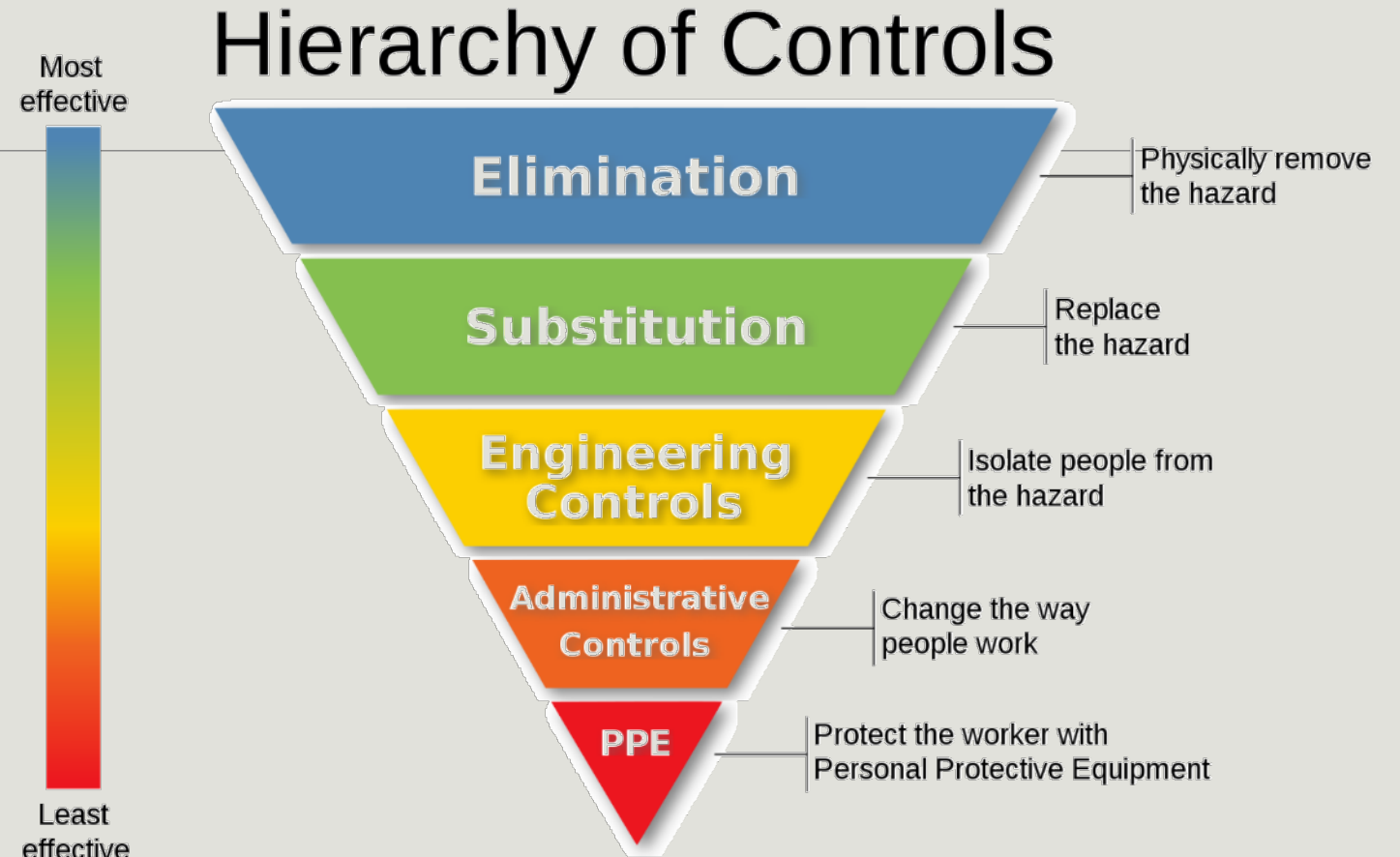
- Humans make mistakes
- Humans are vulnerable

New Elements

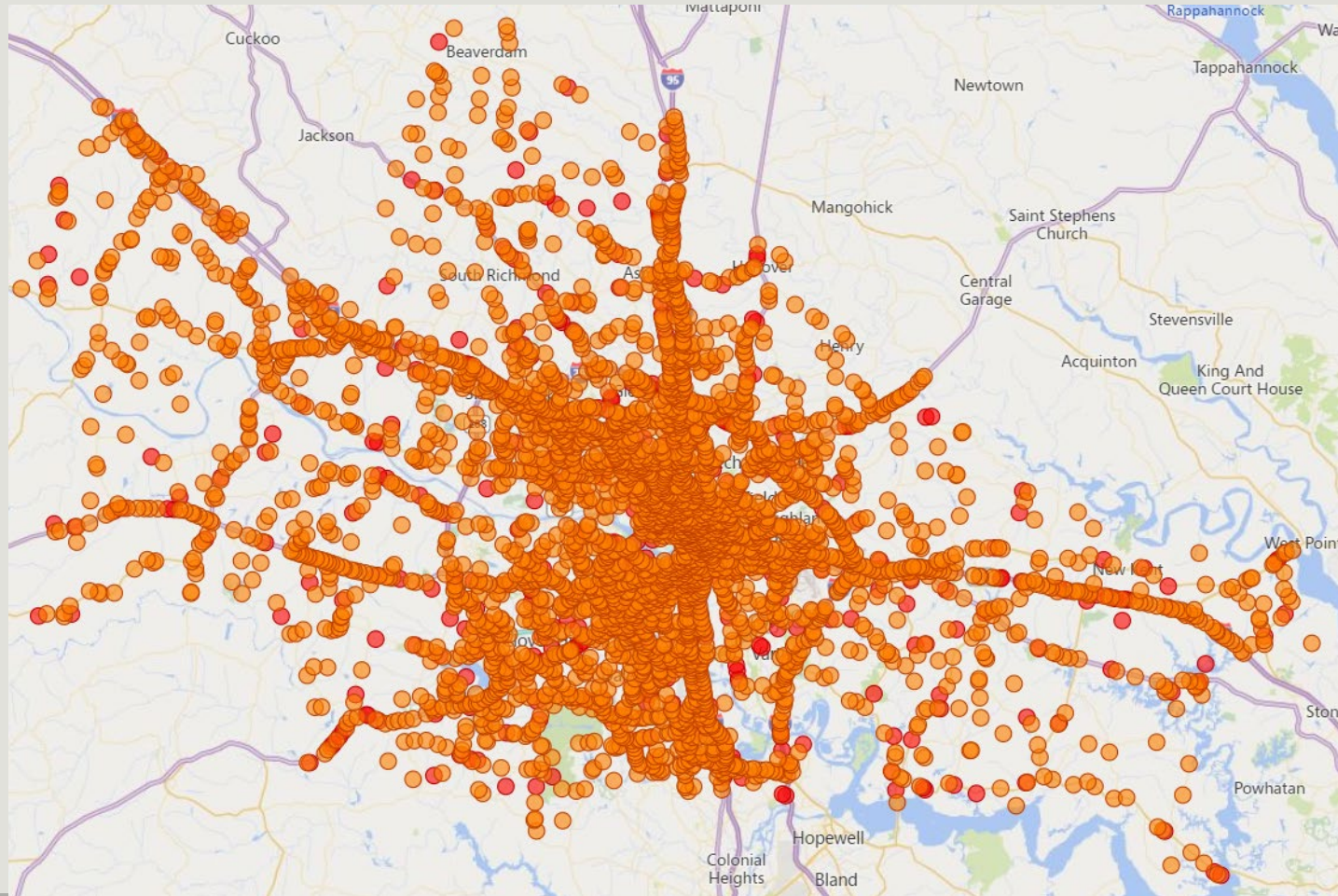
- Safe Speeds

National Institute of Occupational Safety and Health

- Hierarchy of Controls



Why is the Safe System Approach important?



Since 2015...

6,137 Severe Crashes in the Region (142,000+ total)

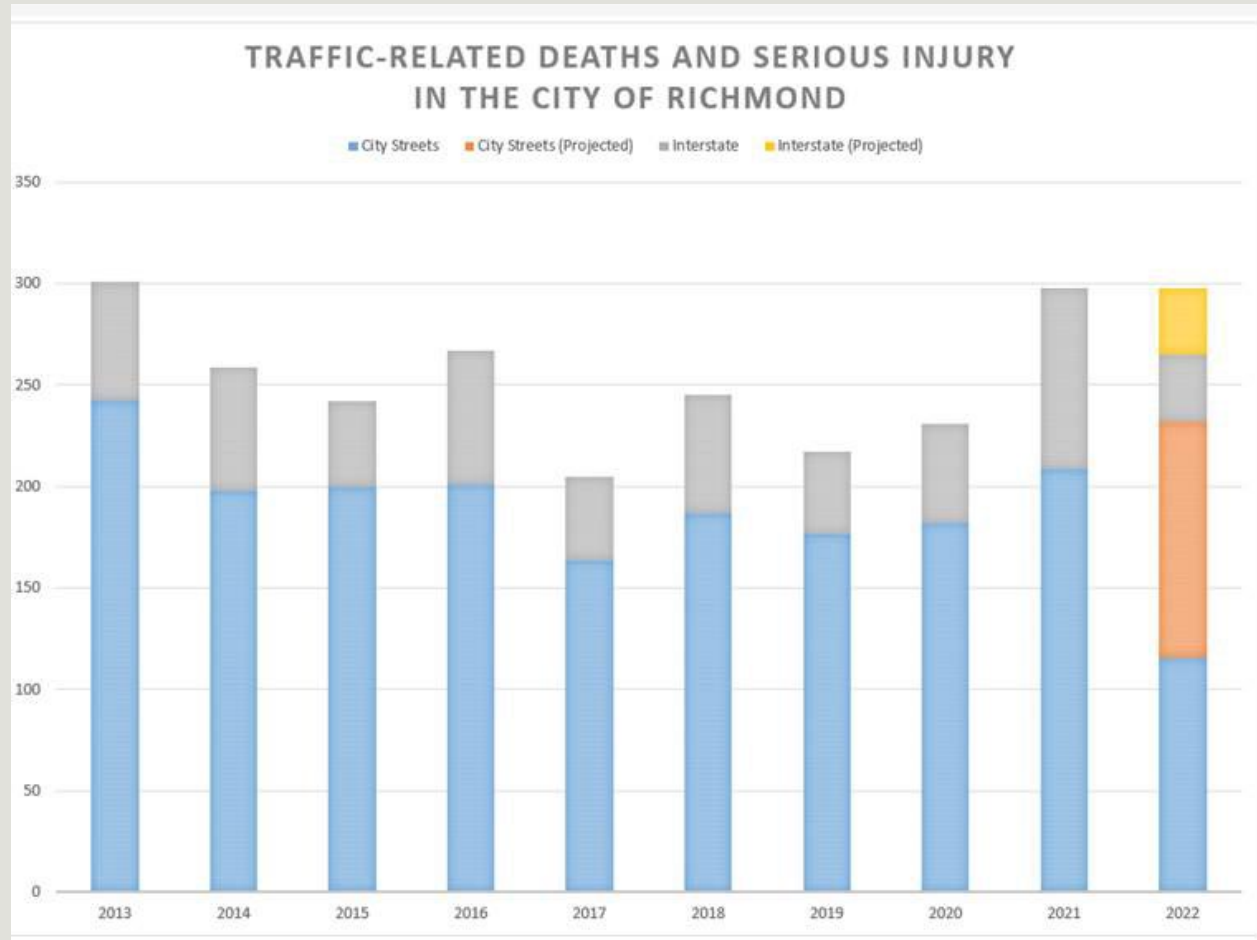
- 744 people killed in traffic related deaths
 - 164 people were walking (1 in 5)
- 6,615 people suffer incapacitating injuries
 - 515 people were walking (1 in 13)

19 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 the Safe System Approach 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

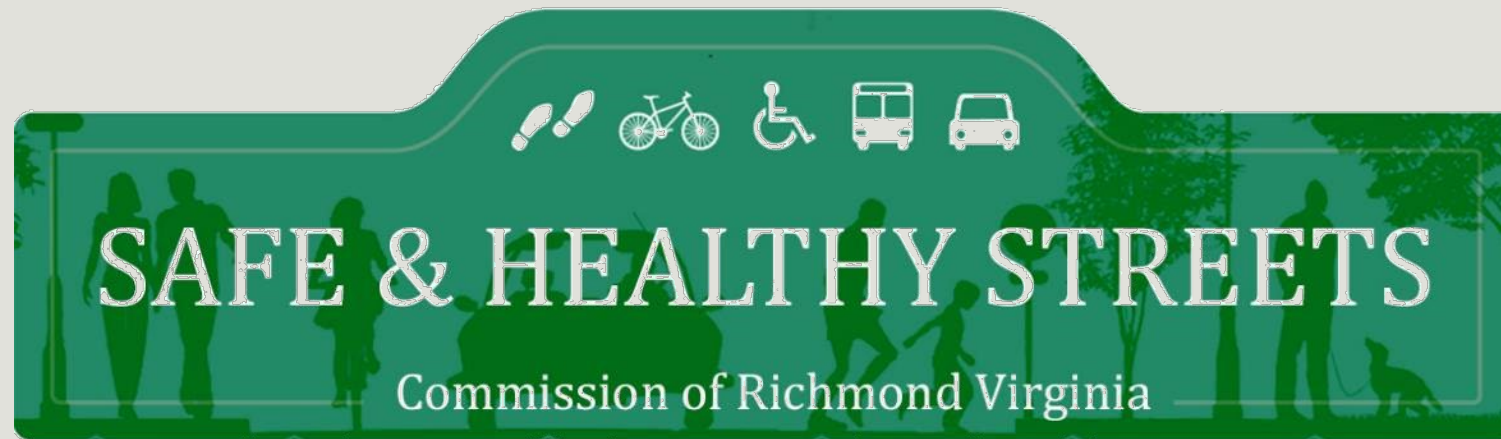
STEP 10: Safe System Approach as DNA

STEP 11: Focus on resources

STEP 12: Keep your head up



STEP 1: Establish a Safety Commission



Next Meeting:
Wednesday October 19, 2022 at 2PM

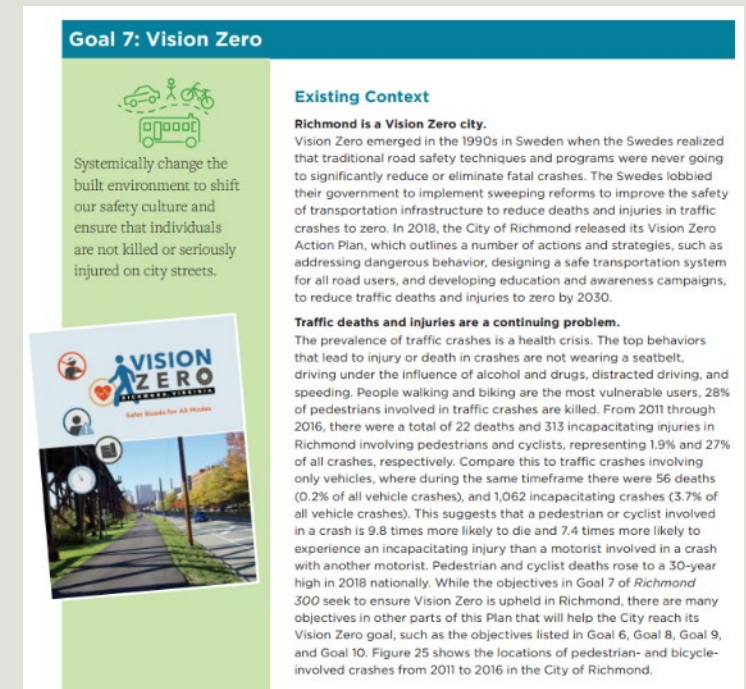


STEP 2: Adopt Vision Zero Resolution

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



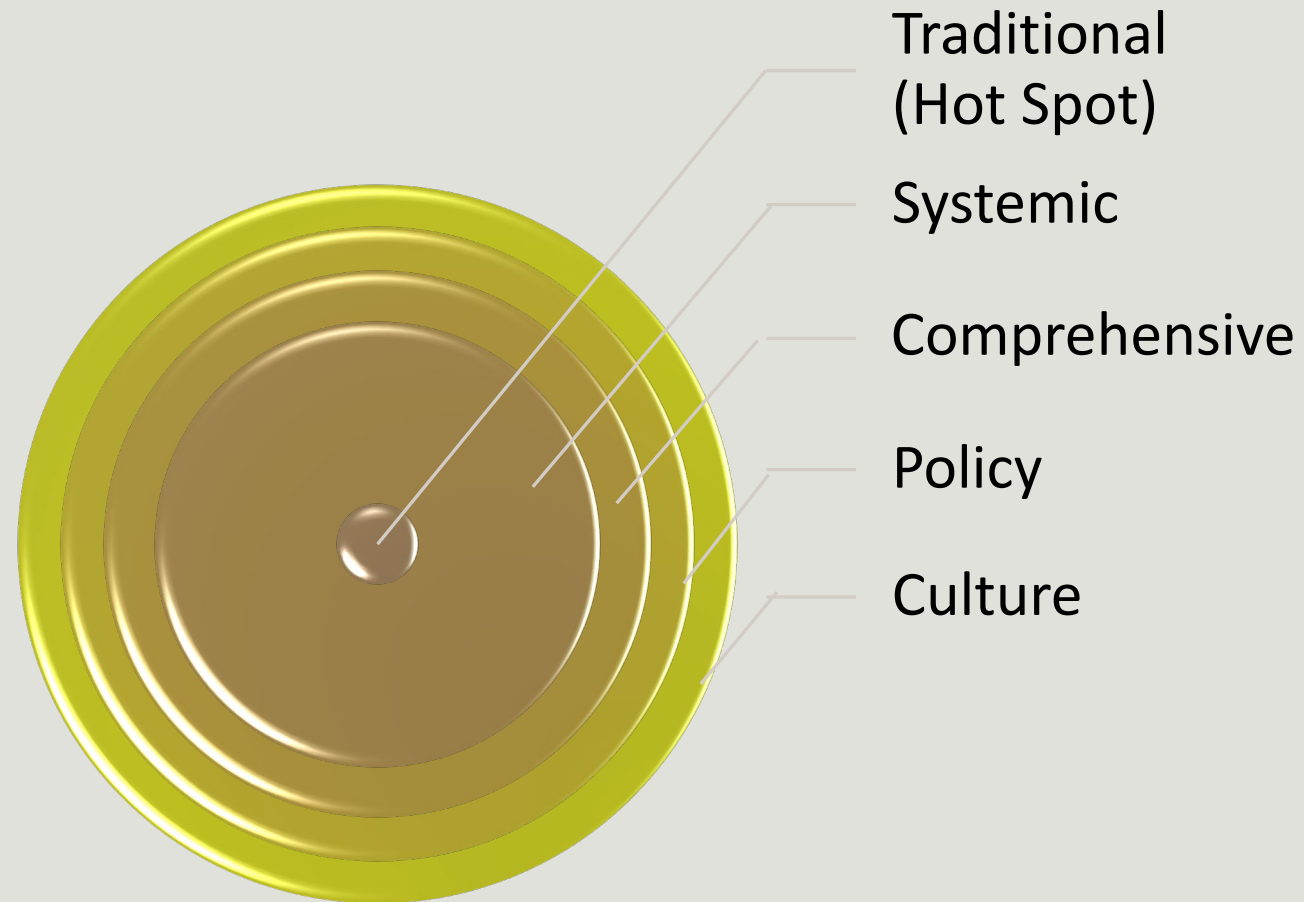
STEP 3: Our Vision Zero Pledge



Source: RTD



A Vision Zero Pledge affects Workplace Culture



STEP 4: Safe & Healthy Streets Challenge

Mayor Levar M. Stoney issued The Challenge (2017)

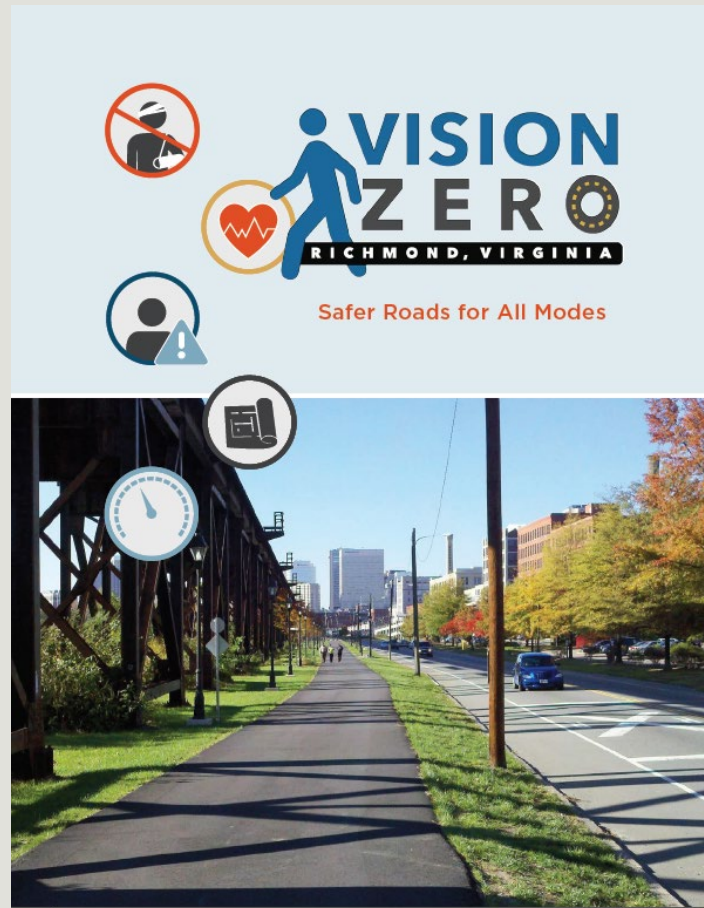
Five things one can do...

- Share the road
- Obey speed limits
- Buckle in
- Avoid distractions
- Drive sober

If we did, it would not be **SO BAD...**

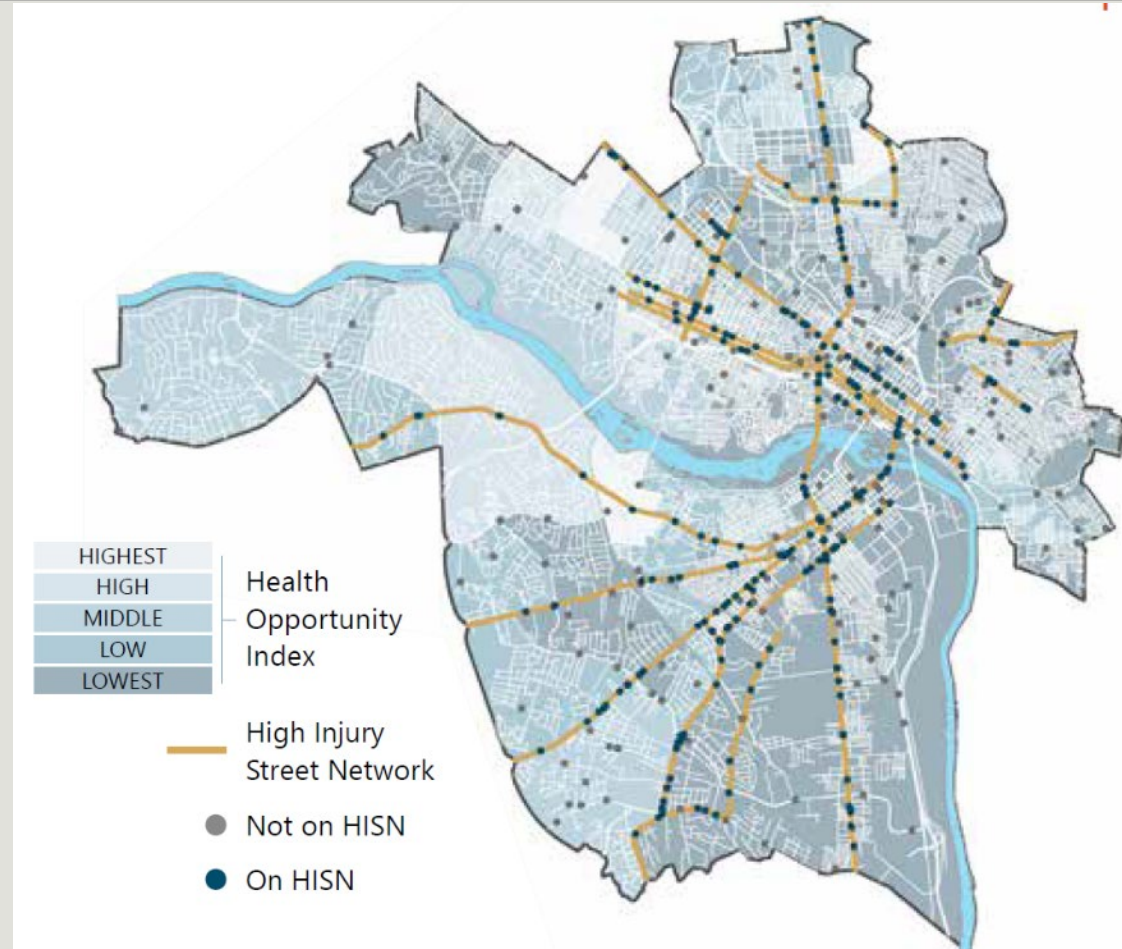


STEP 5: Our Vision Zero Action Plan



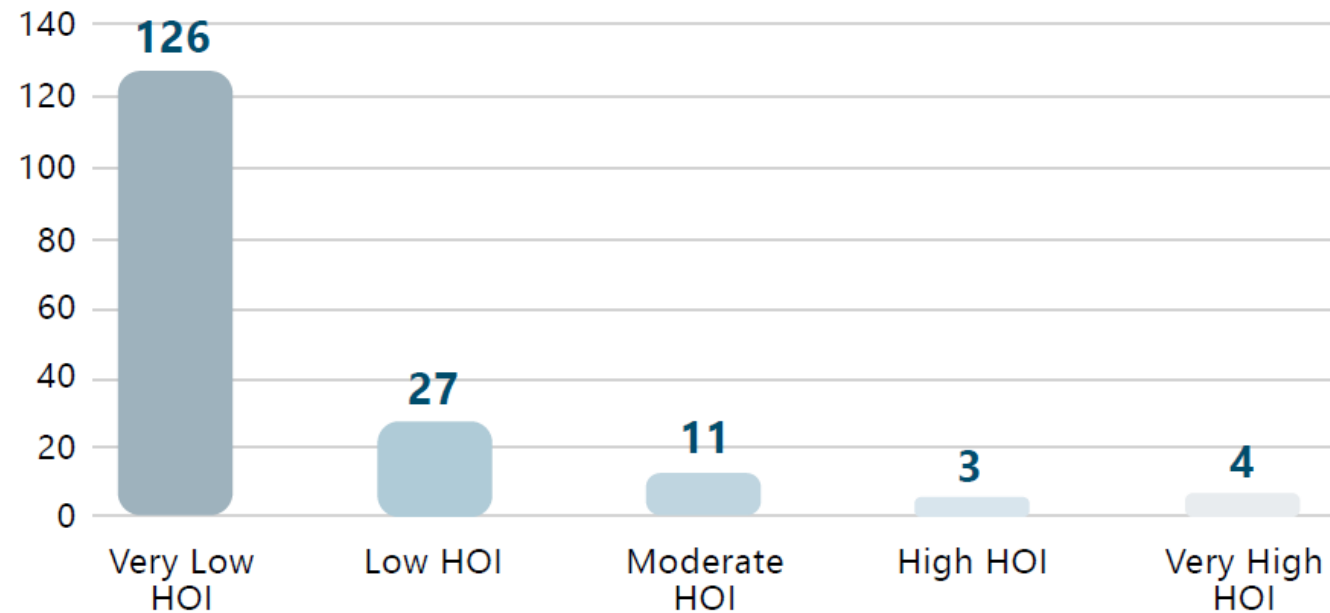
Our High Injury Street Network (2017 to 2019)

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



www.rva.gov

The screenshot shows the official website of the City of Richmond, Virginia (RVA). The header includes the RVA logo, navigation links for 'VIRTUAL CITY HALL', 'SOCIALS', and 'RVA-TV', and a search bar. Below the header is a 'LATEST NEWS' section with three news items. The main content area features a large portrait of Bobby Vincent, Director of Public Works, on the left. To his right is a 'Public Works' section with a grid of links: 'About Us', 'Vision Zero' (circled in red), 'Parking', 'Operations', 'Right of Way', and 'Public Info'. Below this is an 'Inside Public Works' section with 'Public Information' and 'Clean City Commission' links. On the right side of the 'Inside Public Works' section is a video player for 'RVA-TV17' showing a 'Leaf Collection 2019 - Public Works RVA (DPW)' video.

Public Works

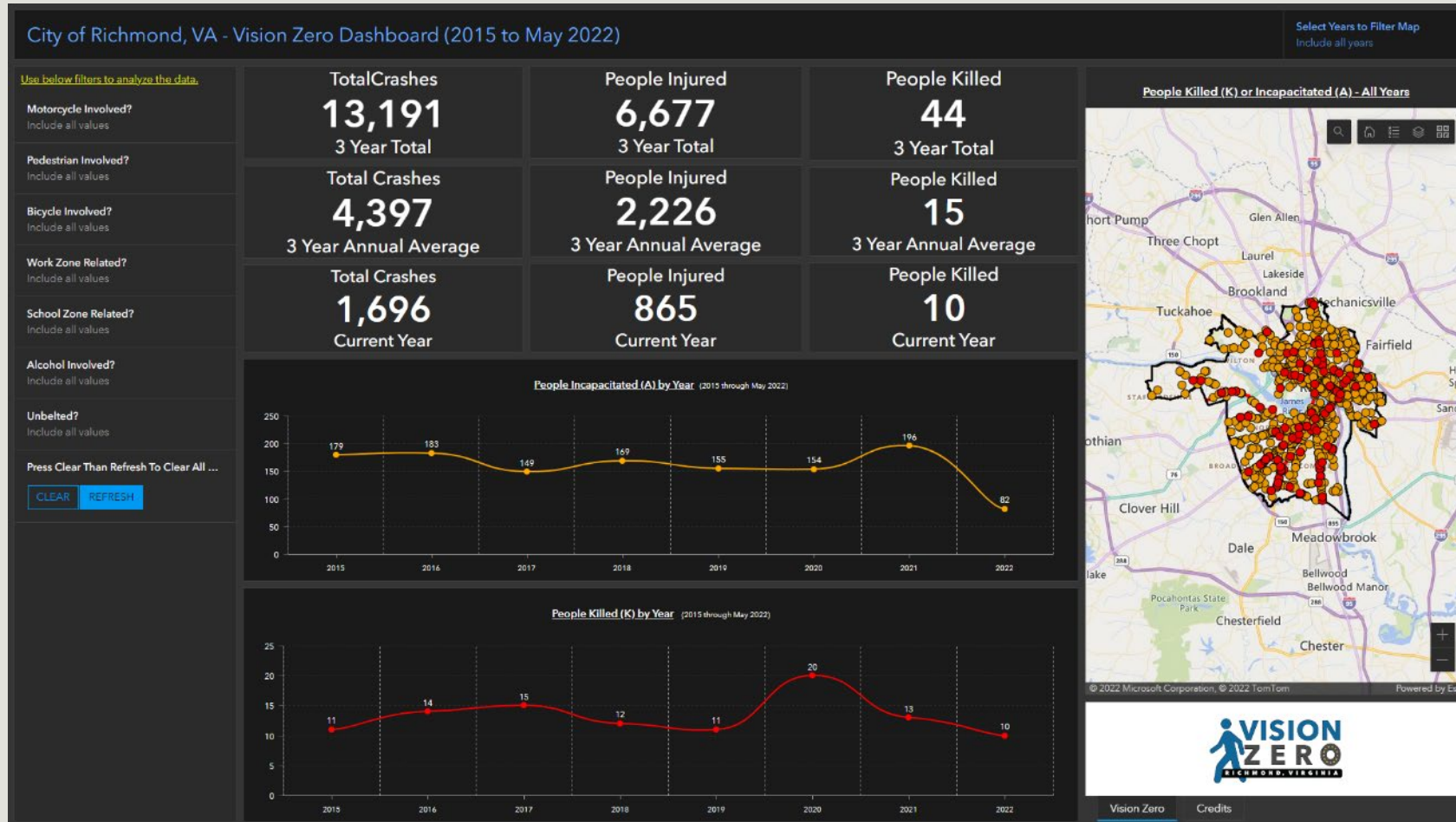
Vision Zero

Public Information

Clean City Commission



Vision Zero Dashboard



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



STEP 7: Yearly Priorities and Metrics

Year Five Priorities - FY23 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	PIE, DMV	# of messages per month	In progress. Speed Management Pilot.
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 stopping behavior for people crossing the street.	Executive / Cultural	RPD, PIE, NPO, SHSC	# of campaigns by dangerous behavior (OP, DUI, Yielding Behavior, and Speed)	In progress. Speed Management Pilot.
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. 66 miles implemented with 16 miles designed and 19 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	Encourage the passage a 0.05 BAC limit in Virginia.	Legislative and Budget	SHSC / VZC	Law adopted	FY23 General Assembly
I-8	Deploy photo enforced cameras to reduce speed and red light running.	Executive	RPD	# of Enforcement Tools Deployed	In progress.
I-9	Encourage the passage of a primary seat belt law for all vehicle occupants	Legislative and Budget	SHSC / VZ Coordinator	Law adopted	FY23 General Assembly
I-10	Work with the Commonwealth Transportation Board and Virginia First Cities 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. JLARC report confirmed.



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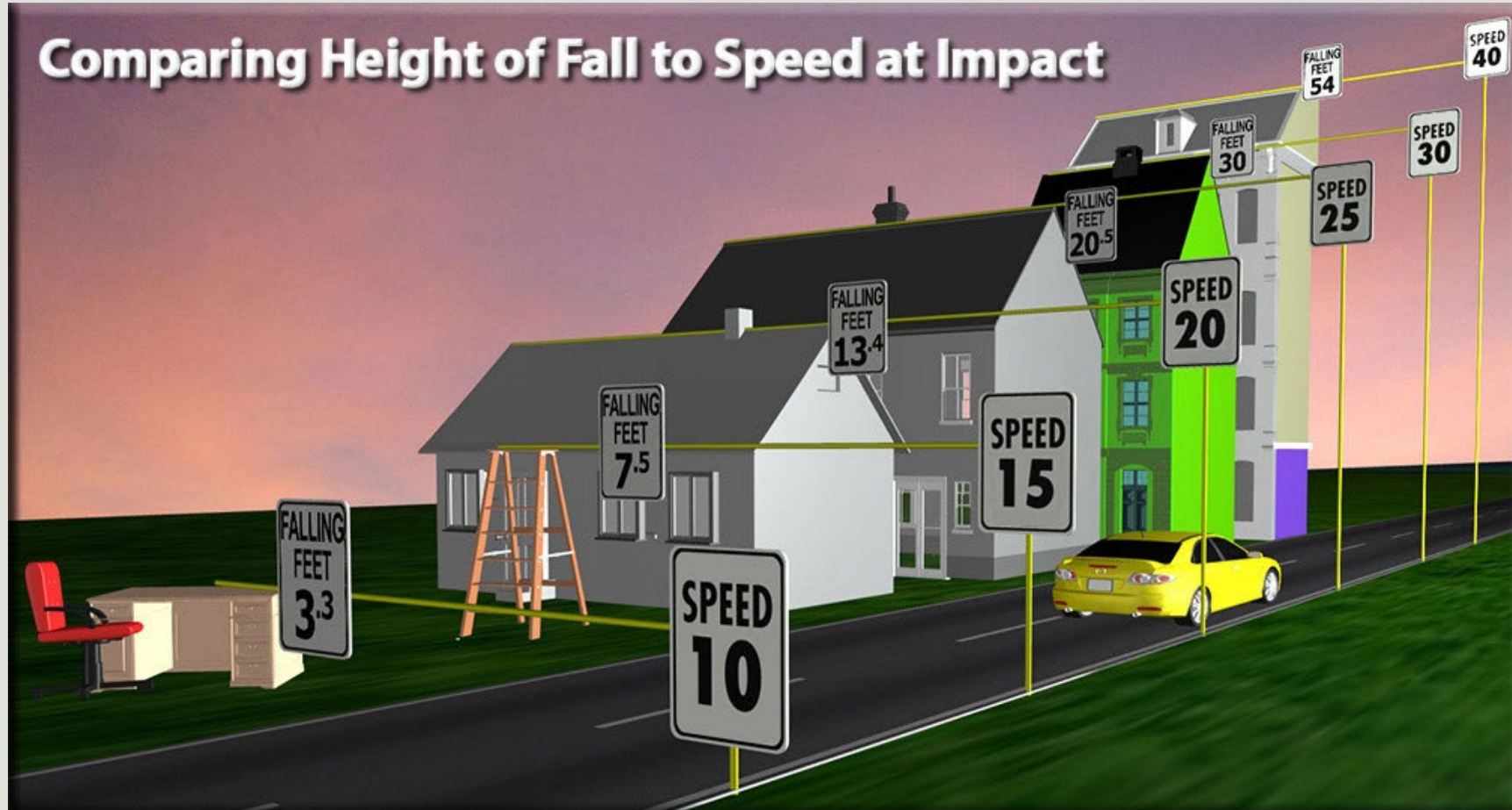
STEP 12: Keep your head up



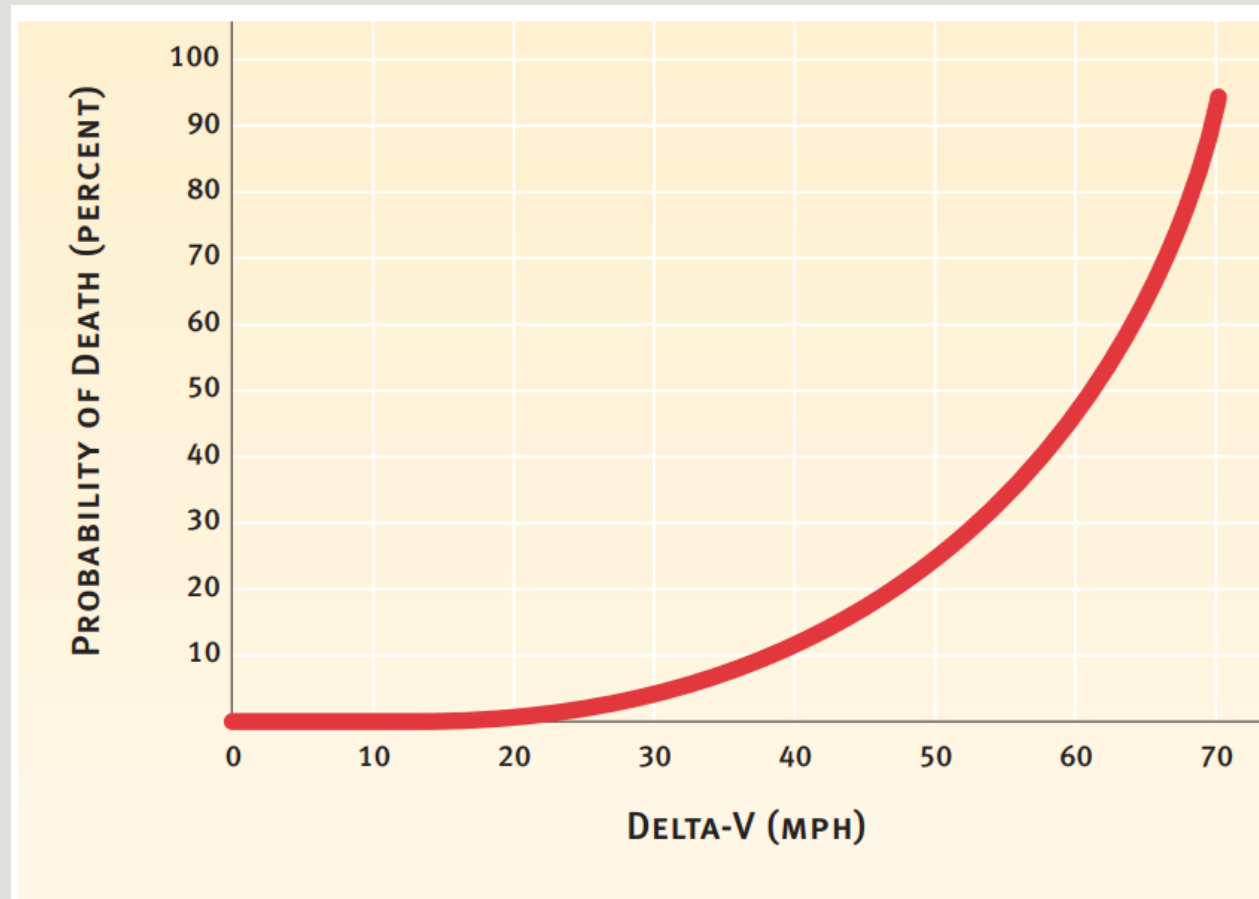
A Step Ladder...



Speed and Heights



Speed and Severity



Same impact – Different Age

