

The Vision Zero Approach in Richmond, VA

ASCE TECHNICAL MEETING: MARCH 17, 2022



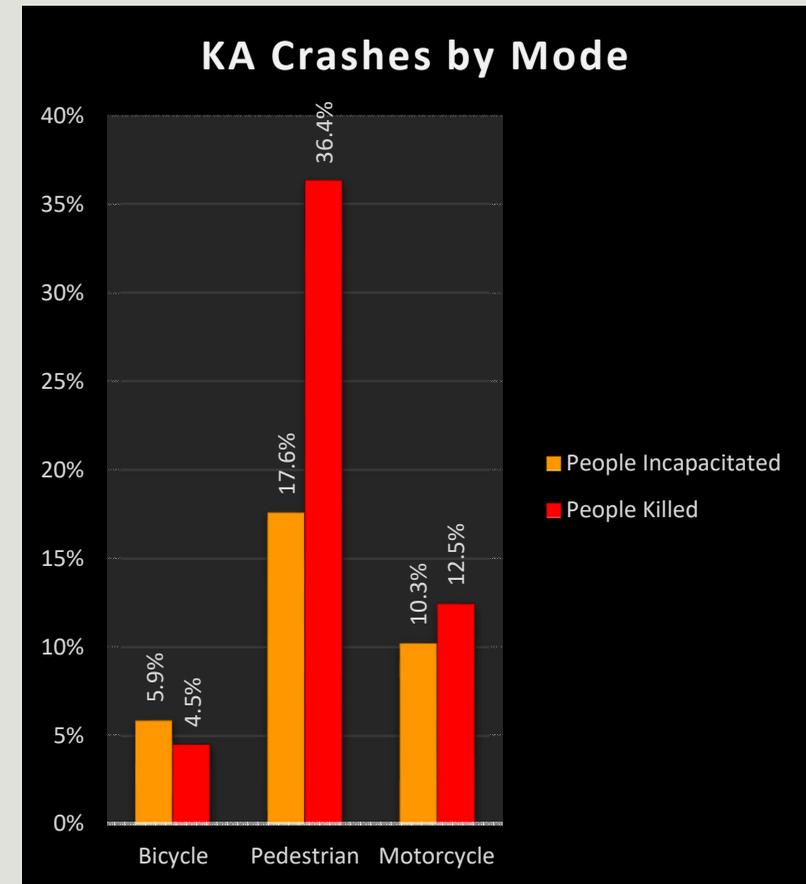
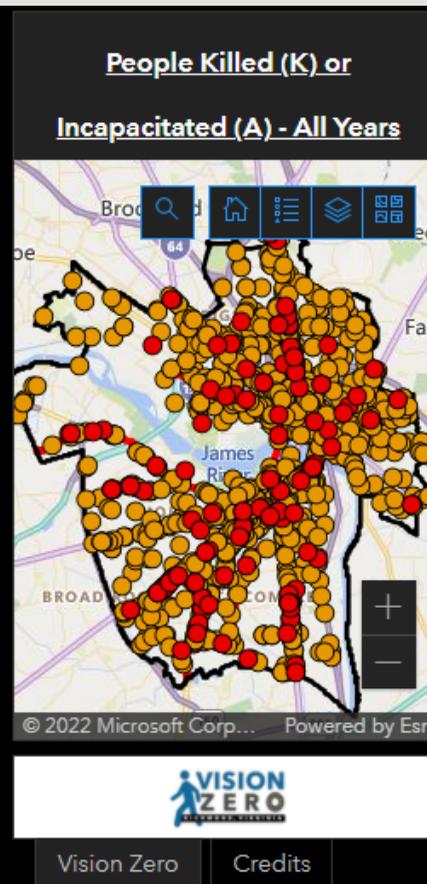
Overview of Vision Zero

- ❑ Overarching goal: end traffic deaths and serious injuries on City streets by 2030
- ❑ Worldwide movement that challenges inequitable design and outcomes of transportation infrastructure
- ❑ Fundamentally different way to approach traffic safety:
 - ❑ Death and serious injuries are preventable
 - ❑ Human life and health are prioritized
 - ❑ Account for human error
 - ❑ System-level changes to influence driver behavior
 - ❑ Speed is prioritized as fundamental factor in crash severity

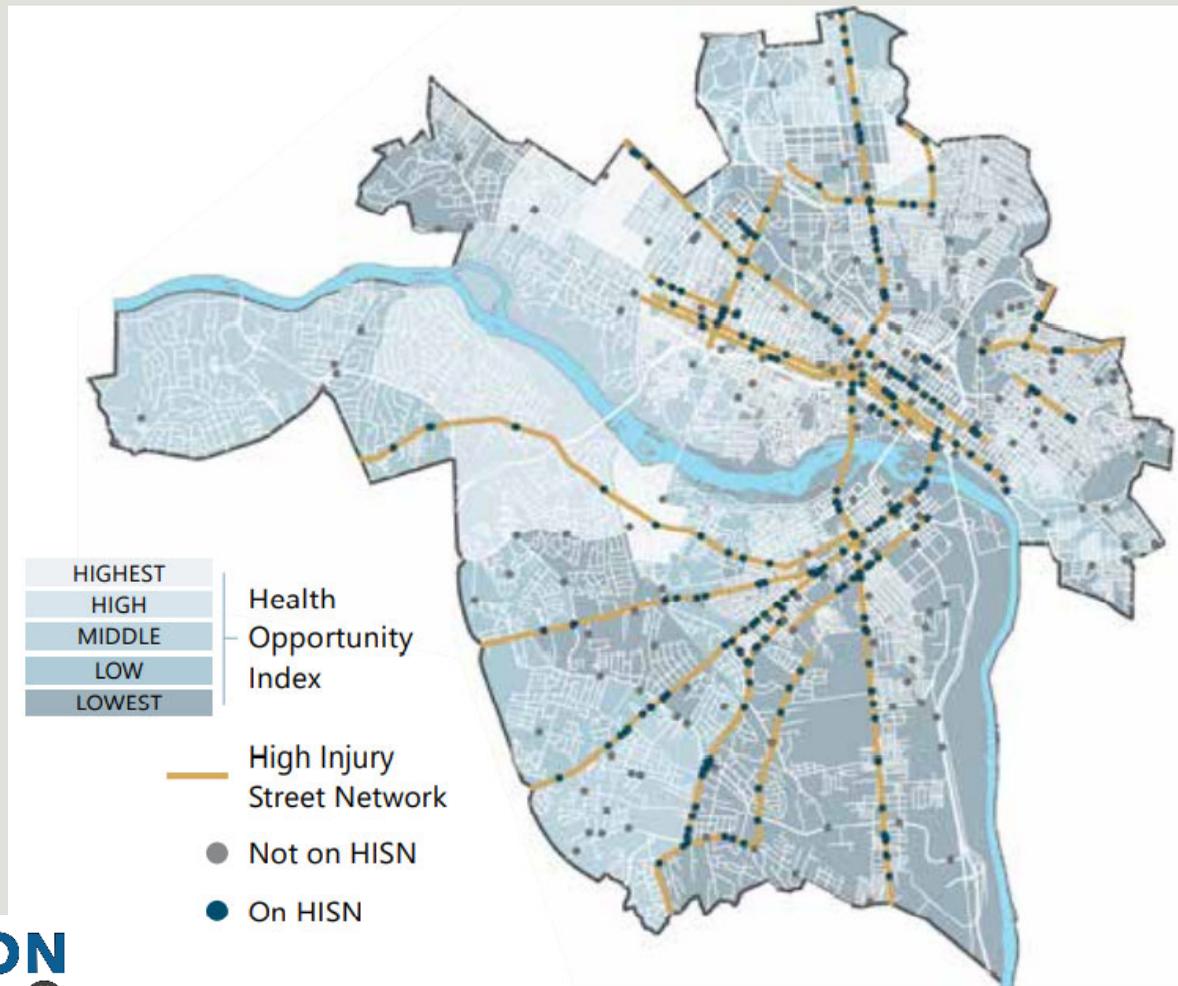


Vision Zero Dashboard (2014 to September 2021)

Total Crashes 13,620 3 Year Total	People Injured 6,959 3 Year Total	People Killed 42 3 Year Total
Total Crashes 4,540 3 Year Annual Average	People Injured 2,320 3 Year Annual Average	People Killed 14 3 Year Annual Average
Total Crashes 3,238 Current Year	People Injured 1,536 Current Year	People Killed 11 Current Year



High Injury Street Network

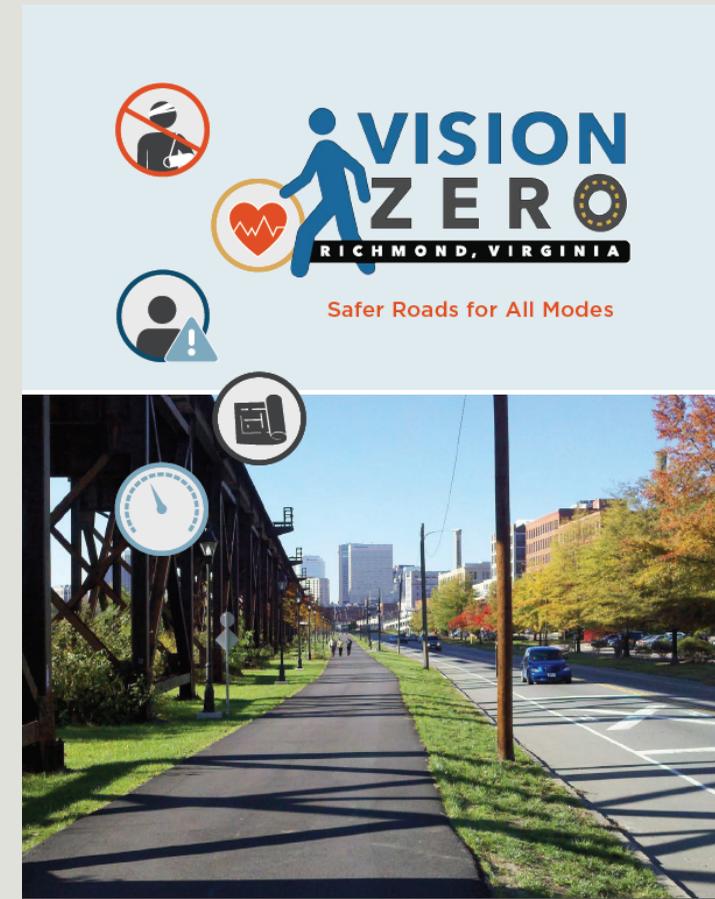


- ❑ Consists of approximately 58 miles or 7% of the City street network
- ❑ Over 60% of all City KA crashes
- ❑ Investments in these locations can address the corridors with a greater likelihood of severe crashes

Vision Zero Action Plan

Initial set of 12 prioritized actions for the first year:

1. Establish permanent, dedicated funding source for VZ
2. Identify Vision Zero Coordinator
3. Establish Vision Zero Task Force
4. Speed evaluation for High Injury Street Network (HISN)
5. Pursue speed management, include automated enforcement
6. Encourage passage of primary seat belt law
7. Implement safety treatments on HISN
8. Work with GRTC to improve high priority transit stops
9. Implement Complete Streets approach
10. Strategic, high-visibility enforcement paired with education
11. Publish traffic safety data publicly
12. Participate in regional and statewide coordination



Safe and Healthy Streets Challenge

I will challenge my agency and myself (including my family, my school, my place of worship, and my place of employment) to do the following actions every trip to ensure that everyone arrives safely to their destination:



Wear our seat belts



Avoid distractions such as talking/
texting on a cell phone, eating
and reading while driving



Share the road with cyclists,
motorcyclists, pedestrians and
large trucks



Never drink and drive



Obey posted speed limits

Together we can save lives and prevent injuries on our city streets.

Shared Language – Lead with People

The words we use frame the broader discussion and can shift the way we think about the problems and solutions. Language can impact people’s understanding of what is happening, who’s to blame, and what to do to make streets safer.

Say	Instead of	Because
People walking, biking, rolling, driving, taking transit, and moving goods	Pedestrians*, bicyclists, transit, cars, freight	Leading with “people” rather than mode, frames the conversation around moving people and goods, not just moving vehicles
Travelers or people	Roadway users	“Users” sounds impersonal and sterile
People	Citizens, residents, constituents	“People” is more inclusive. “Citizen/resident/constituent” could give off the perception that our efforts exclude non-citizens or non-residents or are political in nature

***“Pedestrians” is a more inclusive term, so we continue to use it, but we also encourage the use of ‘people walking and rolling’ to move toward a more humanized tone and be inclusive of persons using a personal mobility device*



Crash, not Accident

- Not accidents but preventable crashes
- “Accident” implies that nothing could have prevented it
- Someone is making the choice to speed, drive impaired, be distracted, or drive recklessly
- Crashes are a fixable problems, caused by unsafe streets and dangerous driving behavior
- Use of “crash” or “collision” does not imply intent



Safe Systems Approach

- ❑ Founded on the principle that humans make mistakes and human bodies have limited ability to tolerate crash impacts.
- ❑ Design and maintain infrastructure to reduce the risk of a mistake and consequences in the event that a mistake is made
- ❑ Support a safety culture that places safety first and foremost in road system investment decisions
- ❑ Primary DPW focus is on “Safe Road Users/People”, “Safe Speeds” and “Safe Roads”.



Safe People

- ❑ “Better Streets Manual” is the City’s Complete Streets Guide
- ❑ Focus on designing streets that support the mobility and safety of all people, no matter their mode of choice
- ❑ Balanced approach to accommodating all while protecting the most vulnerable – people walking, biking, and rolling
- ❑ Identifies street typologies and outlines design guidelines for sidewalk and street zones, as well as intersections

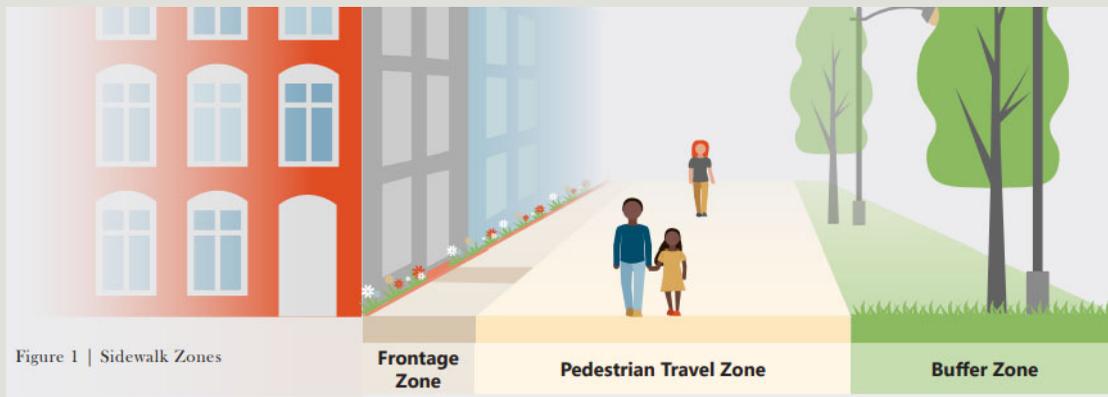
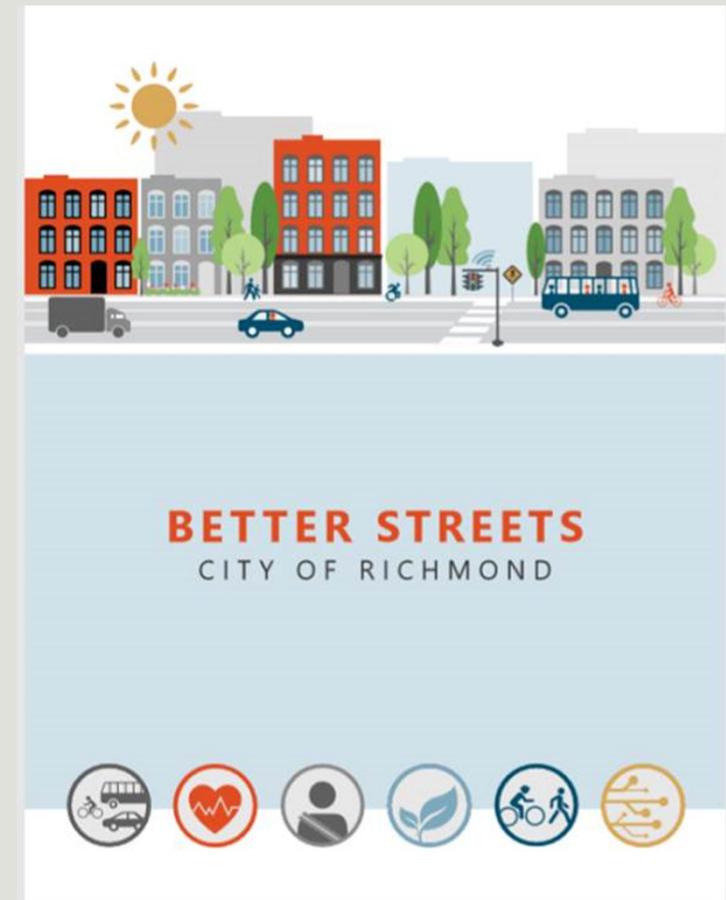


Figure 1 | Sidewalk Zones



Safe People

- ❑ Creation of “High Risk Impaired Driver Action Plan” currently underway
- ❑ Ongoing education and engagement opportunities
- ❑ Legislative priorities:
 - ❑ Primary seat belt law
 - ❑ Reckless driving threshold
 - ❑ Reduction in BAC threshold
 - ❑ Stop as Yield for cyclists



Safe Speeds

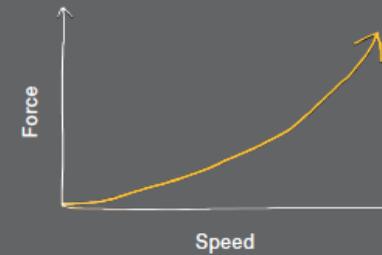
- Focus on reducing the risk of crashes and minimizing severity of those that do occur
- Higher vehicle speeds increase the likelihood and severity of crashes exponentially



SOURCE: AAA Foundation for Traffic Safety, Impact Speed and a Pedestrian's Risk of Severe Injury or Death, September 2011.

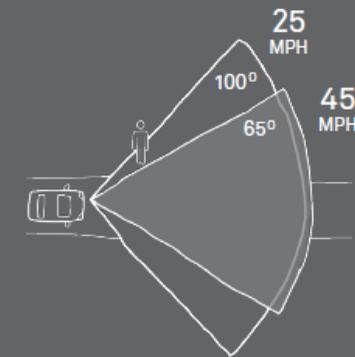
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Crashes at higher speeds are more forceful and thus more likely to be fatal



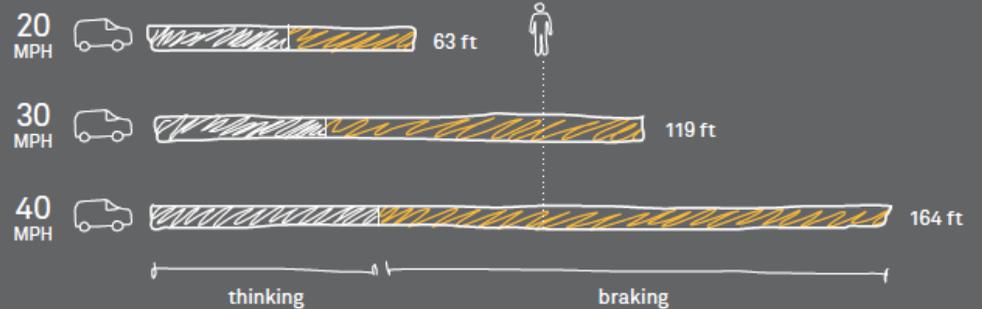
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Drivers traveling at higher speeds have a narrower field of vision



3

Drivers traveling at higher speeds travel further before they can react



4

Vehicles traveling at higher speeds have longer braking distances



Safe Speeds

- ❑ Speed limit reductions completed on several corridors to reduce crash energy
- ❑ Updated “Neighborhood Traffic Management Program” manual to be published in Winter 2022
- ❑ Roadway reconfigurations focus on reallocating roadway space to calm traffic and provide safety improvements such as bike lanes, median refuge islands, etc.
- ❑ Speed safety cameras authorized for use in school and work zones, deployment beginning in Spring 2022



Safe Roads

- ❑ Designed and operated to prevent crashes and reduce severity of those that do occur
- ❑ Focus on process for properly accommodating all modes
- ❑ Allow for tradeoffs to provide balance
- ❑ Encourage healthy, active transportation options
- ❑ Emphasis on:
 - ❑ Pedestrian safety thru crossing enhancements
 - ❑ Cyclist safety thru separated infrastructure
 - ❑ Intersection safety and control



SAFE

Richmond's streets prioritize the safety of all users, with an emphasis on protection of the most vulnerable users.



GREEN

Richmond's streets are public spaces that integrate green infrastructure to improve street tree health, treat stormwater runoff, and improve overall environmental quality.



ACTIVE

Richmond's streets respect the context of the culture and history of the surrounding land uses and, together with the private property, create active, multifunctional places.



HEALTHY

Richmond's streets are designed to encourage everyone to walk, bicycle, and ride transit because they feel safe and comfortable and support the health and independence of all people.



MULTIMODAL

Richmond's streets are designed for walkers, bicyclists, and transit riders, of all ages and abilities, and motor vehicle drivers. Multimodal designs ensure streets are shared, balancing the needs of everyone.

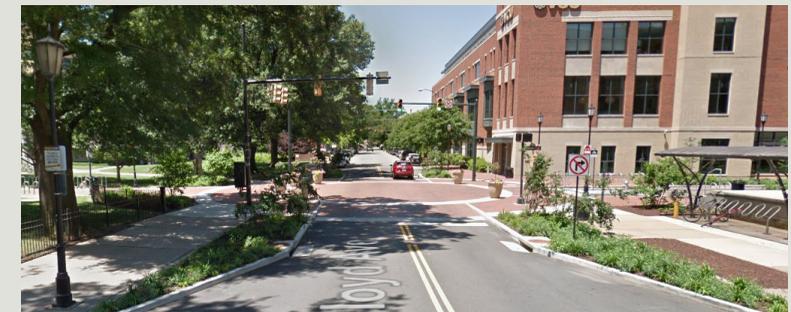


SMART

Richmond's streets are the backbone of communication infrastructure, providing information to move people efficiently and safely on transit, bike share, and autonomous vehicles, and support Richmond's future transportation systems.

Safe Roads for Pedestrians

- ❑ Crosswalk visibility improvements
 - ❑ New markings, advance stop bars, and in-street ped pylons
 - ❑ Intersection daylighting and curb extensions
- ❑ Crossing enhancements
 - ❑ Raised crosswalks and intersections
 - ❑ Median refuge islands
 - ❑ Rectangular Rapid Flashing Beacons (RRFBs)
- ❑ Traffic control upgrades
 - ❑ Leading Pedestrian Intervals (LPIs)
 - ❑ Turn phases (including protected turns and FYA)
 - ❑ Pedestrian Hybrid Beacons (PHBs)



Safe Roads for Cyclists

- ❑ Designated lanes for cyclists and scooter riders
- ❑ Focus on separated infrastructure
- ❑ Accommodations through intersections



Safe Intersections

- ❑ Minimize and modify conflict points
- ❑ Reduce vehicle speeds
- ❑ Improve visibility
- ❑ Provide space for non-auto modes

Best when can do all of the above!



Questions?

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