Speeding as a Safety Problem, a Case Study in Richmond, Virginia, USA

Background

According to the Richmond, Virginia, USA Vision Zero Action Plan adopted in 2018, more than one dozen deaths and 2,700 injuries occur on the streets of Richmond, VA annually. The city’s Vision Zero Action Plan also states that “speed is recognized and prioritized as the fundamental factor in crash severity.” According to the Virginia Department of Transportation and the Richmond Vision Zero Action Plan, from 2011 to 2016, speeding was a factor in 23 percent of crashes in Richmond, Virginia, USA. The city of Richmond’s High Injury Street Network shows that 16 percent of roads account for 58 percent of all fatal and serious injury crashes. 1 To address serious injuries and fatalities on the roadways in Richmond, Mayor Levar Stoney signed a pledge in October 2017 to make Richmond a Vision Zero City. Richmond has also been recognized by the Vision Zero Network as a Vision Zero City. The Vision Zero City pledge is a component of the Mayor’s Safe and Healthy Streets Challenge that emphasizes seat belt use, avoidance of distracted and drunk driving, sharing the road, and obeying posted speed limits. The Challenge is articulated in Richmond’s Safe and Healthy Streets Resolution.

With speeding identified as one of the top five contributing factors of traffic fatalities in Richmond, the city decided to take action and set a goal of creating a Speed Management Program as a component of its Vision Zero Action Plan. Under the Develop a Speed Management Program goal, the following key priorities addressing unsafe speeds were identified:

1) Develop methods for data collection on speeds, street design, automated enforcement, manual enforcement, and current enforcement efforts.
2) Evaluate current design speeds on high injury streets and consider context and making physical changes to the road.
3) Create messaging to promote safe speeds and compliance with traffic laws to the public.
4) Determine slow zones on high injury streets, fund design changes to achieve target speed.

In addition to the goals above, other speed related goals in the Richmond Vision Zero Action Plan include the following:

5) A systems based approach, including changing the design of the road to achieve the speed you want drivers to maintain in order to protect the life of all road users.
6) Coordinate between police departments to conduct high-visibility enforcement campaigns targeting unsafe driving behavior, such as speeding.
7) Apply advanced tools and techniques to reduce speeding, such automated speed enforcement (ASE) as allowed under Virginia state law.
8) Fund design projects to adjust target and design speed.
9) Communicate appropriate speeds through good design.

The Vision Zero Action Plan incorporates specific rational, organization involvement, metrics, and actionable steps toward achieving these goals related to speed management. Source: city of Richmond.

Footnotes:
speed management. In just under 2 years since the city of Richmond committed to Vision Zero, it has embarked on an ambitious schedule of speed management initiatives. In this short time, the city has been recognized and awarded for its holistic and actionable Vision Zero Action Plan.

Recent Speed Management Efforts Underway in Richmond

**Shockoe Valley Streets Improvement Project** (near I-95 overpass on Leigh Street Viaduct): With construction slated to begin in 2021 and project completion in 2023, Richmond is currently engaging public stakeholders on proposed design changes to intersections and corridor changes near an I-95 overpass near the Leigh Street Viaduct. The goal of the $28 million project is to reduce traffic speeds and improve safety for those walking, biking, driving, and taking transit. A safe systems approach is being applied throughout the corridor and will include five roundabouts, a road reconfiguration from one to two lanes, and connected greenways for improved bicycle and pedestrian connectivity.

**Greater Church Hill Transportation Improvement Project:** Outreach is currently underway by the city for a Bike-Walk Boulevard in the Church Hill neighborhood. The project will be designed to lower traffic speeds and volumes to improve safety for those walking, biking, and driving.

**New ArcGIS Dashboard Tool:** In coordination with the Richmond Police Department, the city is piloting a new tool that geo-locates speed data on the High Injury Street Network, instead of simply storing it on a server, to better inform law enforcement. ARCGIS allows easy visualization in real time so that events are more readily understood via the dashboard; it also allows information to be shared with those internally but also with the public so they have relevant information as well as confidence in the tool as well as the project.

**Automated Speed Enforcement:** Richmond’s Vision Zero Action Plan identifies the exploration of speed reduction measures, such as automated speed enforcement, and has pledged to work with the General Assembly to install the maximum permissible number of cameras in the city. In February 2019, the General Assembly passed legislation allowing speed cameras to be used by state troopers in highway work zones. The legislation was not signed by the Governor, but may be considered again in the 2020 legislative session.

---

Reduced Speed Limits: After reviewing changes to the local bus network, land use density, and growth in the population at one of the city’s universities, in March 2019, the city of Richmond reduced speed limits from 35 to 25 mph in three major corridors and from 35 to 30 mph on another. According to a statement from the Department of Public Works via local reporting (wtvr.com), “The decision to lower the speed came as a result of modifications in the GRTC Bus Network; higher density land use and the growth of VCU; exposure of pedestrians and cyclists to higher than average traffic volumes and wide crossings; and new signal timings that promote safer speeds and less illegal speeding.”

Signal re-timings: Nearly 400 intersection signals will be adjusted by 2020 to improve pedestrian safety along key arterials in the city. Work began in early 2019 with the retiming of 147 intersection signals. The work during this phase included intersections west of Belvidere (VCU, Fan, Museum District, and West End). The city of Richmond is leveraging state and federal funding sources to develop this timing project as part of an initiative to improve pedestrian safety via funding from the Federal Highway Administration (FHWA) and the Virginia Department of Transportation (VDOT)’s Highway Safety Improvement Program and $800,000 funded throughout the Congestion Mitigation and Air Quality Improvement Program from the Richmond Regional Planning Organization (RRTPO).

Conclusion

The city of Richmond continues to put in place speed management measures as part of their Vision Zero Action Plan. Richmond is a good example of how a mid-size city can roll a speed management program and action plan into a larger initiative, such as Vision Zero. The city of Richmond has identified safety problems and deployed multi-agency approaches to solve the safety problem. Richmond is an example of how a city can leverage partnerships towards reducing speeds and increasing safety. Richmond is working on speed management projects in conjunction with VDOT, RRTPO, and FHWA.

Richmond has also looked at the entire transportation system to increase safety. In addition to the reduced speed limits, signal re-timing, and street improvement projects, “plans are underway to deploy additional high visibility crosswalk markings at intersections with traffic signals on major federal and state routes.” Richmond, Virginia, USA is a city that is starting to use the safe systems approach to speed management.

Awards and Distinctions

In May 2018, a Governor’s Transportation Safety Award for General Traffic Safety was given to the city of Richmond for its Vision Zero Program. In July 2019, the Institute of Transportation Engineers (ITE) will give the 2019 ITE Public Agency Council Achievement Award to Richmond Transportation Engineer Michael Sawyer, who was instrumental in creating the city’s Vision Zero Initiative in 2017. Mr. Sawyer has been collaborating with citizens, professional staff, and nonprofits to develop projects and programs designed to carry out the mission of Vision Zero. Additionally, in May 2019, an Honorable Mention award for the 2019 Robert S. Hopson Leadership Service Award from the American Public Works Association Mid-Atlantic Chapter was also given to Mr. Sawyer for creating the Vision Zero Task Force to lead the Safe and Health Streets Commission in creating and implementing the Vision Zero Action Plan.

---

5 https://wtvr.com/2019/03/25/richmond-speed-limits/