



Developing an Effective Vulnerable Road Users (VRU) Program

Recommendations from the American Traffic Safety Services Association

The purpose of this guidance is to advocate for the effective, efficient and safe travel for Vulnerable Road Users (VRUs). VRUs are persons who use streets, roads and highways without the benefit of the protection offered by an automobile or truck. Typically, a VRU is walking or traveling by bicycle, scooter, wheelchair or skates—in other words those users who “walk and roll.” It is important to note in the context of this guidance consideration of low speed (less than 20 mph) small size personal battery powered electric motorized transportation devices (or personal e-mobility) are included. Unfortunately, the needs of VRUs have often been ignored, minimized, or unrecognized, while transportation and traffic systems have often been biased toward full sized street, road, highway and freeway vehicles.

A 2019 report by the Governors Highway Safety Association (GHSA) showed pedestrian fatalities rose by 53% between 2009 and 2018 (Source: <https://www.ghsa.org/sites/default/files/2020-02/GHSA-Pedestrian-Spotlight-FINAL-rev2.pdf>). Additionally, the recently issued U.S. Department of Transportation (USDOT) National Roadway Safety Strategy (NRSS) specifically recognizes the need to protect VRUs and address the rising number of fatalities and injury crashes related to them.

To address this continuing problem the American Traffic Safety Services Association (ATSSA) recommends the following:

Top 25 Recommendations for an Effective VRU Program include:

1. Develop and maintain a specific program to track, monitor and mitigate VRU (pedestrian, bike, personal e-mobility, etc.) crashes in their area of responsibility and jurisdiction as issues related to VRU crashes are different from vehicle crashes. If possible, include pathways in this crash program, not just roads and streets.
2. Develop and implement a VRU network plan that works to provide effective and efficient crossings that interconnect the entire community with VRU-compatible travel spaces. Set a goal recognizing that these forms of transportation can lead to an array of safety, health and economic benefits. For additional information on these benefits refer to “***Walkable City How Downtown Can Save America, One Step at a Time***” by Jeff Speck. Consider making streets complete for all road users regardless of mode of transportation.
3. Adopt a program for existing streets and streets under design or consideration to develop and implement guidelines and standards for effective and efficient VRU crossing treatments that account for desired lines of travel and include consideration of Federal Highway Administration

(FHWA) Safe Transportation for Every Pedestrian (STEP) program. Keep in mind that STEP can apply to all modes of VRU travel.

4. Conduct a systemwide inventory and condition assessment of VRU infrastructure (e.g. sidewalks, path, street crossings, etc.).
5. Conduct Road Safety Audit (RSA) that focuses specifically on VRUs location and network issues.
6. Use findings of the inventory and condition assessments and RSAs to develop, adopt and fund a long-term VRU infrastructure improvement, operations and maintenance program which gives particular attention in connecting the network to specific destinations (bus stops, retail, institutions, etc.). Make this program and plan a part of the pavement preservation plan. Operations and maintenance need to include routine and periodic assessments, so sidewalks and pathways are kept clear and in a good state of repair.
7. Develop and implement ordinances that identifies specific VRU rights and responsibilities but puts their authority to use streets in balance with vehicles. Promote and implement educational programs regarding all road users' rights and responsibilities with a focus on VRUs.
8. Eliminate the red and yellow all-flash control of traffic signals for multi-lane signalized intersections and replace them with semi-actuated or all-red flash so VRUs can always gain the right-of- way to cross streets.
9. Keep VRUs in mind when developing traffic signal coordination plans and applications to keep wait times within reasonable limits. During non-peak times allow VRU calls to interrupt coordination. Do not make the vehicle centric "green wave" be the "red wall" for VRU crossers.
10. Provide VRU detection (push buttons or other) and phased crossings (if pretimed) as appropriate. Do not ignore VRU crossing potential just because not many crossers are anticipated. Providing VRU designated, organized and convenient crossings should be a priority regardless of crossing volume.
11. Keep VRUs in mind when selecting and providing supplemental traffic signal indications, including those who have visual, hearing, ambulatory or other impairments.
12. Analyze and develop specific traffic control, signal phasing and timing for VRU crossings. Especially for special event and large entertainment and sporting venue applications and locations. Do not only "flush" vehicles, remember that VRUs are often in this mix as well.
13. Provide space between vehicles and VRU travel areas to create inviting and convenient paths to organized and controlled crossings. Consider using wider multimodal (8 feet or wider) sidewalks as an alternative to separated sidewalks and bike lanes.
14. Paved safety shoulders on rural roads to help mitigate road departure crashes. These shoulders also provide VRUs space to use these roads as well. Always consider adding paved shoulders on rural roads. Some shoulder is always better than no shoulder.
15. Apply Transportation Equity measures that focus attention on communities that are reliant on or prone to using transit, walking and biking as their primary means of transportation.
16. Provide roadway lighting that includes specific photometric levels along streets, sidewalks, and pathways that enhance visibility, security, and sense of community.
17. Develop and implement speed management programs that set and reinforce vehicle speeds which are balanced with VRU risk and spaces, including consideration of human factors engineering. Whenever appropriate, consider using physical reinforcements (e.g., raised crossings, speed bumps and other geometric features) to buffer speed.

18. Establish and fund a neighborhood Safe System Approach that includes a wide variety of potential mitigations that encourage speeds to 25 mph or less and reduces cut through traffic.
19. Require that VRUs be a specific study subject in Traffic Impact Analysis (TIA) for developments. This includes collecting data and reviewing long term crash history related to VRUs. Particular attention needs to be given regarding street crossing risks that may be created or might already exist that may need to be addressed and mitigated.
20. Include VRU needs in temporary traffic control plans in substantive ways that keeps their modes of travel open, convenient, and useful, including ADA-compliant detours. Do not simply close or block the sidewalk, path or bike lane and say you're done. Provide advance warning of closures so VRUs have an opportunity to seek alternative routes. Vehicles get signed detours, so should VRUs!
21. Remember those who have to work in the streets (service, construction, maintenance, emergency, and law enforcement) are VRUs themselves. Develop and require traffic control plans, measures, and techniques that mitigate or eliminates risks and enhances compliance. Require all of those who need to be in the streets to be properly trained and certified in temporary traffic control.
22. Communicate and coordinate with law enforcement and other related community organizations and groups to help advocate for VRU rights and responsibilities and the role that transportation infrastructure can and should play for facilitating VRU accessibility. It is often the lack of or inadequate VRU infrastructure that causes or exasperates VRU problems.
23. Explore and incorporate new technologies into the transportation system, including connected vehicles and infrastructure, which support a safer VRU environment.
24. Develop a proactive program to evaluate VRU issue and complaints. Coordination among engineering, enforcement, and education agencies is essential.
25. Establish citizen advisory panels to evaluate and advocate for all VRUs. Panels should be made up of volunteers that represent the entire VRU spectrum, not just able body pedestrians and bicyclist. Included recreational, disabled, and personal e-mobility interests. Panels should help to develop and implement VRU policies and programs.

