Washington State Injury Minimization and Speed Management Policy Elements and Implementation Recommendations

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Introduction

The numbers of fatal and serious injury traffic crashes in Washington State (2791 in 2019) present a basis for making bold changes to stop them. Motorist driving speeds and vehicle size create physical forces that are greater than the human body can tolerate during a crash. This leads to the outcome of crashes for all users of the roadways and especially those who walk or bike susceptible far too often to fatal and serious injuries. Washington's Strategic Highway Safety Plan "Target Zero," and many local agency "Vision Zero" plans recognize that speed setting through the notion of injury minimization would result in a significant reduction in fatal and serious injuries for all road users. The Injury Minimization and Speed Management Workgroup has studied the findings of multiple reports, scientific papers, legislative statutes, manuals, and recommendation documents to understand the issues. This work reflects other national and state efforts to address speed and injury severity such as the National Association of City Transportation Officials City Limits, the Oregon Speed Zone Standards and the Institute of Transportation Engineers Speed Management for Safety.

The information reviewed show a direct link between driver speed and more severe outcomes for those involved in a traffic crash. The facts provide robust justification for an injury minimization and speed management policy and recommendations. In recognition of the findings and as a step towards accomplishing the Washington State Strategic Highway Safety Plan goal of zero deaths and zero serious injuries by 2030, the Injury Minimization and Speed Management Workgroup has prepared this document.

Facts

Speed management for injury minimization is a recommended strategy in the 2019 Washington State Strategic Highway Safety Plan.

Washington State public agencies actively promote safe roads through planning, design, operation, maintenance, education, and enforcement for users of all ages and abilities.

All users of the transportation system regardless of mode are equally deserving of safe facilities to accommodate their travel.

Research finds that:

- As the operating speed of a road increases the likelihood of crashes increases[i];
- The link between speed and injury severity in crashes is consistent, direct and especially critical for pedestrians,[ii] bicyclists, and users of mobility assistive devices;
- Reducing speed limits has resulted in reduced driver speeds in urban environments;[iii]
- Speed management design treatments such as roundabouts and road diets have been effective in lowering operating speed [iv];
- In urban areas, using a target speed approach to reduce posted speed limits resulted in a reduction in speed, speed variance, and road safety for all road users;[v]

- Past transportation decisions and investments often resulted in disparities in the distribution of benefits and burdens, including higher-speed roads, less pedestrian infrastructure, and fewer controlled crossing opportunities in neighborhoods subjected to redlining and other discriminatory practices[vi][vii];
- Depending on the initial absolute speed, each one mile per hour reduction in the average operating speed results in a reduction in fatal crashes of between 7 and 22 percent;[viii]
- Roads with speed limits at or above 45mph show about 4 times more bicyclist deaths and 32-54 percent more bicyclist serious injuries than roads with speed limits less than 30 mph;[ix]
- The ranges below represent the threshold speeds from the research where they found a 10% risk of a fatality (Table 1) and of a serious injury (Table 2) for the different crash types:

Table 1 Fatality Probability and Vehicle Impact Speed[x] [xi] [xii] [xiii] .

Crash Type	Driver Speed (10% Fatal Injury Risk)
Pedestrian or Bicyclist/vehicle crash	20[xiv] – 25[xv] MPH
Side impact crash vehicle/vehicle (typically at intersections)	30 MPH
Head-on vehicle/vehicle (typically no median barriers)	30[xvi] - 45[xvii] MPH
Rear-end vehicle/vehicle	35[xviii] – 70[xix] MPH

Notes: Speed limits from kilometers per hour have been converted to miles per hour. Speed limits are rounded to the nearest US speed limit. Ranges vary due to the different research study results.

Table 2 Severe Injury Probability and Vehicle Impact Speed[xx].[xxi]

Crash Type	Driver Speed (10% Severe Injury Risk)
Pedestrian/vehicle crash	10 – 20 MPH
Side impact crash vehicle/vehicle (typically at intersections)	20 MPH
Head-on vehicle/vehicle (typically no median barriers)	20 MPH
Rear-end vehicle/vehicle	35 MPH

Notes: Speed limits from kilometers per hour have been converted to miles per hour. Speed limits are rounded to the nearest US speed limit. Ranges vary due to the different research study results.

Conclusion

Year after year thousands of people die or become seriously injured while using Washington State roads. Driver speed is directly linked to the likelihood of a crash and to crash severity. The current system is not bringing about the desired goals of reducing injuries and eliminating traffic deaths. Taken together the information and research reviewed by the work group presents a strong basis for the need to change the operating speeds on many segments of Washington's streets and roads.

Key changes needed to lower operating speeds include modifications to the existing geometric design speed approach and typical approach to setting speed limits. The Injury Minimization and Speed

Management Workgroup encourages agencies in Washington to adopt an injury minimization and speed management policy and/or other changes, as outlined in the recommended policy elements below. These are followed by implementation recommendations that can be used with or without a policy to shift towards lowering driver speeds and eliminating transportation-related deaths and serious injuries.

All owners of public roads, streets, and highways in Washington State are encouraged to use the recommended *Injury Minimization and Speed Management Policy Elements* below to create, adopt and implement Injury Minimization and Speed Management Policies and/or other changes applicable for their agencies.

Recommended Elements of an Injury Minimization and Speed Management Policy

Adopt and implement an injury minimization speed setting approach to achieve speed limits that will minimize injury severity should a crash occur to eliminate traffic fatalities and serious injuries.

Adopt a broader Safe Systems Approach **to identify locations to prioritize** for injury minimization and speed management improvements. This includes locations that present a higher possibility of serious injury or fatal crashes occurring based on land use context, observed crash data, crash potential, and/or roadway characteristics that are likely to increase exposure.

Consider injury minimization and speed management in all transportation investments and project phases regardless of funding source, including but not limited to, planning, programming, design, right-of-way acquisition, subdivision and land development, updating geometric and street section standards, new construction, construction engineering, reconstruction, operation, traffic control selection, system management, repair, maintenance and funding identification.

Collaborate with neighboring jurisdictions regarding injury minimization and speed management implementation and the use of the recommendations below, working together to develop and improve the transportation network to achieve the state Target Zero goal.

Require training on injury minimization and speed management techniques. Training should extend to everyone working on transportation projects including designers, planners, and consultants. See the Professional Development and Training recommendations below.

Adopt access control, access management policies, and land use development policies/ordinances and practices that consider target speeds rather than just the existing speeds to support injury minimization and speed management treatments and system management.

Injury Minimization Speed Setting Approach

- Establish target speeds;
- Use default/category target speeds;
- Where the operating speed is within 5mph of the target speed adopt the target speed;
- Where the operating speed exceeds the target speed by 5mph, use an engineering study to determine iterative speed limits and implement speed management;
- Make incremental adjustments of 5mph or more, as motorist response to speed management until the target speed is achieved.

More details are in the speed setting recommendations *below.*

Adopt a Washington State "Target Zero" or "Vision Zero" safety goal of eliminating fatal and serious injuries and plan for safety. (Example: Seattle Vision Zero or Thurston County Comprehensive Plan)

If an exception is made to an adopted policy element, document the reason for the exception and make information about the decision available publicly.

The policy purpose is to eliminate fatal and serious injury crashes by aligning injury minimization speeds, travel (operating) speeds, posted speed limits, design speed, operations, land use function and road purpose. The results of changes will not be immediate. WSDOT, large cities, small cities, and counties will face different issues regarding injury minimization and speed management across different road types, characteristics of existing roads, and context. These efforts contribute to a continuum of change.

Recommendations to Achieve Target Speeds

The following recommendations are for practitioners including those who set speed limits, design engineers and planners. Recommendations for law enforcement, transportation data management professionals, policy makers and advocacy groups are included in Appendix A. All are needed to shift the culture of speed and reduce transportation-related deaths and serious injuries.

Speed Setting Recommendations

- Use an injury minimization speed setting approach:
  - Establish injury minimization target speeds for all roads based on the road and land use context, potential for different crash types, the impact forces that result, and the human body's tolerance to withstand those forces (consider the data tables on page 3). The goal is to minimize injury severity should a crash occur in order to eliminate traffic fatalities and serious injuries. **Examples**[*] – set:
    - 20 mph target for residential and business districts;
    - 25 mph or less target for arterials and state highways that are not limited access (or other arterials that act in a similar way) in urban, suburban and rural town centers where origins and destinations are within a walking (1 mile) or biking (3 mile) distance;
    - 30-45 mph on rural roads where there are no median barriers and head-on collisions are possible.

    The target speed may be a speed that will require a phased approach to bring operating speeds down over time.
  - Use default and/or category injury minimization target speed limits in all areas that have the same context, density, and/or road characteristics. Examples of this include adopting one speed for all rural roads with the same driveway/access density or all roads with horizontal curves that limit visibility. In population centers this could include adopting one speed for all of the roads that go through or are adjacent to residential and business districts.
  - Where the operating speed is within 5mph of the target speed adopt the target speed and post the target speed. Use speed management techniques as needed to reach compliance.
  - Where the operating speed exceeds the target speed by more than 5mph, use an engineering study to determine a starting posted speed limit that will be adjusted down over time until the target speed can be obtained. Post the speed rounded down to the

Other good resource information about identifying target speeds and setting speed limits for minimizing injury can be found in the NACTO City Limits Guide, the Oregon Department of Transportation Speed Zone Standards and the Institute of Transportation Engineers Setting Speed Limits website.

[*] Examples refer to the research documented on page 2 above.

nearest 5 mph increment. This may result in posting the target speed even if it is more than 5mph below the operating speed. Implement speed management techniques to change the look of the road to obtain lower speeds. Make incremental adjustments to the posted speed limits of 5mph or more, keeping them consistent with motorist response to speed management so they remain credible and elicit compliance. Where a significant difference exists between the operating speed and the injury minimization target speed, this may require an iterative process to step operating speed down over a longer period of time. Note: This approach requires more time and is more expensive than a more complete shift to the target speed with speed management all at once.

- Keep in mind that engineering speed study approaches such as the 50th percentile, 85th percentile and 10 MPH pace speed evaluate speeds based on motorist perceptions and that such studies can bias results toward higher speeds. Drivers will be responding to design cues and the behaviors of other drivers. The results of these studies do not equate to the speed with the lowest crash involvement rate for all road types or to the desired target speed.[xxii] Such studies are to be used to identify the degree of change needed and may serve as evaluation tools for progress toward the target speed.
- Information sources that help identify where speed management treatments are needed most may include:
  - Speed survey data including 50th percentile or 10 MPH pace;
  - Crash history, particularly serious injury and fatal crashes. Apply a safe systems approach when using crash history to determine road characteristics and speeds that are associated with fatal/serious injury crashes across the road network and make system-wide changes to prevent crashes proactively in all similar locations.
  - Numbers of speeding tickets issued and variance from posted speed; speeds well in excess of current posted speed indicate higher crash potential and more severe consequences in a crash.
  - Refine the steps and data sources for injury minimization and speed setting engineering studies and provide direction for how to use an injury minimization speed setting approach.
- Where operating speeds change throughout the day because of traffic volumes, use speed management techniques to achieve the target speed for the road during the low peak times to prevent increases in operating speeds that may become evident as vehicle volumes decrease. This maintains the purpose of the injury minimization target speed in addressing the safety needs of all road users.
- Use a multimodal approach to level of service (LOS), to provide LOS performance measurement information for users of all modes appropriate to the injury minimization context and goals.
- Update the WSDOT traffic manual or local agency operational guidance to provide direction on how to use an injury minimization and speed management approach while operating within the speed setting flexibility provided in:
  - The Washington modifications to the MUTCD,
  - The functional and context classification of the roadway,
  - The statutory range for posted and unposted speeds.

When updating guidance, include information on consideration for land use, the function of the roadway, and the number of approaches per mile.

- Develop criteria for when an engineering study would result in the decision to post a 10 or 15 mph speed limit for shared streets (woonerfs, mall/market streets, etc.).
- Provide guidance that addresses tort barriers related to setting injury minimization speed limits.
- Encourage agencies to use RCW 46.61.415 (3)(a) - to establish maximum speed limits of twenty miles per hour on non-arterial highways, or part of a non-arterial highway, that are within a residential district or business district.
- Convene a workgroup to consider changes to the Washington Administrative Code (WAC) 468-95-045 to allow for speed setting based on injury minimization target speeds without a requirement to reevaluate existing speed limits.

Design and Geometric Recommendations

- Where the operating speed exceeds the injury minimization target speed, identify, and install design speed management countermeasures to create vertical deflection, horizontal deflection, vertical delineation, gateway treatments, roundabouts, and access control. FHWA Engineering Speed Management Countermeasures website is a resource for this information.
- Proactively implement roadway reallocation (road diets) where traffic volumes allow, using bike, transit or parking lane conversions where possible reducing the number of travel lanes. This will lower speeds and help to prevent aggressive driving/passing or severe speed differentials, where some drivers obey a lower posted speed limit and others do not. This may include roads with a bus lane during peak hours and switching to a parking lane for off peak hours.
- Narrow lane widths at intersections and along corridors between intersections. This is especially important for the curb or outside lane of multi-lane roads.
- At intersections consider converting turn lanes to curb extensions or median islands.
- Change or implement policies needed to allow for the use of design elements to achieve target speeds.
- Strengthen all agency's, including WSDOT's, Design and Traffic Manuals and Design and Operational guidance, criteria and standards and any locally adopted design and operational guidance or standards for roadway construction, operations and maintenance to:
    - Add more flexibility for multimodal design and operation, such as detail regarding the use of a separated path versus a wider shoulder;
    - Embed the injury minimization and speed management concepts and countermeasures;
    - Discourage overbuilding for estimated future motor vehicle capacity where such design would encourage higher operating speeds that yield higher speed limit postings and which are at the expense of safety performance for all users;
    - Include design and operational guidance that considers the change in crash and severity exposure of vulnerable users, especially where there is need to accommodate variable speeds (such as urban – rural transition areas);
    - Update design guidance with speed minimization options for locations where land use and/or the presence of destinations suggests current or latent demand for walking and bicycling;
    - Include guidance on road geometrics, roadside design and system operation that get people to drive slower and potentially provide multimodal options before roadside development is fully built out;
    - Create speed management guidance for different road types, modal priorities and land use conditions, residential streets, urban core, collectors/arterials.
    - Update guidance on setting clear zones for all road context and local agency size. Allow for clear zone guidance/standards that consider the character of the surrounding area and avoid blanket guidance for large clear zones (allow for 4' versus 10' in small town business districts, for example).
    - Allow for the use of street trees, street furniture, bike parking, etc. for traffic calming.

    - Update design guidance to match the MUTCD allowance of a ½ taper length on new construction and roadway modifications when the taper is being used for a lane shift versus a lane merge. Where the taper is being used for a lane merge consider separate formulas for urban and/or suburban facilities across all ranges of speed.
- Facilitate collaboration of design, traffic, and transportation safety engineers to implement injury minimization and speed management approaches consistent with local jurisdiction safety goals.
- Adopt policies that would require developers to include injury minimization and speed management treatments in new street design and the operational characteristics of streets that they build.
- Work with local law enforcement, firefighting and other emergency response professionals to identify issues to address and generate support for injury minimization and speed management goals and implementation. Consult design resources to address potential issues, which may include:[xxiii]
    - Enforcement preference for multiple lanes so they have a lane to work in;
    - Grid versus cul-de-sac issues;
    - Lane and shoulder width;
    - On-street parking value as friction for speed management vs space for emergency vehicles;
    - Emergency vehicle size;
    - Preference for 20’ road width on each side of a traffic-calming median.
- Determine if/where WA code exempts local agencies from adopting the International Fire Code (IFC), and identify what portion of the IFC needs to be exempted from adoption in local code to allow a 28-foot street with parking on both sides. Where it prevents injury minimization target speeds from being achieved coordinate with fire department staff to consider adoption of an amended version of section D103.6 of the International Fire Code (IFC) such that required placement of Fire Lane signs is consistent with Traffic Engineer Authority as granted under WAC 308-330-265(11).
- Keep an injury minimization target speed in mind when setting minimum requirements for access management and design/operational treatments. Consider using future land use and access spacing when following RCW 47.50 and WAC 468-52 regarding managed access class warrants for posted speed.
- Develop injury minimization design guidance for on and off ramps where they intersect with other roads.
- Consider reclassification of roadways where the existing functional classification or context classification designations prevent changes to achieve injury minimization speeds, especially where roads within the same community have different designs and/or contexts but the same classification. Lowering the functional classification of a road will sometimes be necessary to allow an injury minimization target speed to be achieved. Recognize that in some locations functional classification may need to be changed to better serve the needs of all road users.

Traffic Operations Recommendations

- Where the operating speed exceeds the injury minimization target speed, identify and install the appropriate traffic control countermeasures found in the FHWA Engineering Speed Management Countermeasures website such as signing, pavement markings, and dynamic signage.
- Use automated traffic safety and speed enforcement cameras in school zones, at traffic signals, and at other locations that may be approved under statute to help maintain speed limit and traffic signal compliance.
- Consider traffic signal timing and operations to manage for target speeds. This may be more effective where there is heavy traffic, in urban areas, dense pedestrian traffic and/or on one-way corridors. This treatment may be particularly challenging where there is more travel lane capacity than needed. As needed use traffic safety cameras to improve traffic signal compliance should it become an issue.
- Prioritize roundabouts when considering traffic control changes or updates at intersections due to their effectiveness at lowering operating speeds.
- Consider additional crossing times for pedestrians and bicyclists based on contextual needs of the location.
- Use radar feedback signs with messaging to help the public understand the importance of driving at injury minimization speeds ("safety over speed" messaging), and a reminder that the speed limit is the upper limit.

Issues Specific to Rural Roads

- Motorist expectation is for higher speeds on rural roads and therefore speed management may be more challenging due to:
  - History of higher posted speeds in rural areas
  - Longer segments between intersections
  - Motorists traveling longer distances between destinations
  - Wide clear areas with less natural visual friction for the motorists

  Examples of common rural road fatal or serious injury crash types where operating speed is an issue are where the vehicle hit a fixed object or run off the road collisions
- Speed management treatments that have been effective on rural roads:
  - Round-abouts
  - Speed feedback signs
  - School zone flashing beacons
  - Decreasing the number of travel lanes (road reconfigurations)
- Speed management treatments that may need further engineering judgement before being used on rural roads and are dependent on land use context:
  - Speed humps/bumps
  - Pinch points
  - Narrowing travel lane width

Professional Development and Training Recommendations

- Provide educational opportunities for traffic and transportation safety professionals to learn about the injury minimization speed management approach, the importance of driving speeds in determining crash likelihood and injury severity, and design and operational techniques to achieve lower operating speeds through self-enforcing streets.
- Encourage attendance at conferences, classes, seminars, webinars and workshops regarding safe systems, injury minimization, and speed management issues when available.
- Provide training about the relationship between the 85th percentile operating speed in different locations and the effect of increasing speed limits on fatal and serious injury crashes versus less severe crashes.
- Share case studies of policies/process where local fire departments support exemptions of the International Fire Code section from adoption in local code to allow for injury minimization treatments, such as streets that are 28 feet or less in width.
- Provide training about how to use an injury minimization speed setting approach for future changes to speed limits and decisions about new road speed limits, including information about land use context and the potential mix of transportation modes that will be using the facilities.
- Include information about the relationship between injury minimization speed management and land use/zoning/development decisions in educational opportunities for planners.
- Provide educational opportunities about how to determine which streets need traffic calming techniques and which traffic calming techniques are best for different street types (residential, business district, etc.).
- Provide human factors training to improve the understanding of how road users interact, understand, see, and make choices on road systems.

Recommendations about Funding

- Inventory and provide information about all current and potential future sources of funding for injury minimization roadway improvements.
- Encourage competitive grant programs (such as the WSDOT City/County Safety Program, Safe Routes to School and the Pedestrian and Bicycle Safety Program, TIB grant programs, and other sources) to make injury minimization and speed management practices eligible for funding and add injury minimization consideration in the selection criteria;
- Identify and pursue opportunities to incorporate speed management treatments with other projects and programs (such as roadway reallocation as part of preservation projects).

Site Design and Land Use Planning Recommendations

- Design buildings to be closer to the road.
- Avoid putting large parking lots between the road and the building.
- Encourage Metropolitan Planning Organizations and Regional Transportation Planning Organizations to support land use density as well as setting direction for roadway context and use that supports an injury minimization and speed management approach.

Glossary

10 MPH Pace Speeds - the range in which the highest percentage of drivers are going or the 10 MPH range containing the most vehicles.

50th Percentile Speed – the median speed.

Category Speed Limits – Where speed limits are assigned to specific categories of streets. Major streets in a jurisdiction would have a given speed limit and so would minor streets. The categories and speed limits would be set once for all streets in that category within the jurisdiction. They would not require an engineering traffic study to be enforceable.

Default Speed Limits – A speed limit that is applicable for all roads within a given jurisdiction. Minimal posted speed limit signs are needed. They do not require an engineering traffic study to be enforceable.

Operating Speed – The speeds at which motorists are observed driving their vehicles. This may be determined by road studies such as the 10mph Pace, or 50th percentile methodology depending on the agencies policy.

Posted Speed – the maximum lawful speed for a particular location as displayed on a regulatory sign.

Limited Access Arterials – where direct admission to or from adjacent lands/property is restricted, and interchanges are used rather than at grade intersections.

Speed Management – The use of engineering, traffic control and road design to induce drivers to travel at target speeds. This often includes treatments to lower motorist speeds along linear road segments or during turning movements at intersections.

Safe Systems Approach - The Safe Systems Approach begins by examining the contributing factors and road characteristics associated with serious injuries and deaths. It focuses on addressing these factors directly in ways that improve outcomes for all users regardless of their mode, actions, or human conditions. The Safe Systems approach recognize that the human body has a limited tolerance for the forces during a crash, that humans make mistakes, and that all stakeholders (users, designers and managers of infrastructure, vehicle manufacturers, etc.) have a responsibility to reduce deaths and serious injuries. More information is available at ITE Safe Systems.

Target Speed – the highest operating speed at which vehicles should ideally operate on a roadway in a specific context.

Additional References

NCHRP Report 737: Design Guidance for High-Speed to Low-Speed Transitions Zones for Rural Highways
NCHRP 535 Pedestrian Safety Relative to Traffic-Speed Management:
NACTO City Limits
NACTO Urban Street Design Guide - Design Speed
FHWA Engineering Speed Management Countermeasures
FHWA Methods and Practices for Setting Speed Limit
CalSTA – Zero Traffic Fatalities Task Force Report of Findings
Analysis of SHRP2 Speeding Data
A New Approach to a Safe and Sustainable Road Structure and Street Design for Urban Areas.
Research Synthesis for the California Zero Fatalities Task Force
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Appendix A

Washington State Injury Minimization and Speed Management Guidance

The following recommendations are for practitioners including transportation data management professionals, law enforcement, policy makers and advocacy groups. All are needed to shift the culture of speed and reduce transportation-related deaths and serious injuries.

Data Development, System Analysis and Evaluation Recommendations

- Complete and adopt a road safety plan (RSP) that will provide a framework for identifying, analyzing, and prioritizing roadway safety improvements on local roads.
- Use an inventory of existing roads, speed limits and land use context to determine where changes are needed (where operating speed and/or posted speed are not consistent with established injury minimization speed goals).
- Review equity analysis data to identify locations/communities to prioritize.
- Create an injury minimization and speed management performance measure (will link to the WSDOT Active Transportation Plan Injury Minimization Speed Limits performance measure as an example when available) and develop a process of data collection to assess how well the roadway system supports it.

- Obtain operating speed data using spot speed surveys, pneumatic tubes, law enforcement LIDAR, etc.
- Maintain operating speed data in a searchable system so that it can be analyzed and integrated with other system data without extensive effort.
- Use transportation geo-data to ensure the accuracy of crash data provided in Police Traffic Collision Reports.

Recommendations about Educating the Public and Elected Officials

Public support is central to implementation success. It needs to include communication and education to inform the public about the extent to which driving speeds affect the likelihood of crashes and crash severity as well as the importance of this work as part of public safety. The goal is to shift the public's expectations, to serve all of the traveling public, and prevent the road rage response (horns honking and dangerous passing) when traveling speeds are lowered.

- Develop messages to:
    - Encourage proper road use behavior by all road users;
    - Explain how and why the injury minimization speed limit methodology is used so that when new lower speed limits are set the public and elected officials can be informed about the purpose and goals of the approach used and, if needed, why the 85th percentile or other speed setting methods were not used.
    - Obtain public understanding and support for injury minimization speed limits framed in a way to prevent/reduce road rage and support a positive traffic safety culture in communities;
    - Increase public understanding of the benefits to traffic operations of reducing the rates and severity of crashes;
    - Inform the general public about the importance of using appropriate lower speed limits to save lives and achieve Target Zero.
- Encourage public health and traffic safety partners to educate the public and elected officials about the importance of speed management and injury minimization.
- Create a one-page message about injury minimization and speed management that is easy to read and understandable for decision makers (one for cities and one for counties).
- Apply principles of multicultural communication identified in the Target Zero 2019 update to prepare and share traffic safety educational materials that are meaningful, understandable, and suitable for everyone in diverse communities.
- Provide elected officials with information about adopting an injury minimization and speed management policy and how this policy guidance replicates steps used to encourage the adoption of Complete Streets Policies.
- Create a one-page concise page that shows how injury minimization efforts support Complete Streets principles for staff and elected officials to use in response to public concerns.
- Encourage the integration of injury minimization and speed management into Complete Streets policies.
- Educate drivers by using advertising, updates to school curriculum, and driver's education.
- Involve the Insurance Commissioner's office and insurance companies in communicating the importance of driver compliance with speed management for injury minimization.

Recommendations for Advocates and Elected Officials Regarding Potential Changes to Laws and Regulations

- Encourage a change to the Revised Code of Washington (RCW) to:
    - Allow for a lower speed threshold of 15 mph (for shared streets [woonerfs, bike boulevards, festival streets, or other special conditions) with an appropriate process;
    - Allow for lower speeds on rural county roads and state routes where there are not design feature such as median barriers and roundabouts to reduce/prevent head on and side impact type crashes.
    - Support injury minimization speed setting without requiring an engineering study, similar to the 20 mph code language (RCW 46.61.415). This may include qualifying criteria language to indicate where these changes will be most effective at reducing fatal and serious injury crashes. Expand the RCW to expand this option to counties.
- Work to develop posted speed range guidelines for functional classification that includes context and multimodal consideration.
- Encourage a change to RCW 46.63.170 – To expand the use of automated traffic safety cameras for speed enforcement, allow cities the ability to authorize their use within their jurisdiction, and conduct a rural pilot. This is especially important in rural areas where resources for speed enforcement are limited. Automated speed enforcement is widely acknowledged as an effective countermeasure to reduce speed-related crashes, deaths and injuries.
- Where automated traffic safety cameras are used, designate the revenue from the automated enforcement for the sole purpose of funding measures to reduce crash potential for all road users.
- Encourage changes in statute that will limit liability and allow design elements to be implemented before target speeds are achieved.

Enforcement Recommendations

- The purpose of this policy is to develop “self-enforcing” streets that should reduce the need for law enforcement. Emphasis should be on design, operations, and automated enforcement.
- Conduct an equity analysis to identify land use, demographic, and enforcement patterns that may give rise to concerns that will need to be addressed considering implementation of enforcement activities related to speed management. (For example, if higher-speed roadways are concentrated in low-income neighborhoods, speeding tickets in those areas create a disproportionate financial burden on residents.)
- Before undertaking any enforcement emphasis campaigns, provide training on equity issues for law enforcement, conduct culturally appropriate community education and outreach, and stipulate that law enforcement work with cultural ambassadors in diverse communities to increase understanding of the need for speed management.
- In locations where injury minimization speed limits are set, enforcement efforts should focus on addressing the top 10% of aggressive speeders. Put less emphasis on enforcement of people driving at lower speeds even where five or more vehicles are in line behind them and more emphasis on enforcement of aggressive drivers.
- Expand the use of automated speed enforcement in school zones and streets where pedestrian and bicycle use is higher.
- Support better documentation of posted and impact speeds in Police Traffic Collision Reports.