

Vision Zero Principles and Practices Memo

This report summarizes initial reconnaissance conducted as part of the Prince George's County Master Plan of Transportation (MPOT) 2035 process. The objective of this memo is to inform the development of MPOT 2035. There is general agreement that Vision Zero should not simply be a stand-alone section of MPOT, but rather be integrated throughout the plan. As such, coordination with team members working on other parts of the plan will be necessary moving forward. This memo includes a scan of best practices from around the United States, a review of the County's current Vision Zero Action Plan, a list of priority policy areas to be addressed, a discussion of performance metrics, and a summary of stakeholder and public feedback received to date.

Best Practices

This section reviews Vision Zero planning from jurisdictions around the United States with a particular emphasis on how Vision Zero has been incorporated into transportation master plans or similar overarching transportation plans. While there are very few current examples of Vision Zero embedded into countywide master plans, most include cross references to safety in some fashion. Jurisdictions for this review of best practices were selected because they are known to be leaders with respect to Vision Zero planning and have incorporated elements that are relevant to informing Prince George's County's Master Plan of Transportation. An overview of each of the case studies is provided, followed by a comparative analysis addressing each of the following:

1. How are Vision Zero and safety incorporated into larger plans across a county?
2. What changes are proposed or made to county transportation planning processes? How is Vision Zero taken from planning to action (e.g., land use requirements, design standards)?
3. What are key partnerships (e.g., municipalities and the state)?
4. What evaluation metrics are used and how is progress tracked (at a high level)?
5. What kind of political support is provided and how did things evolve from when the plan was adopted, through development of an action plan, and during implementation?

Overview

Location	
Montgomery County, MD	<p>Montgomery County was one of the first county governments to develop a Vision Zero Plan (a 10-year strategy) and manage implementation of Vision Zero through two-year action plans.</p> <p>Vision Zero 2030 Plan (10-year strategy plan) FY22-23 Work Plan (latest two-year action plan)</p>
Los Angeles County, CA	<p>An Action Plan was developed to guide the county's efforts on reducing traffic deaths and severe injuries on unincorporated county roadways through 2025. It creates the vision for the future and sets goals and actions to enhance traffic safety in collaboration with agencies and partners.</p> <p>Vision Zero Los Angeles County: A Plan for Safer Roadways (2019)</p>

<p>Arlington County, VA</p>	<p>A five-year action plan that presents a clear framework toward reaching VZ program goals. The plan identifies key safety target areas, actions that improve safety in each target area, and measures for tracking progress toward eliminating severe and fatal transportation injuries in Arlington County by 2030.</p> <p>Vision Zero – Action Plan (2021)</p>
<p>Contra Costa Transportation Authority, CA</p>	<p>CCTA is developing a Vision Zero Framework. They offer a How-To Guide and accompanying Toolbox for implementation of Vision Zero.</p>
<p>Denver Regional Council of Governments, CO</p>	<p>The Denver Regional Council of Governments includes more than 50 local governments and traffic-related deaths and severe injuries are considered a critical and preventable public health epidemic and social equity issue in the metropolitan Denver area. <i>Taking Action on Regional Vision Zero</i> includes a toolkit for local governments to use when planning a Vision Zero strategy in their own communities. The plan sets out Action Initiatives, an implementation timeline, and measures that will help track regional progress toward safety improvements.</p> <p>Taking Action on Regional Vision Zero: Safer Streets for Metro Denver (adopted 2020)</p>
<p>Hillsborough County, FL</p>	<p>The Vision Zero Action Plan was collaboratively developed by the MPO Policy Committee, with members representing Tampa City Council, the Hillsborough County Commission, HART Board, and others in 2016 and 2017. Resolutions passed by government agencies and business commit these organizations to incorporating the plan into their operations.</p> <p>Vision Zero Action Plan (2017)</p>

How are Vision Zero and safety incorporated into larger plans across a county?

Location	
Montgomery County, MD	<p>The Vision Zero 2030 Action Plan was drafted in parallel with other county and state plans that will affect the future of the transportation network: the Maryland 2021-2025 Strategic Highway Safety Plan (SHSP), the General Plan update (Thrive 2050), and the Climate Action Plan (CAP). The Vision Zero 2030 Plan is Montgomery County's local road safety plan under the SHSP. The transportation chapter of Thrive 2050 integrates Vision Zero into the policy and practice recommendations which call for prioritizing non-auto travel modes in the coming decades. The CAP's transportation action items are focused on increasing active transportation options with the necessary safe and supportive infrastructure to support the mode shift.</p>
Los Angeles County, CA	<p>The Action Plan includes evaluating the County Master Plan of Highways to ensure consistency with VZ goals.</p>
Arlington County, VA	<p>The County's principles of Vision Zero (accountability, transparency, equity, engagement, and collaboration) are supported by existing County plans and policies, including the Master Transportation Plan, Arlington's Destination 2027 Health Equity Plan, the Public Space Master Plan, and the Arlington County Police Department Strategic Management Plan. Additionally, the County's Neighborhood Complete Streets program addresses transportation safety and access for all modes of travel on local (non-arterial) streets through physical improvement projects.</p>
Contra Costa Transportation Authority, CA	<p>One of the key implementation actions recommended in the Countywide Bicycle & Pedestrian Plan Update was for CCTA to develop a Vision Zero framework and Systemic Safety approach for the County.</p>
Denver Regional Council of Governments, CO	<p>Builds on Metro Vision's (the region's plan) supporting objectives (maintain existing and future transportation facilities in good condition, improve transportation system performance and reliability, improve transportation safety and security) with six additional objectives:</p> <ul style="list-style-type: none"> • Improve collaboration between allied agencies • Increase awareness and adoption of VZ • Design and retrofit roadways to prioritize safety • Improve data collection and reporting • Increase funding and resources • Increase legislation support resulting in safety improvements
Hillsborough County, FL	<p>Incorporated Vision Zero into land use policy. Defined land use context classifications for various place types/transects in identified Vision Zero Corridors.</p>

What changes are proposed or made to county transportation planning processes? How is Vision Zero taken from planning to action (such as land use requirements, design standards)?

Location	
Montgomery County, MD	<p>The 2018-19 Action Plan prioritized updating the County’s road design standards and roadway classifications to define safe and complete streets. The Vision Zero 2030 Plan was developed through the lens of the new Complete Streets Design Guide. Additionally, the Vision Zero Coordinator will continue to host regularly scheduled coordination and information-sharing meetings, including a steering committee of key departments that will implement that plan and require coordination of efforts and larger VZ Partners meetings between departments and agencies to ensure employees across the government are up to date on VZ efforts and can provide on-going feedback. Implementing departments will also work with advisory committees across the county.</p>
Los Angeles County, CA	<p>Vision Zero Los Angeles County: A Plan for Safer Roadways updates the County’s guidelines for recommending roadway safety enhancements, Public Works’ Highway Design Manual to consider available tools and design standards and other best practices to enhance safety for both motorized and non-motorized users, and Livable Communities Design Guidelines to incorporate multimodal safety design measures. Additionally, traffic safety enhancements will be incorporated into public works projects along Collision Concentration Corridors.</p>
Arlington County, VA	<p>The plan built upon the Master Transportation Plan by continuing a unified planning process that ensures a safe and connected transportation network for all users. The county will revisit the established processes for review and implementation of private development and county-led capital projects to affirm that safety is the first priority in proposed transportation infrastructure and services. The county will update existing or create new county design standards and guidelines to reflect the latest safety research, standards and best practices; include lessons learned from systemic crash analysis; and provide the flexibility to respond quickly to safety issues. The county will also establish and deploy a set of tools and strategies to address safety issues based on their scale and context. Additionally, the county will develop and implement Maintenance of Traffic (MOT) plans for development and capital improvement projects that protect the safety of all modes of transportation during construction.</p>
Contra Costa Transportation Authority, CA	<p>N/A</p>
Denver Regional Council of Governments, CO	<p>The county will develop a Complete Streets toolkit for the region addressing safety-related aspects of street design; incorporating VZ principles, crash profiles, and countermeasures; and including further guidance for establishing safe design components. The county will work with CDOT to update its Roadway Design Guide and the State Highway Access Code to support context-sensitive safety design solutions. The county will provide guidance on the implementation of quick-build projects and implement quick-build projects at high-priority locations when long-term solutions may lack sufficient immediate funding or have a long construction timeline. Additionally, the county will update local government street design guidelines, standards, and municipal codes in accordance with VZ design principles and safe design controls.</p>

Location	
Hillsborough County, FL	VZ Hillsborough will be integrated into regular meetings and discussions of the Hillsborough Community Traffic Safety Team to provide a means for integrating VZ objectives into planning, design, and enforcement initiatives. Additionally, the County will routinely review and amend transportation manuals and local government Land Development Codes, update FDOT Design Standard Index 600 Series to include bicycle considerations, develop a training program and curriculum, and conduct training sessions.

What are key partnerships (municipalities and the state)?

Location	
Montgomery County, MD	The Vision Zero 2030 Action Plan will continue to sync up land use and roadways through integrating Vision Zero and its safe systems approach into master planning for communities, transportation demand management programs, and roadway design guidelines. The Montgomery County Planning Board supports VZ through reviews of proposed development and capital projects and the Montgomery County Planning Department supports VZ implementation through working with existing community groups, County outreach staff, and community ambassadors to increase the amount of public feedback and raise awareness for traffic safety projects and campaigns. Additionally, the County will partner with other VZ communities and organizations like the Road to Zero Coalition to advocate for federal support and policy to achieve Vision Zero.
Los Angeles County, CA	The County will coordinate closely with neighboring cities and State agencies (e.g., Caltrans) to share/analyze data, implement projects and education and enforcement efforts, and regionally create a culture of traffic safety. To create a better understanding of collision factors, County departments and cities will share data and the County will convene partners to link and compile collision data from law enforcement, emergency first responders, trauma centers, and hospitals. The County will engage other jurisdictions and organizations that have traffic safety campaigns underway aligned with regional messaging that the County can build upon.
Arlington County, VA	At the state level, Arlington's Vision Zero Target Areas are similar to VDOT's Emphasis Areas identified in the 2017-2021 Strategic Highway Safety Plan, and the County will coordinate with VDOT on safety issues on VDOT-maintained roadways. The County will also advance legislative solutions for transportation safety at the Virginia General Assembly. At the local level, the County will maintain effective partnerships with neighboring jurisdictions, authorities, agencies, and other organizational bodies to ensure safety concerns can be addressed effectively. The County will facilitate discussions with local organizations and interest groups to understand the needs of different transportation users and promote transportation safety, education, and involvement. Additionally, the County will partner with public safety officials, healthcare providers and others to enhance data quality (since VDOT crash data is limited). Additionally, the County will coordinate with transportation service companies to ensure alignment with VZ practices in company policies.

Location	
Contra Costa Transportation Authority, CA	<p>The Vision Zero Framework includes resources (Vision Zero database and “how to” guide) that is intended to set the groundwork for local jurisdictions to develop robust Local Road Safety Plans. CCTA has also confirmed with Caltrans that the Vision Zero Framework will allow CCTA member jurisdictions to apply for HSIP funding for Local Road Safety Plans. CCTA’s How-To Guide and accompanying Toolbox is a resource for local agencies to implement Vision Zero and safety improvement projects consistently countywide. They aim to integrate Vision Zero as a standard practice in local (and regional) transportation planning and traffic operations.</p>
Denver Regional Council of Governments, CO	<p>The region will pursue collaboration among local governments and allied agencies, which may include state and regional transportation agencies, police departments and state patrol, advocacy organizations, and community-based groups. This includes: organizing a working group to share and expand on VZ updates (in regard to data, resources, policy, and emerging issues) and to develop future actions; facilitating working sessions among police departments to focus on the regional High-Injury Network, crash profiles, contributing violations and behaviors, and equity and empathy; distributing VZ marketing and outreach materials through working groups; sharing funding opportunities; and supporting technology efforts that support Regional Vision Zero.</p> <p>The region will also increase awareness of VZ and support adoption of VZ among local communities, governments, and transportation agencies. This work includes educational campaigns, resources and training, data sharing, and street design tactics. The region will also work with school districts and provide them with tools to host educational seminars or workshops on VZ principles and targeted engagement for K-12 students about traffic safety – emphasizing empowering youth leadership and prioritizing communities of concern. Additionally, the region will improve collection/analysis/reporting of crash data to local communities and governments – including frequent updates to the regional crash database, improved data collection techniques, working with the Colorado Department of Revenue to periodically update the crash form, and establishing and deploying a regional or local response team to investigate crashes and evaluate them for safety enhancements.</p>
Hillsborough County, FL	N/A

What evaluation metrics are used and how is progress tracked (at a high level)?

Location	
Montgomery County, MD	<p>The County will track implementation for each of the plan’s three areas: Complete Streets, Multimodal Future, and Culture of Safety. Complete Streets include metrics on injuries and new treatments built. Multimodal Future include metrics on VMT, travel mode, and transit stops near protected crossings. Culture of Safety includes metrics on ease of travel, seatbelt wearing, crashes with “big five” violations, crashes involving County-owned vehicles, safety awareness training for County employees, and response times for trash collisions with injuries.</p>

Location	
Los Angeles County, CA	<p>The County will conduct routine evaluation, research, and analysis to understand traffic safety trends and impacts to VZ projects – evaluating projects implemented on the Collision Concentration Corridors to track progress and make modifications; implementing an evaluation plan and conducting special studies to understand the impact and extent of traffic collisions countywide with a focus on disadvantaged communities; establishing a process for ped/bike counts; and prepping/distributing reports related to collisions. Additionally, the County will enhance data collection, management, analysis, and surveillance – making VZ data available for use by departments, tracking ped/bike injuries/deaths by sociodemographic characteristics and geography, implementing data collection events and surveys, and enhancing database of infrastructure to evaluate effectiveness for reducing injury collisions.</p>
Arlington County, VA	<p>The County will provide regular program reporting in terms of individual action items and the goal of zero serious injuries/deaths. The County will also conduct an annual comprehensive crash analysis, equity analysis, and critical crash reviews (to identify action items for quick-build response and short- and long-term crash issues/patterns); an annual benchmark survey of Arlington residents, commuters, visitors to understand/track perceived transportation safety issues; and before/after studies to assess efficacy of new strategies or infrastructure improvements using established safety metrics. The County defined quantifiable performance measures for each program target area (e.g., # of speed-related crashes, # of intersection crashes).</p>
Contra Costa Transportation Authority, CA	<p>N/A</p>
Denver Regional Council of Governments, CO	<p>The region provided tracking metrics for each of six Regional Vision Zero objectives. They mostly include quantifiable metrics related to the participation of local governments and allied agencies, police department working sessions, reach of Regional VZ partnership program, school workshops, traffic safety improvement projects along the High-Injury Network, crash data, site visits by response teams, traffic safety funding opportunities, and transportation safety legislation. There are also metrics on whether an action is complete, such as the publication of the Complete Streets toolkit and updating CDOT’s Roadway Design Guide and State Highway Access Code.</p>
Hillsborough County, FL	<p>Progress on goal areas is measured to determine accomplishments in reducing severe crashes. Crash statistics and other performance indicators will be monitored to quantify success and identify areas for improved or refined strategies. There are quantifiable metrics for infrastructure related to sidewalks, crosswalks, mural painting events, bike lanes and separated bike lanes, bulb outs, signage, ADA treatments, narrowed vehicle travel lanes, signalized intersections with LPs, and severe crashes at high crash locations. There were measures for communication goals related to Facebook followers, VZ events held, social media engagements, and the involvement of VZ Coalition. Additionally, there were measures related to public perception and behavior as well as for funding. The performance of the effectiveness of the action plan strategies will be summarized and documented in an annual progress report to the Vision Zero Coalition.</p>

What kind of political support is provided and how did things evolve from when the plan was adopted, through development of an action plan, and during implementation?

Location	
Montgomery County, MD	<p>Action plan created every two years (2018-2019, 2020-2021, 2022-2023). 45 action items and associated tasks are separated by the strategy plan's 3 pillars (Complete Streets, Multimodal Future, and Culture of Safety). Each action item includes a description; budget sources; and information on study, design, and installation/construction plans.</p>
Los Angeles County, CA	<p>Actions are organized into five objectives that represent the County's priorities and help put guiding principles into action:</p> <ul style="list-style-type: none"> • Enhance county processes and collaboration • Address health inequities and protect vulnerable users • Collaborate with communities to enhance roadway safety • Foster a culture of traffic safety • Be transparent, responsive, and accountable <p>Each action item includes details on benchmarks and/or metrics for evaluating success and identifies lead agency for implementation. Annually, the County revises actions as necessary if objectives are not met. A "Collision Concentration Corridor" was defined and mapped for the plan.</p>
Arlington County, VA	<p>Action items are grouped in four categories (Data & Evaluation, Process & Organization, Engagement, Partnerships) with several overarching objectives that may include: data, analysis, progress reporting, planning, design, operations & maintenance, public involvement, education & encouragement, intra-agency collaboration, and interagency collaboration.</p> <p>Action items are reviewed, and next steps are identified in an iterative and collaborative process over a 5-year plan. An annual report is released with a public meeting to collect feedback on progress. The County plans to host mid-year check-ins with the External Stakeholders Group (open to the public) to gather insights and input on the program. Tentatively, the action plan will be updated in 2025.</p>
Contra Costa Transportation Authority, CA	N/A
Denver Regional Council of Governments, CO	<p>The plan includes a Regional High-Injury network where the majority of serious-injury and fatal crashes occur. The plan includes 6 objectives. For each objective, there are action initiatives that include sub-actions, regional partners involved + responsible parties, and action year/implementation time frame. DRCOG will track progress on each implemented action initiative at the beginning of each year. Tracking metrics are provided for each objective.</p>



Location	
Hillsborough County, FL	<p>The Action Plan has 4 action tracks (below) with priority VZ action steps:</p> <ul style="list-style-type: none">• Paint saves lives (pop-up design interventions)• One message, many voices (outreach and messaging)• Consistent and fair (enforcement)• The future will not be like the past (flexible design standards) <p>The performance of the effectiveness of the action plan strategies will be summarized and documented in an annual report to the VZ Coalition – providing a foundation for continued discussions and development of ideas and innovations for improved safety. The plan will be integrated into regular meetings and discussions of the Hillsborough Community Traffic Safety Team. Annually, the VZ Coalition will reconvene to share updates on implementation of the plan and build on accomplishments through new actions and initiatives.</p>

Review of the Vision Zero Action Plan

Prince George’s County is using a multifaceted approach to create a safe transportation system. The Vision Zero Action Plan, created in 2020, serves as a roadmap to achieve zero fatalities and serious injuries on our roadways. The Action Plan is data-driven, innovative, and action-oriented and builds on the Prince George’s County Strategic Roadway Safety Plan 2017-2020. The Plan is organized around the 6 Es: Education, Emergency Response, Engineering, Enforcement, Evaluation, and Equity. The Prince George’s County Department of Public Works (DPW&T) leads the coordination for implementing the actions. The Action Plan has created a Vision Zero Stakeholder Group composed of representatives from County agencies and external organizations.

Vision Zero Stakeholder Group

Established in 2019, the Vision Zero Stakeholder Group initially convened to outline the Prince George’s County Two-Year Vision Zero Action Plan. The group continues to meet addressing actions to achieve Vision Zero. The group is charged with:

- Providing direction to the Project Management Team (DPW&T as County lead) to guide development of the Vision Zero Action Plan;
- Acting as a liaison to agencies, sharing information and soliciting feedback to inform the Action Plan;
- Identifying actions specific to members’ agencies;
- Developing the vision, goals, policy recommendations, actions, performance measures; and
- Creating recommendations to get to zero

➤ AARP	➤ Prince George’s County Government
➤ American Automobile Association (AAA)	• Office of County Executive
➤ Baltimore Metropolitan Council	• Department of Health
➤ Federal Highway Administration	• Maryland-National Capital Park and Planning Commission
➤ Maryland Department of Transportation	• Municipalities
➤ Maryland Highway Safety Office	• Office of Community Relations
➤ Maryland State Highway Administration	• Prince George’s Fire and EMS Department (PGFD)
➤ Maryland State Police	• Prince George’s Police Department (PGPD)
➤ Metropolitan Washington Council of Governments	• Prince George’s Public Schools (PGCPS)
➤ Mothers Against Drunk Driving	• The Office of the Prince George’s County Sheriff
➤ National Highway Traffic Safety Administration	• The Office of Emergency Management
➤ Vision Zero Network	• Department of Permitting, Inspections and Enforcement
➤ Washington Area Bicycling Association	• Prince George’s County Memorial Library System
➤ Washington Metropolitan Area Transit Authority	• Department of Public Works & Transportation
➤ Universities and Colleges	• Prince George’s County State’s Attorney’s Office (PGSAO)
➤ University of Maryland Health System	

The Vision Zero Stakeholder Group is made up of the following representatives, as listed in the Vision Zero action plan 2020-2022:

There are currently two subgroups, referred to as “task forces,” within the stakeholder group:

1. Crash Review Task Force. Reviews crash analysis reports to identify the County’s crash “hot spots” and propose roadway improvements.
2. Communications Task Force. Discuss public outreach efforts and review communication tools.

Featured actions

Education:

- Prince George's County hosted the regional transportation safety campaign, Street Smart, in November 2021 in Oxon Hill, a high injury location to draw attention to this crucial issue.
- "Lives Shatter on Impact" Testimonial Wall was presented at Prince George's Community College in February 2022.
- More than 500 individuals have signed the Safety Pledge, with 10,000 pledge cards distributed.
- Prince George's County is receiving \$35,000 of assistance from the National Capital Region Transportation Planning Board to design more "traffic gardens" to help kids learn about traffic safety at schools and other public spaces.

Enforcement:

- The Prince George's County Council enacted CB-073-2021, legislation pertaining to speed monitoring systems in residential districts, in November 2021.

Evaluation:

- DPW&T launched the Pedestrian Safety Walk Audit toolkit in January 2022.
- Crash data and evaluation tools are public.

Engineering:

- DPW&T replaced the Temple Hill Road/Clinton Bridge in February 2022 to improve vehicular safety and accommodate pedestrians and bicycle traffic.
- The Marlboro Pike, Coral Hills Bike and Pedestrian Improvement Project includes bike lanes, upgraded traffic signals, and pedestrian refuge islands, with a goal to improve traffic calming as well as pedestrian and cyclist safety by narrowing the roadway.
- Prince George's County is receiving technical assistance from MCWOG/Transportation Planning Board for road safety studies aligned with five locations identified through the High Injury Network.

Policy:

- The Office of the Prince George's County Executive has expressed support for Maryland House Bill 656 "Safe Access for All (SAFE) Roads Act of 2022." This bill would require the Maryland State Highway Administration to recommend and implement context-driven design elements for pedestrian and bicycle safety consistent with the United States Department of Transportation's Federal Highway Administration proven safety countermeasures and the SHA's context-driven guide and associated strategies.

Policy Gap Analysis

Integration of the six Es and USDOT's "Safe System" approach

An important objective for the Prince George's County MPOT is to integrate the new National Safety Strategy into the existing Vision Zero framework. The six Vision Zero Es (Education, Emergency Response, Engineering, Enforcement, Evaluation, and Equity) need to be harmonized with the six principles of the Safe System Approach being championed by Federal Highway Administration. The safe systems concept refers to an intentional approach for achieving Vision Zero. It recognizes that humans make mistakes, and we can only achieve Vision Zero by integrating safety improvement

efforts amongst all traffic safety stakeholders (road designers, vehicle manufacturers, policy makers, enforcement agencies, families, workplaces, schools, etc.) to create a safe system. A safe systems approach is one in which practitioners work to design, build, and maintain a transportation system that promotes safe road user behaviors (human factors) and protects all road users from physical harm (forgiving systems). This is a shift from a conventional safety approach because it focuses on both human mistakes *and* human vulnerability. MPO should emphasize the expansion of Vision Zero under the current Federal Highway Administration and build on the current Prince George's County Vision Zero framework.

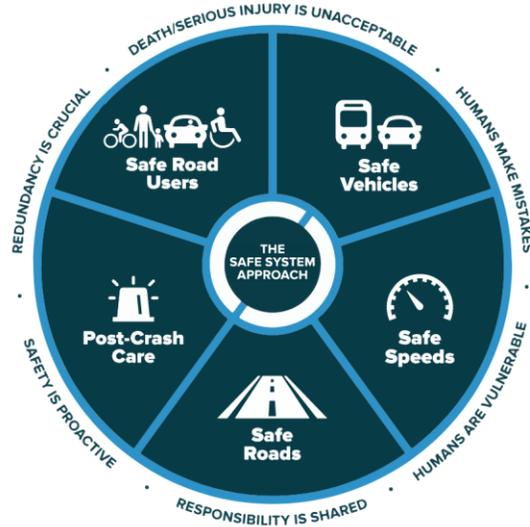
USDOT's "Safe System" Approach

U.S. DOT adopts a Safe System approach as the guiding paradigm to address roadway safety. A Safe System approach incorporates the following principles:

1. Death and Serious Injuries are Unacceptable. A Safe System approach prioritizes the elimination of crashes that result in death and serious injuries.
2. Humans Make Mistakes. People will inevitably make mistakes and decisions that can lead or contribute to crashes, but the transportation system can be designed and operated to accommodate certain types and levels of human mistakes, and avoid death and serious injuries when a crash occurs.
3. Humans Are Vulnerable. Human bodies have physical limits for tolerating crash forces before death or serious injury occurs; therefore, it is critical to design and operate a transportation system that is human-centric and accommodates physical human vulnerabilities.
4. Responsibility is Shared. All stakeholders – including government at all levels, industry, non-profit/advocacy, researchers, and the general public – are vital to preventing fatalities and serious injuries on our roadways.
5. Safety is Proactive. Proactive tools should be used to identify and address safety issues in the transportation system, rather than waiting for crashes to occur and reacting afterwards.
6. Redundancy is Crucial. Reducing risks requires that all parts of the transportation system be strengthened, so that if one part fails, the other parts still protect people.

Implementation of the NRSS will be arranged around five complementary objectives corresponding to the Safe System approach elements:

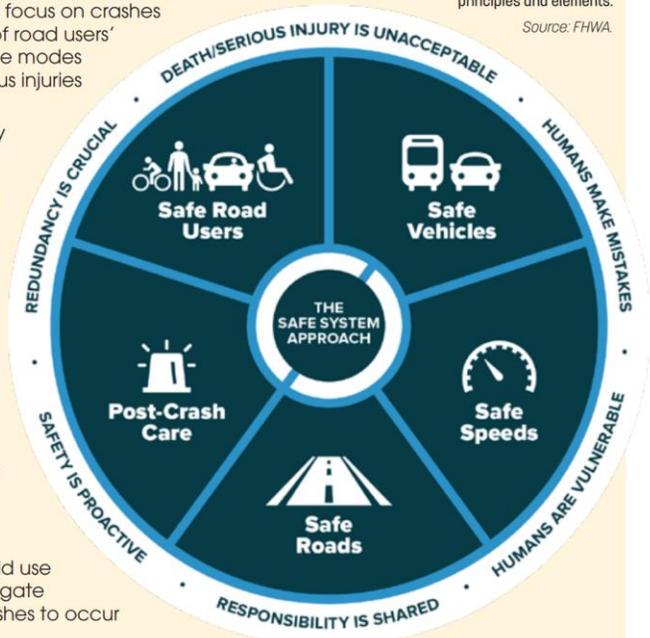
- Safer People: Encourage safe, responsible behavior by people who use our roads and create conditions that prioritize their ability to reach their destination unharmed.
- Safer Roads: Design roadway environments to mitigate human mistakes and account for injury tolerances, to encourage safer behaviors, and to facilitate safe travel by the most vulnerable users.
- Safer Vehicles: Expand the availability of vehicle systems and features that help to prevent crashes and minimize the impact of crashes on both occupants and non-occupants.
- Safer Speeds: Promote safer speeds in all roadway environments through a combination of thoughtful, context-appropriate roadway design, targeted education and outreach campaigns, and enforcement.
- Post-Crash Care: Enhance the survivability of crashes through expedient access to emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident management practices.



Six Foundational Principles for Understanding and Applying the Safe System Approach:

- **Deaths and serious injuries are unacceptable**—While no crashes are desirable, the Safe System Approach emphasizes a focus on crashes that result in death and serious injuries. Regardless of road users’ socio-economic backgrounds, their abilities, and the modes they use, no one should experience deaths or serious injuries when using the transportation system.
- **Humans make mistakes**—Road users will inevitably make mistakes, and those mistakes can lead to crashes. The Safe System Approach expects the road system be planned, designed, and operated to be forgiving of inevitable human mistakes, so that serious injury outcomes are unlikely to occur.
- **Humans are vulnerable**—Humans have limited ability to tolerate crash impacts before harm occurs. Although the exchange of kinetic energy in collisions among vehicles, objects, and road users has multiple determinants, applying the Safe System Approach involves managing the kinetic energy of crashes to avoid serious injury outcomes.
- **Responsibility is shared**—All stakeholders (transportation system users and managers, vehicle manufacturers, etc.) must work collaboratively to ensure that crashes don’t lead to fatal or serious injuries.
- **Safety is proactive**—Transportation agencies should use proactive and data-driven tools to identify and mitigate latent risks in the system, rather than waiting for crashes to occur and reacting afterwards.
- **Redundancy is crucial**—Reducing the risk of severe crash outcomes requires all parts of the system to be strengthened, so that if one element fails, the others still protect road users.

The Safe System Approach principles and elements.
Source: FHWA.



Design Standards

If MPOT 2035 sets some basic Complete Streets expectations (e.g. marked sidewalks at all legs, multi-use shared-use path minimum width because of reference to MUTCD applicable design guidelines, sidewalks on both sides of all street streets), the County will be better able to hold developers accountable. This is a potentially powerful mechanism to reduce the barriers to safe infrastructure. When developing MPOT 2035, Planning Board recommendations should be reviewed

to identify some best practices that could be incorporated into policy and design standards. MPOT 2035 could serve as a tool to connect policy and design standards through a Vision Zero lens.

Prince Georges County's Urban Street Design Guidelines proactively addresses complete streets. Sections 24-4201(c)(1), Section 24-4201(d), and Section 24-4202(a) of the Subdivision Regulations and Section 27-6206(a) of the Zoning Ordinance require all new streets in Plan 2035 designated centers and Planned Development Zones "to be constructed to the appropriate urban street design standard (USDS) within the 2017 Prince George's County Urban Street Design Standards or most up-to-date County-approved urban street standards." These standards, and the regulations that require them, were discussed, evaluated, and implemented intentionally and purposefully between 2014-2018, and the regulations requiring them became effective April 1, 2022. These guidelines have impacts on safety, accessibility, multimodality, Vision Zero, and potential impacts on vehicle level of service and other travel-time goals for vehicles.

(https://www.princegeorgescountymd.gov/DocumentCenter/View/20269/Prince-Georges-County-Urban-Street-Design-Standards_2017)

Maintenance

Maintenance policies regarding County-owned roadways need to be addressed in MPOT 2035, including pavement markings (i.e., crosswalks and bicycle lanes), snow removal, lighting, and shared-use path maintenance.

Snow clearance has been identified as a critical issue. County policy states that abutters must clear snow, but this does not work well in practice. Currently, the priority is on roadway snow clearance, but in doing so pushes the snow to shoulders and bike lanes as well as sidewalks, curb-cuts, and bus stops thereby hindering travel by people on bus, bicycle, foot, or mobility device. There is currently no commitment to maintenance of sidewalks. County resources are insufficient and prioritize basic maintenance and services, making sidewalk clearance policies challenging. Specialized equipment and experience are needed and should be addressed in MPOT 2035.

To get started, a prioritization process is needed (e.g., snow removal at bus stops and sidewalks along major school walking routes) to create a sense of direction for improving the responsiveness of the maintenance program and allowing it to grow over time. MPOT 2035, though, is not a funded mandate or fiscally constrained, so policy recommendations should be developed that have a practical implementation mechanism. At the same time, aspirational policy recommendations are needed if Vision Zero goals are to be achieved.

Speed monitoring

The Prince George's County Council enacted CB-073-2021, legislation pertaining to speed monitoring systems in residential districts, in November 2021. This bill authorizes the County to set up Residential District Speed Monitoring Systems pursuant to the Transportation Article of the Annotated Code of Maryland. House Bill 619 was enacted during the 2021 Session of the Maryland General Assembly which expanded the eligible locations for placement of speed cameras to residential roads. This law amends Section 21-809 of the State Transportation Article to provide that speed monitoring systems may be used in Prince George's County: on any highway in a residential district with a maximum of 35 miles per hour regardless of whether it is in a work zone or not; in a school zone with a posted speed limit of at least 20 miles per hour; or within one-half mile of the grounds of a building or property used by an institution of higher education. Essentially, HB 619 expands the authority of the County to use speed monitoring systems to include certain roads in residential districts. State law's procedure for municipal corporations to use speed monitoring systems on County roads within their municipal boundaries remains the same. MPOT should provide a map and a listing of eligible streets for this program and provide guidance for implementation.

House Bill 656 “Safe Access for All (SAFE) Roads Act of 2022”

The Office of the Prince George’s County Executive has expressed support for Maryland House Bill 656. This bill would require the Maryland Department of Transportation State Highway State Highway Administration (MDOT SHA) to recommend and implement context-driven design elements for pedestrian and bicycle safety consistent with the “safe systems” approach being taken by USDOT and FHWA and the SHA’s context-driven guide and associated strategies. House Bill 656 would require any new construction or improvement project expected to take more than 12 months to complete to implement all possible incremental, near-term safety improvements immediately and maintain each project’s priority ranking. The bill also mandates a funding stream, via the Governor’s annual budget, for Fiscal Years 2024 through 2028, with a 10 percent minimum increase each year beginning in Fiscal Year 2025.

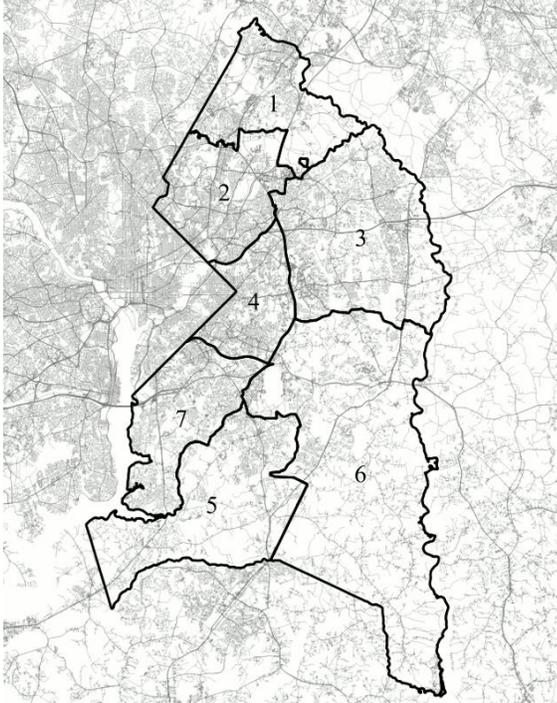
The requirement that all types of construction and improvement projects undertaken by SHA contain industry standard context-driven design elements will add another tool in Vision Zero Maryland and Vision Zero Prince George’s programs to continue to eliminate deaths and serious injuries on roadways. Prince George’s County is determinedly advancing Vision Zero, which is a data driven approach to roadway safety. Vision Zero strategy focuses on the High Injury Network. Since its creation, Vision Zero Prince George’s has successfully worked with MDOT SHA’s Office of Traffic Safety to identify the top 20 roadway corridors within the County with the greatest frequency and severity of pedestrian and bicycle crashes. By identifying these corridors, efforts may be focused on the areas with the highest need for improvements.

Prince George’s County has recommended “the evaluation of existing lighting conditions” be added to the bill as insufficient lighting has been identified as a serious safety concern on many County roadways. The lighting of areas adjacent to and on roadways would significantly improve the safety of not only pedestrians and cyclists, but also drivers, by increasing visibility. The passage of HB 656 will have implications for the development of the County’s MPOT. The bill is currently under consideration by the Maryland House of Representatives.

Performance Measures

The Prince George’s County Vision Zero program uses a High Injury Network analysis to evaluate the performance of the roadway network. The High Injury Network represents one-mile corridors in Prince George’s County with the greatest frequency and severity of crashes involving bicyclists and pedestrians. The network is divided into two categories based on the ownership of the roadway. It includes the 10 corridors with the greatest crash severity for all roadway types and the 10 corridors with the greatest crash severity for County-maintained roadways. Data from the State Highway Administration is used for the analysis.

All but one of the identified corridors are within the I-495 beltway corridor. This corresponds to planning subregions 2, 4, and 7 (also referred to as Transportation Service Area 1, or the “inner loop”). It is recommended that several of the highest corridors be identified for each of the other planning subregions as well in order to identify safety areas throughout the County.



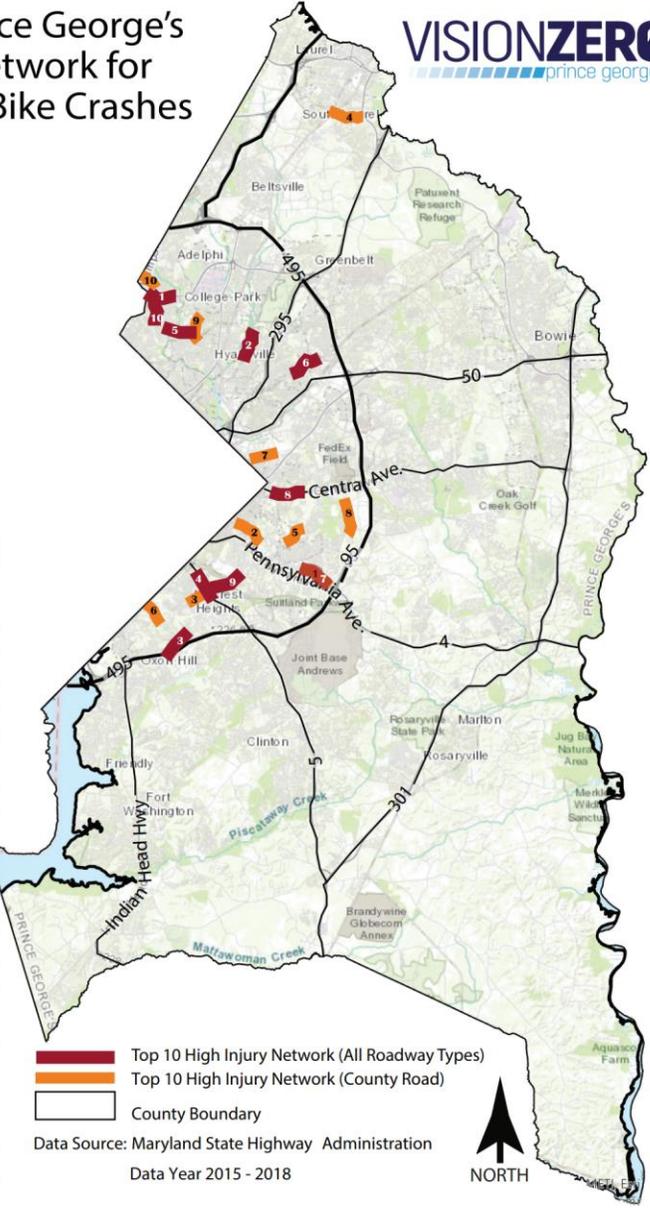
Equity is a factor not yet included in this analysis. Priority areas identified by the County should be analyzed for potentially disproportionate effects on people in equity areas. This could be achieved using a speed/equity analysis. An equity analysis with respect to Vision Zero goals should be incorporated into MPOT 2035 in more detail.



Vision Zero Prince George's High Injury Network for Pedestrian and Bike Crashes

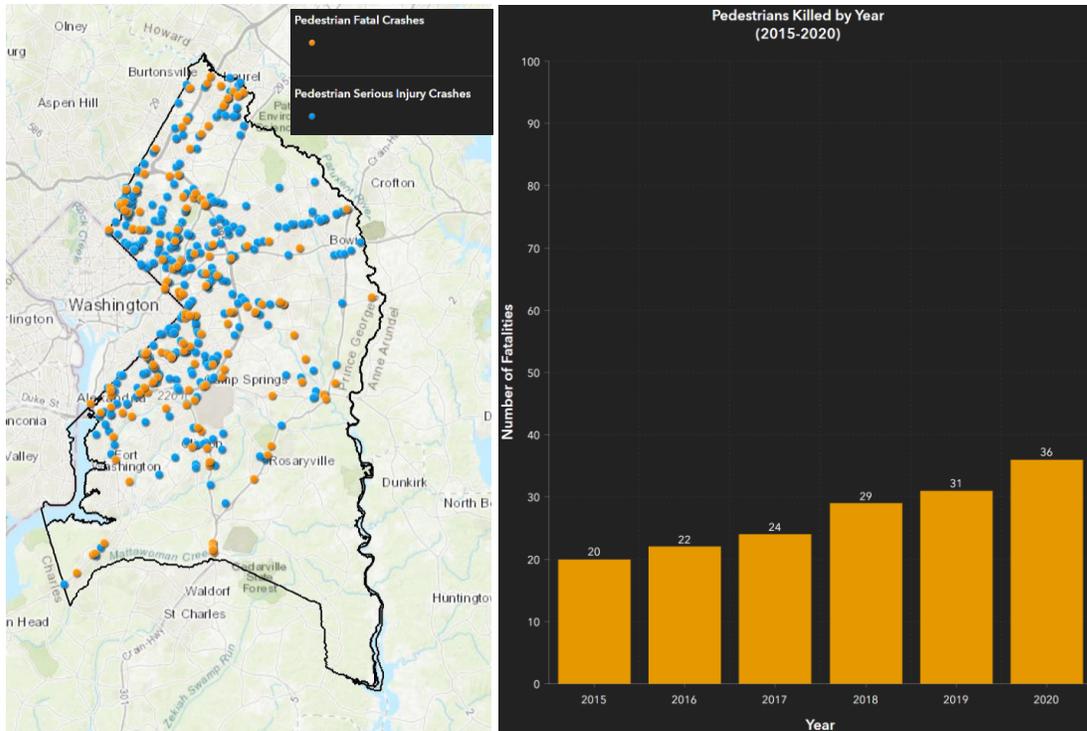


RANK	SEVERITY	ROADWAY
Top 10 High Injury Network All Roadway Types		
1	120	University Blvd. (Edward Pl. to West Park Drive)
2	83	Kenilworth Ave. (Carters Ln to River Rd.)
3	70	St Barnabas Rd. (Chon Hill Rd. to Wheeler Rd.)
4	70	Branch Ave. (St. Barnabas Rd. to Naylor Rd.)
5	62	East West Hwy (Ager Rd. to Belcrest Rd.)
6	60	Annapolis Rd. (Descator St. to Finner Ln.)
7	60	Marlboro Pike (Forsythe Rd to Daniels Dr.)
8	55	Central Ave. (Maryland Park Dr. to Pepper Mill Dr.)
9	53	Silver Hill Rd. (Sutland Rd. to St. Barnabas Rd.)
10	52	Riggs Rd. (East West Hwy. to University Blvd.)
Top 10 High Injury Network County Road		
1	60	Marlboro Pike (Forsythe Rd. to Daniels Dr.)
2	33	Marlboro Pike (Walker Mill Rd. to 5th Ave.)
3	26	Iverson St. (2nd Pl. to Branch Ave.)
4	25	Contee Rd. (Saltimore Ave. to Laurel/Bowie Rd.)
5	24	Walker Mill Rd. (Hawthood Rd. to Kearn Blvd.)
6	22	Wheeler Rd. (Southern Ave. (DC) to Iverson St.)
7	22	Sheriff Rd. (Eastern Ave. NE to Addison Rd.)
8	22	Ritchie Rd. (Central Ave. to Edgewood Dr.)
9	21	Belcrest Rd. (East West Hwy. to Adelphi Rd.)
10	18	Merrimac Dr. (Wooles Dr. to 5th Ave.)



Top 10 High Injury Network (All Roadway Types)
 Top 10 High Injury Network (County Road)
 County Boundary
 Data Source: Maryland State Highway Administration
 Data Year 2015 - 2018

Prince George's County currently has a Vision Zero crash dashboard. Maryland has uniform reporting requirements so further analysis could be conducted to better understand crash causation for serious injuries and fatal crashes. Sonoma County is the first agency to conduct this analysis at a county scale. Sonoma County's [Vision Zero Data Dashboard](#) has some additional features that could be incorporated into Prince George's County's dashboard. When published, MPOT 2035 should include a current snapshot of crash history, but reference the dashboard as a tool that is continuously updated.



Pedestrian Crash Statistics from the Prince George's County Vision Zero Dashboard

Funded through a USDOT Safety Data Initiative Grant, the [Safer Streets Priority Finder](#) enables government agencies to understand the risk to vulnerable road users. Safer Streets Priority Finder is a free, open-source resource that allows practitioners and advocates to analyze and understand the risk to vulnerable road users (bicyclists and pedestrians) on their local roadways. With minimal data prep required on the user's end, this tool uses a Bayesian statistical framework to make a robust estimation of crash risk along the road network. This tool could be used to augment Prince George's County's Vision Zero program and provide a proactive prioritization framework for investments identified in the MPOT.



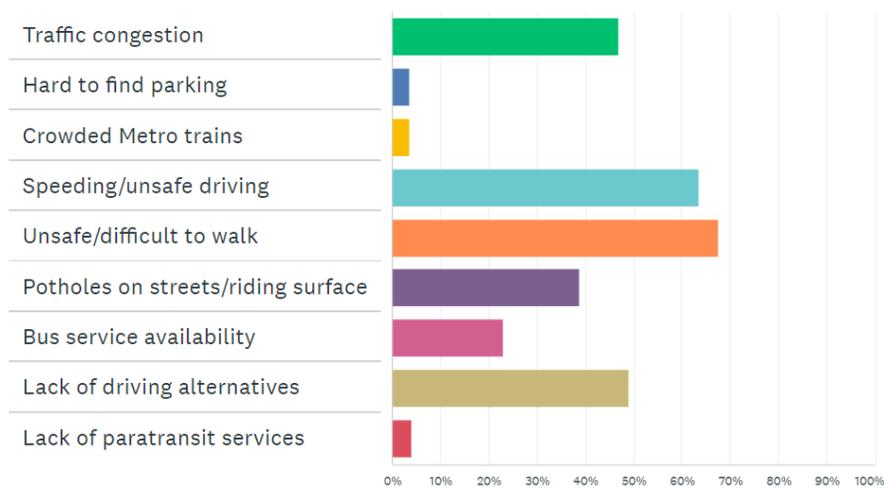
Stakeholder and Public Involvement

Public survey

An online survey was used to collect feedback from the general public on how transportation can be improved in the County. The survey reached approximately 255 respondents and was active in January and February 2022. Three of the questions are relevant to helping understand the public perceptions of safety-related transportation issues. One question asked participants to choose their top three transportation challenges in the County. Both safety-related issues, “Speeding/unsafe driving” and “Unsafe/difficult to walk” were among the top two issues for more than 60 percent of respondents.

What is your biggest challenge with transportation in Prince George’s County? Choose your top three:

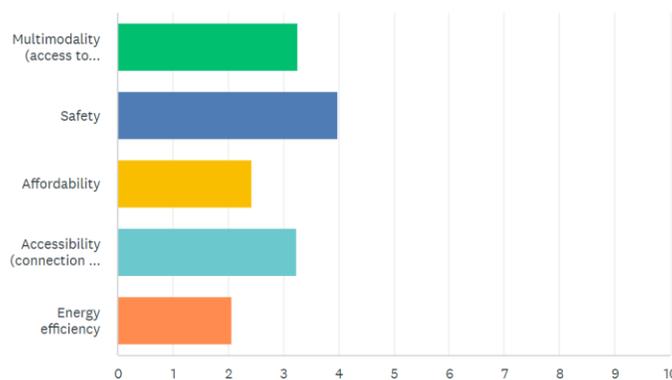
Answered: 222 Skipped: 31



Another question asked participants to rank in order the importance of several themes. For this question, “Safety” received the highest ranking. The response to these two questions suggests a strong public desire that the County incorporate Vision Zero into the Master Plan of Transportation.

Please rank the importance of the following transportation themes for your regular movement:

Answered: 222 Skipped: 31





A third question in the survey focused specifically on Vision Zero by asking participants to rank in order their preference in measures that the County should prioritize as part of a Vision Zero plan. Of the variety of measures, 60 percent of respondents gave their highest ranking to “Engineering” solutions. This suggests that infrastructure improvements are the highest priority for increasing safety for vulnerable road users, such as those on foot, on bicycle, and those with mobility impairments. Enforcement ranked a distant second place with about 20 percent of respondents choosing it as their highest priority.

	1	2	3	4	TOTAL	SCORE
Engineering: -Providing a network of safe bike lanes and sidewalks -Retrofitting existing roads with safer roadway design -Incorporating more inclusive design for people with disabilities (physical, mental, vision impairments, etc.) -Maintaining existing infrastructure, adding pedestrian crossing signals to unsignalized intersections and mid-block crossing locations -Providing accessible public transit options	60.19% 124	17.96% 37	11.65% 24	10.19% 21	206	3.28
Enforcement: -Providing temporary traffic control devices (stop signs, flashing beacon lights, etc.) -Providing automated speed and red-light cameras where applicable -Issuance of citations for violations of traffic laws	18.93% 39	16.99% 35	32.52% 67	31.55% 65	206	2.23
Education: -Providing awareness on the County's Vision Zero goals -Helping people better understand the rules of the road-Helping people understand the traffic safety needs of the visually impaired-Mobility challenged and those with cognitive impairments -Providing training in the community about Vision Zero to encourage people to make safer decisions -Joining the County on safe route to school activities and bike safety trainings	11.65% 24	23.79% 49	22.33% 46	42.23% 87	206	2.05
Policy: -Lowering speed limits-Eliminating turns on red at signalized intersections -Coordinating with the City's partners at the County and State level -Reviewing policies, regulations and laws and recommending changes -Being consistent about calculating County, State and Local crash data	9.22% 19	41.26% 85	33.50% 69	16.02% 33	206	2.44

Stakeholder listening sessions

The County held two stakeholder listening sessions in November 2021 to introduce the MPOT 2035 process and garner feedback and discussion from participants. One session was geared toward agency stakeholders and the second toward municipal stakeholders. Each session included topic-specific break-out groups including one specifically on Vision Zero. The facilitated groups provided a three-minute overview including how safety was incorporated into MPOT 2009; overview of the Prince George’s County Vision Zero Action Plan; and the overall safety goals of MPOT 2035. The following questions were then used as prompts for discussion:

1. What are some of the early successes for Vision Zero and traffic safety generally in Prince George’s County?
2. What are some of the impediments to implementing Vision Zero?
3. How can the Master Plan of Transportation help achieve Vision Zero goals?
4. Are there safety improvements in one part of the County you would like to see in another region?
5. What are you (agency, office, group) working on that we should know about?

Agency Stakeholder Session (November 16, 2021)

Question	Feedback from participants
Early successes	Inter-agency collaboration and collaboration with regional partners. The exchange of ideas among agencies. Data transparency, using data to map high injury networks. The branding of Vision Zero.
Impediments	The lack of political will. Funding and resource constraints limit what can be done. The lack of collaboration. The existing infrastructure, i.e., wide roads and high speeds, make it a challenging environment to get started. There is not a culture of safety.
Role of MPOT	MPOT should be something that can generate the political will for speed control and investment in safe infrastructure. Public participation should be prioritized, and Vision Zero outreach and education should occur through the MPOT process. Build a structure that requires interagency coordination. Focus on the need for infrastructure improvements to build safety into designs. Require safety improvements for bike/pedestrian infrastructure to be incorporated into development proposals. When looking at regional transit district development proposals, the roadway around the district should include elements of Vision Zero in the design, acknowledging the increase in urban density should increase walkability. Push for safety education, such as safety tips and public information campaigns.
Opportunities to replicate successes	Examples of good work inside the beltway with protected bike lanes. Some of the focus on improved safety was around key destinations such as schools. The use of pop-up tactical urbanism. Improved urban design standards and application of context sensitive designs.
What should we know about your agency?	Doing safety audits of high pedestrian and bike crash locations. Working with police and EMS. The revamped Vision Zero website. The concept for a “Pedestrian Focus Area” came out of the Bicycle/Pedestrian Network Plan.

Municipal Stakeholder Session (November 17, 2021)

Question	Feedback from participants
Early successes	A few years ago in College Park, a few deaths occurred that were spaced close together; State, County, local officials got together to change signals; now all signals are exclusive phasing and “pedestrian area ahead” signs were added. Had an education campaign with people dressed in “turtle shells”— they are good shows but have to keep changing the method to keep the public’s attention and also keep it up over time.
Impediments	Municipalities need funding. Some requests for safety improvements are rejected by the State engineers because of the need to follow federal guidelines. Municipalities have to go to the State DOT first and then to County. We have to rely on elected officials because they sit on the SHA committee. Our streets have a large volume of traffic.
Role of MPOT	Often, engineers say deaths are inevitable and only react, don’t act proactively— need to change this in MPOT. Incorporate a mechanism for the County to provide letters of support to municipalities when trying to lobby the State for certain safety improvements. Provide mechanisms for municipalities to be permitted to implement elements of Vision Zero on roads that the County owns but the municipality maintains and provides emergency services; for example, the County has denied permission for a municipality to install speed cameras even though it is an area by a school with a posted speed limit of 25 MPH.
Opportunities to replicate successes	8 years ago, the County rejected a request for Rectangular Rapid Flashing Beacons (RRFBs), saying that there were no warrants for any changes and that RRFBs were not approved by the State; but with the municipality signing a letter holding the County harmless, the County provided a special permit that allowed the municipality to do it.
What should we know about your agency?	We don’t really have a measurement for safety. The Planning Department has influence during development reviews, but can only recommend based on Planning Department policies; ultimately the Dept of Permitting Inspections and Enforcement will make the final determination, or the agency who owns/maintains the roadway, which sometimes is the County.

Public meeting feedback

A series of three evening virtual public meetings were held Tuesday, January 25, 2022 through Thursday January, 27, 2022. The bulk of the meeting time was spent in smaller break-out groups, each of which allowed discussion of all the focus areas for the MPOT. The following provides highlights from feedback related to Vision Zero.

Theme/ area of concern	Illustrative feedback
Multiple individuals asked for consistent and inclusive signage	<ul style="list-style-type: none"> • Billboards along dangerous roadways • Consistent handicapped parking signage • Consistent County signage • Consistent signage County to County • Spanish signage • Reduction of speed limits and more signs
Many expressed their concerns over safety as some wrote about issues related to pedestrian safety	<ul style="list-style-type: none"> • Overlap between Active Transportation (biking) and Vision Zero safety...providing connectivity to safe recreational shared-use paths without exposure to traffic. • Need safer ways to walk and bike • Concerned that the timeline "2040" is too long to wait before saving lives
Some people asked for traffic and road conditions to be improved	<ul style="list-style-type: none"> • Traffic calming devices • Focus traffic calming measures in busier business districts and areas with a lot of pedestrians • Time controls in ALL traffic signals • Use traffic light signal timing coordination to limit speeds • Improved markings on the road • Safer road designs from the start. We know speed limits and signs don't make a difference without enforcement. • Improving mass transit options will reduce the need for cars on the road
Some wanted driving safety conditions to be improved while others asked for clarity regarding vehicle movement and expectations	<ul style="list-style-type: none"> • Better intersection night lights and sound alerts for vision impaired • Help achieve goals by pulling over reckless drivers (even before an accident), to prevent "crazy DMV" driving that leads to fatalities • More street lights on dark winding roads • More roadway lighting on the asphalt • More traffic calming and designing streets so that it is uncomfortable to drive fast (narrowing lanes, chicanes, continuous sidewalks)
Some individuals wrote about the current pedestrian experience	<ul style="list-style-type: none"> • Terrible crosswalk visibility • Build sidewalks • Never felt so unsafe as a pedestrian anywhere else I've lived • Poorly timed walk lights that are too short • The Vision Zero wording does not seem to address pedestrian safety as a priority

Theme/ area of concern	Illustrative feedback
<p>Many expressed their concerns regarding vehicle speed and asked for the implementation of regulations in efforts to control vehicle speed</p>	<ul style="list-style-type: none"> • Lower speed limit; increase police traffic speed traps; more speed bumps and speed cameras • Many speed limits are too high • More speed cameras and higher fines • Concerns with the equity implications of using speed cameras (automated traffic enforcement) • Slower speeds • There were differing opinions on speeding fines: some suggested raising fines, some opposed that approach on equity grounds
<p>Many individuals asked for the improvement of biking conditions on streets and roads, so bikers feel safe while biking on roads</p>	<ul style="list-style-type: none"> • I don't think there are any protected bike lanes in the entire County. That should be included in the plan with a goal to complete X number of miles per year • Protected bike lanes. • No right turn on red. • Traffic cameras for enforcement. • Speed reduction on MD 202 from Bladensburg through to US 50 • Clean up the bike median
<p>Several individuals stated that courses, trainings, or some type of teaching mechanism that teaches safety and speed regulations as it would be beneficial in preventing crashes in the future</p>	<ul style="list-style-type: none"> • Driver safety courses for repeat offenders • A local or neighborhood-scale approach. Teaching traffic safety tools at community level • Pedestrian civility and community partners to ensure that the rules of road are jointly adhered to • We do not train drivers sufficiently in the U.S. Improve driver training requirements like many European countries do; teach skilled defensive driving and awareness of the need to give room to bicycles and pedestrians. • Use educational billboards on dangerous roadways • Some suggested public service announcements showing graphic content of accidents, while others reacted that graphic content can be triggering for those who have been crashes or lost family and friends to crashes • The Washington Area Bicyclist Association (WABA) is going to be starting a Prince George's County Families for Safe Streets Chapter as a way for people to get involved



PHOTO 1 (this is for a place in the PDF as referenced in the PDF)

