



BALTIMORE
METROPOLITAN
COUNCIL

Safe System Approach

Case Studies



Learning from our peers helps us implement the Safe System Approach in greater Baltimore.

A handful of challenges stand in the way of rolling out the Safe System Approach across Baltimore County, Carroll County, and the City of Baltimore.

The challenges, as articulated by staff at agency workshops, are summarized below. The sections that follow describe how agencies facing similar challenges in other US municipalities approached the challenges and implemented the Safe System Approach.



EQUITABLE OUTCOMES Incorporating equity into decisions regarding transportation safety priorities.



CREATIVE ENGAGEMENT Processes to identify and implement transportation projects that prioritize safety and ensure the best use of limited resources.

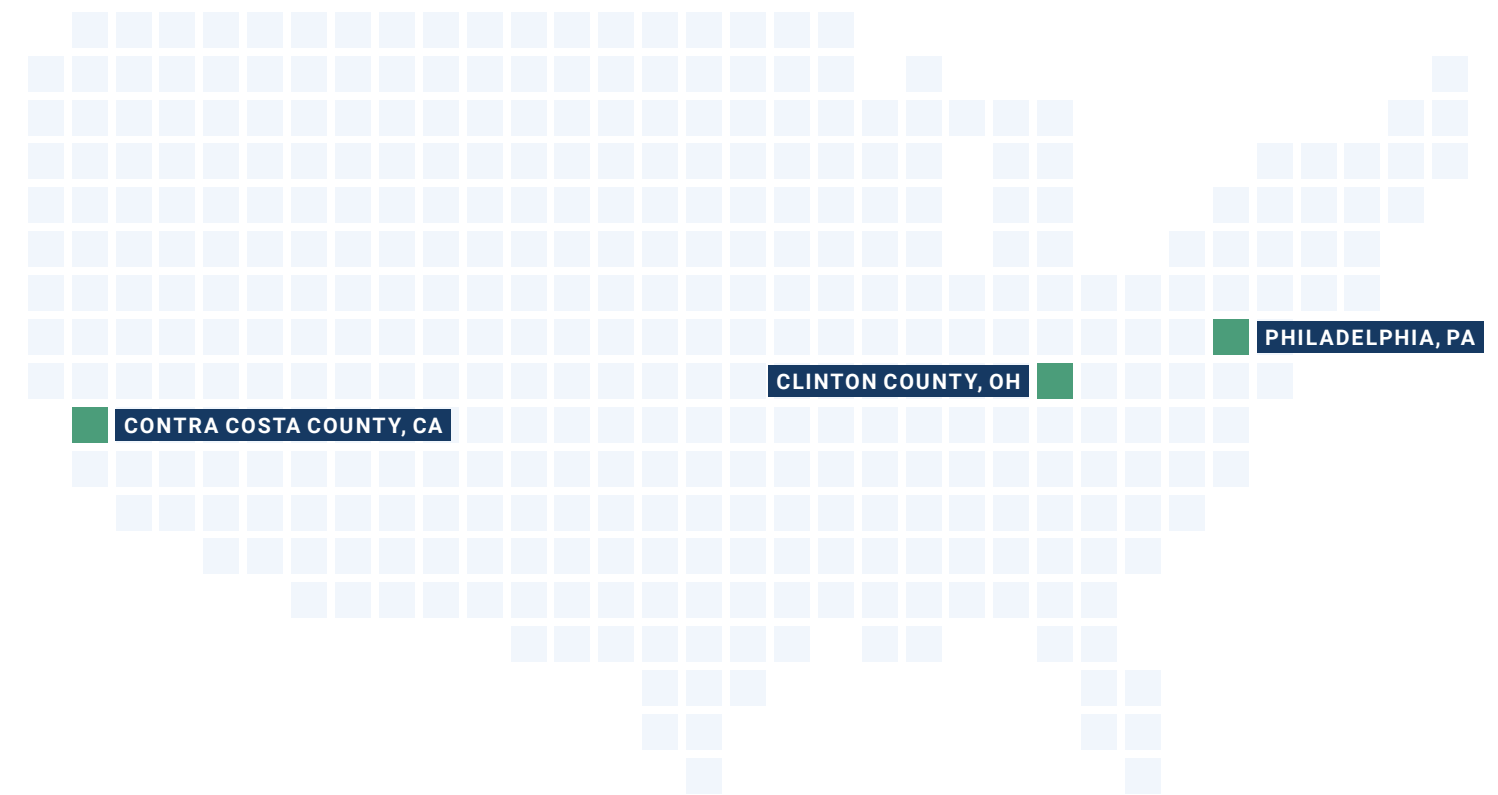


CULTURE SHIFT Interagency coordination on transportation safety topics to establish a shared responsibility among stakeholders. A shift in the external safety culture with the public to change roadway behaviors. Additionally, there is limited staff awareness and training on safety resources to achieve safety goals.



ACCOUNTABLE IMPLEMENTATION Creative and proven ways to engage the public on transportation safety.

Case study communities include Philadelphia, PA; Clinton County, Ohio and Contra Costa, CA, which all faced similar challenges to the BMC region in deploying the Safe System Approach.





Source: Contra Costa County

Contra Costa County is committing to Vision Zero by 2035 and has adopted the Safe System Approach to achieve this vision. The County has produced multiple resources to bring them closer to the goal of zero serious injury or fatal crashes.

In 2021, the Contra Costa Transportation Authority (CCTA) published the [Countywide Transportation Safety Policy and Implementation Guide](#), which helps the County and local agencies develop effective safety plans, projects, and programs. The Guide includes a comprehensive data analysis, recommended approaches to engagement and building leadership, an equity-focused approach to developing local action plans and work programs, and a toolkit of safety countermeasures.

The 2022 Contra Costa County [Vision Zero Action Plan](#) sets a vision for an “equitable, sustainable, multimodal transportation system where users of all ages and abilities can travel conveniently, reliably, and free from harm.” Its equity-focused, community-driven approach aims to eliminate fatal and serious injuries throughout Contra Costa County by 2035.

Authentic, meaningful engagement underpins the Safe System Approach.

Contra Costa County links Vision Zero with the Safe System Approach to prioritize equitable outcomes, culture shift, creative engagement, and accountable implementation.

“Contra Costa County will have an equitable, sustainable, multimodal transportation system where users of all ages and abilities can travel conveniently, reliably, and free from harm.”

- CONTRA COSTA COUNTY VISION ZERO FINAL REPORT



EQUITABLE OUTCOMES The Vision Zero Action Plan identifies equitable networks as a guiding principle and data analysis breaks out race and ethnicity of crash victims to understand those most impacted by crashes. The County has also identified Equity Priority Communities (EPC), which will be considered as projects are developed. The Policy and Implementation Guide provides more detailed guidance on ways to incorporate equity-focused analysis and programs into all phases of a project. However, additional guidance is still needed to help local jurisdictions within the County adopt more robust processes to build equity data into the decision-making and prioritization processes (see the Philadelphia case study).



CULTURE SHIFT The Policy and Implementation Guide describes the need to establish a safety culture and includes advice on developing Vision Zero Leadership and Commitment as a critical part of that culture. There is a recommendation to frame Vision Zero as intersectional with health, community development, sustainability, and equity as well as to humanize crash data with personal stories and testimonials. Evaluation still needs to occur to ensure recommended approaches and programs are adopted and implemented.



CREATIVE ENGAGEMENT The Policy and Implementation Guide lays out a path to authentic, meaningful, and accessible engagement as a critical element of developing a Vision Zero Action Plan. The Vision Zero Action Plan identifies numerous potential education, enforcement, and culture shifting initiatives as well as existing programs that relate to Vision Zero actions. This includes community partnerships, educational materials, and the introduction of street safety ambassadors. The County Vision Zero Action Plan doesn't describe public involvement activities, however documents such as the County's Active Transportation Plan demonstrate many of the techniques and approaches in the CCTA Toolkit are being used in the County.



ACCOUNTABLE IMPLEMENTATION The Vision Zero Action Plan identifies 11 of the most common contributing causes to fatal and serious injury crashes, referred to as collision profiles, and the safety countermeasures that can address them. Projects derived from the Systemic Safety Analysis Report and High Injury Network are presented to show how they address the relevant collision profiles, number of serious or fatal crashes, and estimated costs and benefits.

Contra Costa County's alignment to Safe System Principles



RESPONSIBILITY IS SHARED Contra Costa County identified a Technical Advisory Committee (TAC), consisting of staff from all relevant county departments and agencies. The TAC will ensure the commitment from stakeholders and partners, as well as ensuring that County-led safety countermeasures are supported and are a product of coordinated efforts led by local and regional partners.



DEATH AND SERIOUS INJURIES ARE UNACCEPTABLE Contra Costa County and the CCTA understand that safety is the highest priority. The County is utilizing a data-driven approach (specifically the Systemic Safety Analysis Report) to identify both safety and policy countermeasures that alter roadway design and reduce the severity of crashes.



HUMANS MAKE MISTAKES Contra Costa County will evaluate existing roadway design to account for human mistakes in roadway design, construction, operation, and continuous evaluation of roads. The Action Plan references a variety of proven safety countermeasures.



SAFETY IS PROACTIVE Contra Costa County will continue its ongoing evaluation to identify where and why crashes are occurring. This will build the framework for their proactive, data-driven decisions to design and manage roadways to reduce the severity of crashes.



REDUNDANCY IS CRITICAL Contra Costa County is committed to continually evaluating their safety projects; it is too early to document any specific outcomes.

Contra Costa County's alignment to Safe System Elements



SAFE SPEEDS Contra Costa County set of goal of increased high-visibility enforcement. This includes visible checkpoints or message points, as well as red-light and speed cameras. They will utilize a data-driven approach when determining which locations are appropriate for these levels of enforcement. The County also is exploring the goal of hiring community partners, such as street safety ambassadors, or social workers to help canvas corridors, build trust in the community, and supplement traffic enforcement.



SAFE ROADS Contra Costa County utilized a data-driven approach to identify safety countermeasures that focus on separating users in space and time, improving visibility for all users, and reducing travel speeds.



POST-CRASH CARE Contra Costa County has partnered with EMS to improve response times and ensure safety in arrival and attending to patients. They are also working with EMS to identify potential funding to improve availability of trauma care and to create a designated fatal crash response team.



SAFE ROAD USERS Contra Costa County embarked on a large public education media campaign, with a focus on eliminating driving under the influence and speeding. They are also planning additional campaigns with a focus on pedestrian and bicycle safety. Additionally, they are partnering with local schools to increase transportation safety education and are constantly creating new education materials on roadway design changes.



SAFE VEHICLES Contra Costa County has pledged to stay up to date on emerging vehicle technologies and legislation related to vehicle design. This includes leveraging smart signal technology to collect data at multiple intersections to best understand how people are using the roadway in real time.

Source: Contra Costa County

Connection to Best Practices Memo

Reference the following tables in the Best Practices Memo to learn more:



Data Management, Accuracy, and Analysis



Safety Messaging and Communications



Public Engagement on Safety





Source: Clinton County

After seeing spikes in fatal crashes throughout the last decade, Clinton County wanted to re-think the foundation of their roadway safety strategies.

Over the last ten years, Clinton County has averaged six fatal and 43 serious injury crashes per year. Although they are on a downward trend, in a small community, even one fatal and serious injury crash is noticeable.

Safe Streets Clinton County, the county's safety plan, solidifies their commitment to the Safe System Approach. The plan is organized entirely by the **Safe System Approach** principles and objectives. It is integrated into stakeholder engagement, crash analysis, countermeasure identification, and action plan development. By identifying the major issues at hand and to the greatest safety need and impact, Safe Streets Clinton County is representative of the County's priority to implement solutions that make roads safer, educate road users, address speed, ensure reliable post-crash care, and consider technologies to lower severe crashes.

Clinton County is shifting its culture to save lives on roads.

Building a road safety plan around the Safe System Approach allowed Clinton County to prioritize equitable outcomes, culture shift, creative engagement, and accountable implementation.



EQUITABLE OUTCOMES The Safe Streets Clinton County Plan was the first time the agency considered equity in a plan. With limited resources, the County used the same equity performance measures as the Ohio Department of Transportation. Data for older populations and those without access to vehicles were mapped and shared at stakeholder meetings. Conversations on these topics led to the development of strategies in the plan related to filling gaps in the sidewalk network, continuing to fund Safe Routes to School projects, and conducting further demographic analysis.



CULTURE SHIFT The Safe Streets Clinton County Plan was the first time the agency considered culture in a plan. At the start of the planning process, a short survey was opened to the public, encouraging them to share their feelings about safety in the County. It shed light on concerns related to aggressive driving, distraction, and insufficient bicycle and pedestrian infrastructure. This input led to several strategies in the document focused on shifting agency and public safety culture. One was related to business community outreach and education to obtain their support on critical safety improvements.



CREATIVE ENGAGEMENT The Safe Streets Clinton County Plan was the first of its kind for the County. As a result, additional education was needed at the onset to ensure the public and stakeholders understood what the plan was about. The County created a simple front to back education flyer that was shared at meetings and online and conveyed a different kind of safety story. Instead of trying to generate interest in the plan based on crash data and statistics, the messaging focused on the idea of moving people safely and ensuring everyone got home to their families and friends at night. This resonated much more and created sustained engagement from participants throughout the process.



ACCOUNTABLE IMPLEMENTATION The Safe Streets Clinton County Plan includes an Action Plan and Strategy Solutions component. It clearly establishes a clear set of strategies, outcome measures, and responsible implementing agency. It also calls for the creation of a formal stakeholder committee to meet a minimum of twice a year to discuss progress and the associated challenges with implementing the Action Plan. Upon conclusion of the planning process, all members of the committee were presented with a variety of resources to ensure they understand the intention of this plan and obtain their commitment moving forward.

“ A priority for this small community is to make sure friends, family members, visitors, and other essential users can use the transportation network without the risk of a severe crash.”

- SAFE STREETS CLINTON COUNTY PLAN

Clinton County's alignment to Safe System Principles



RESPONSIBILITY IS SHARED Clinton County identified a stakeholder committee that was involved in the development of the action plan. The committee consists of representatives from County Townships, Emergency Management, the school district, and more. The action plan identified strategies and outcomes for each stakeholder. This committee will convene a minimum of two times a year to discuss progress and associated challenges with implementing the Action Plan.



DEATH AND SERIOUS INJURIES ARE UNACCEPTABLE

Stakeholders spent a significant amount of time on the vision statement for the plan so it was something all agencies could rally behind and implement:

“Together, we will implement solutions to make roads safer, educate road users, address speed, ensure reliable post-crash care, and consider technologies to lower severe crashes in Clinton County.”



HUMANS MAKE MISTAKES Crash data revealed distraction, speed, and inexperienced drivers, as top concerns. Strategies to address Safe Road Users were developed in the Action Plan, many of which focused on proven education activities.



SAFETY IS PROACTIVE Clinton County is a rural community and has an over-representation of roadway departure crashes. A systemic analysis was conducted to determine where roadway crashes were likely to occur. Six roadway factors were identified, and locations mapped to help the County prioritize investments in the future.



REDUNDANCY IS CRITICAL Part of the planning process included the systemic analysis for roadway departure crashes with the goal of implementing proven countermeasures across the system to address this challenge. In addition, strategies in the Action Plan were focused on proven solutions that could be coordinated and implemented across agencies.

Clinton County's alignment to Safe System Elements



SAFE SPEEDS Clinton County used third party data to identify how actual speeds correlated to 85th percentile speeds. This resulted in a map which stakeholders used to identify and prioritize locations for various speed management and future studies.



SAFE ROADS Clinton County identified and prioritized locations for improved safety countermeasures such as reduced speed limits, installation of pavement markers, rumble strips, advisory signs, and pavement markings. The County is also identifying locations for road diets and Complete Streets development.



POST-CRASH CARE Clinton County coordinated with EMS and the Fire Department during the plan to identify several strategies, many of which were focused on continued accuracy of data collection and continued communication between agencies.



SAFE ROAD USERS The County will educate the public on safe driving habits through the increased use of incentive programs, social media, and other forms of outreach. Additionally, they will identify locations with the need for increased enforcement to prevent unsafe behaviors.




SAFE VEHICLES Clinton County will act as the conduit between the state DOT and local agencies to share information on meetings and discussions related to connected and autonomous vehicles.

Source: Clinton County

Connection to Best Practices Memo

Reference the following tables in the Best Practices Memo to learn more:


Agency Culture


Safety Messaging and Communications


Equity and Safety Decision-Making





Source: City of Philadelphia

The City of Philadelphia adopted a Vision Zero policy in November 2016 and developed their first Vision Zero Three-Year Action Plan the following year.

The Action Plan was built around the traditional Es of engineering, education, and enforcement with the addition of evaluation (data), fleet management, and policy change. The City was successful implementing over 58 miles of safety improvements in its initial three-year period, but still saw an uptick in fatalities, from 85 in 2019 to 154 in 2020.

In 2020, the city reset and shifted to the Safe System Approach. The November 2020 Action Plan is reorganized around Safe Speed, Safe Vehicles, Safe Roads, Safe People, and Post-Crash Care. The action plan was accompanied by a Vision Zero Capital Plan 2025 that documents priority projects to be implemented on the High Injury Network. The result is a more holistic and compelling safety initiative.

Philadelphia invests in communities hit hardest by traffic violence.

Integrating the Safe System Approach into an established Vision Zero program gave Philadelphia a launchpad to equitable outcomes, culture shift, creative engagement, and accountable implementation.



EQUITABLE OUTCOMES Equity is front and center in the 2025 Action Plan and Capital Plan. This includes an explicit recognition of the disproportionate burden traffic violence inflicts on Black and Brown communities and those living in poverty. It also acknowledges an underinvestment or disinvestment in these communities. The action plan clearly justifies prioritization of projects in these neighborhoods where the data shows the impact of crashes is the highest. There is a commitment to better data collection to be able to complete a racial equity analysis; the 2022 Annual Report demonstrates progress in this area with more nuanced and detailed crash analysis. Equity is one of the six priority areas in the Capital Plan, and each project documents whether it addresses the priority areas and most address equity. Equity is one of the six priority areas in the Capital Plan, and each project documents whether it addresses the priority areas and most address equity.



CULTURE SHIFT Cultural change is evident through the City's inclusion of traffic safety and Vision Zero in the broader policies and programs of the city. There is a section of the plan devoted to the intersectional overlap with education, social justice, health equity, community development, and access to the transportation system. Safe streets are directly connected to and support policy goals in this other area, which makes it much more compelling and rewarding for agencies to make difficult decisions.



CREATIVE ENGAGEMENT The 2025 Vision Zero Action Plan ushered in a variety of ways to increase engagement with the community. The City trained and supports eight Vision Zero Community Ambassadors, drawn from some of the worst affected neighborhoods and corridors, to be the bridge between the City and the community. The ambassadors are well versed in the facts and figures, the stories, and the background to Vision Zero, and are familiarized with the safety countermeasures and approaches that are most effective in reducing fatal and serious injury crashes. They spread the word about Vision Zero in the community and become the voice of their community around traffic safety issues.



ACCOUNTABLE IMPLEMENTATION The 2025 Capital Plan demonstrates a commitment to implementation and accountability – the document lays out the details of proposed changes to ten high injury network (HIN) corridors and intersections. This document establishes a clear set of priority projects for the City to implement and for which to raise funds through external grants (e.g. state and Federal transportation funds). The Strategies and Action Items are organized around the Safe System Approach elements, and they continue to be clearly tied to the traffic safety issues and countermeasures identified through the data and community input. In 2022, the annual report documents nearly \$90m of local, state, and Federal funds that have been secured for Vision Zero projects including RAISE grants, Transportation Alternatives funds, Safe Streets and Roads for All (SS4A), and automated enforcement program funds.

“Fatal crashes disproportionately impact Philadelphians that are Black or Hispanic, and disproportionately impact Philadelphians that live in predominantly low-income ZIP Codes.”

- PHILADELPHIA VISION ZERO 2022 ANNUAL REPORT

Philadelphia's alignment to Safe System Principles



RESPONSIBILITY IS SHARED The City of Philadelphia ensures all relevant departments are held accountable by defining responsible parties for implementation of improvements, as well as tangible targets and outcomes. This is accomplished through regular convenings with its Vision Zero Task Force and ensuring that all responsible agencies are included on the Task Force Subcommittee.



DEATH AND SERIOUS INJURIES ARE UNACCEPTABLE The City's commitment to this principle is clear through the Vision Zero Pledge:

"I pledge to recognize that crashes are avoidable and my choices matter to the lives of others. I pledge to slow down, focus on driving, and put my phone away while behind the wheel. I pledge to use safer transportation options, such as walking, biking or taking transit, whenever possible. I pledge to bike predictably and stop at signals. I pledge to spread the word about Vision Zero in my neighborhood."



HUMANS MAKE MISTAKES The City updated road design standards to anticipate human error. The City now designs its streets with a focus on its most vulnerable road users, which improves the safety for all roadway users.



SAFETY IS PROACTIVE The City utilized a data-driven approach to prioritize improvements and track Vision Zero progress. By regularly looking at typical crash patterns, changing road design standards, and updated to relevant legislation, the City has been proactively implementing countermeasures to make life-saving changes throughout its roadway system.



REDUNDANCY IS CRITICAL The City of Philadelphia releases an Annual Report, documenting the progress of the implementation of its Vision Zero Action Plan. It details proven projects being implemented across the network.

Philadelphia's alignment to Safe System Elements



SAFE SPEEDS The City put an emphasis on reducing speed limits city-wide, continuing their **Neighborhood Slow Zones** program, and continually monitoring the impacts of automated speed enforcement. In 2022, the City saw 44% fewer crashes and 49% fewer traffic deaths on **Roosevelt Boulevard**, a location on the HIN, compared to other major roads as a result of these efforts.



SAFE ROADS The City set a goal to implement street designs and policies that maximize safety for the most vulnerable roadway users across the city. For example, Washington Avenue saw a disproportionate number of pedestrians and bicyclists involved in serious injury and fatal crashes. The City utilized community input and updated design standards to change the cross section from five vehicle lanes with standard bicycle lanes to three vehicle lanes with a parking protected bike lane, creating further separation of modes in space.



POST-CRASH CARE The City tied this to their overall goal of preventing chronic health conditions and eliminating health inequities. This has been done through partnerships with the Jefferson University Hospital Center, in which they hope to gain new insight into the immediate and long-term health outcomes of patients injured in traffic crashes.



SAFE ROAD USERS The City focuses on the role young people have in Vision Zero through Safe Routes Philly and the future development of a Youth Ambassador Program.



SAFE VEHICLES The City is focused on supporting Philadelphians in using the safest vehicles possible for all daily trips, including transit, biking, and walking. The City updated their vehicle fleet policies to ensure that safety is a priority in their vehicle fleet. This includes the purchasing and installation of warning systems, cameras, and hands-free phone/GPS holders in all City vehicles.

Source: City of Philadelphia

Connection to Best Practices Memo

Reference the following tables in the Best Practices Memo to learn more:

