



BALTIMORE  
METROPOLITAN  
COUNCIL

Safe System Approach

# Implementation Guidance



# The Safe System Approach builds stronger tools to reduce severe crashes on our roads.

## The Baltimore Metropolitan Council (BMC) and local jurisdictions in the region place significant time and resources into transportation safety.

When the Safe System Approach (SSA) was formally endorsed in the National Roadway Safety Strategy (NRSS), the region was eager to apply it, building even stronger safety plans and programs to reduce severe crashes.

## The project has three goals to advance SSA implementation in the region:



**GOAL 1** Provide local jurisdictions in the region with a baseline understanding of the Safe System Approach.

**OUTCOME 1** Several avenues were used to educate stakeholders on the national definition of the Safe System Approach and its application locally. This information was repeated over the course of the project to ensure it was understood. Education occurred during project Steering Committee meetings, at the three Local Jurisdiction Workshops, at the BMC Safety Subcommittee meetings, and at a BMC Technical Committee Meeting. It is also included in the **Safe System Approach Defined** section of this guidance.



**GOAL 2** Deconstruct the Federal Safe System Approach wheel/definition and determine how to customize it to local jurisdiction needs.

**OUTCOME 2** Safe System Approach benchmarks were developed to identify common elements that would support progress toward Safe Roads, Safe Road Users, Safe Speeds, Post-Crash Care, Safe Vehicles, Safety Culture, Equity, and the inclusion of those elements in Transportation Safety Plans. The benchmarks are included in the **Measuring Safe System Approach Integration** section of this guidance.



**GOAL 3** Identify opportunities for local jurisdictions to use the Safe System Approach during safety planning and programming.

**OUTCOME 3** BMC held three Safe System Approach workshops with Baltimore City, Baltimore County, and Carroll County to understand existing practices and gaps in implementing the Safe System Approach in an urban, suburban, and rural jurisdiction, respectively. Participants identified successful practices and discussed solutions to challenges. This was used to develop strategies to institutionalize the SSA in safety programs. The strategies are included in the **Safe System Approach Integration Opportunities** section of this guidance.

## Three key activities helped achieve project goals:



### STEERING COMMITTEE MEETINGS

Comprised of local agency representatives, BMC staff, and representatives from the Maryland Department of Transportation (MDOT) Motor Vehicle Administration's Highway Safety Office and MDOT State Highway Administration, the group met three times. Meeting #1 focused on SSA education and overall project goals. Meeting #2 shared the outcomes of the three local workshops and Meeting #3 highlighted the final work products.



### AGENCY WORKSHOPS

Transportation and safety stakeholders from Baltimore City, Baltimore County, and Carroll County participated in a one-day workshop to learn about the SSA, discuss how they were currently integrating it into local safety plans and agency functions, and identify barrier and gaps. The SSA benchmarks were used to identify successes and challenge areas.



### AGENCY ACTION PLANS

Upon completion of the workshops, action plans were developed for each agency to provide a snapshot of where their safety programs could be expanded to further address the SSA and areas for improvement. For areas identified as gaps, solutions were identified to keep moving toward SSA integration.

## The project generated three work products:



**BEST PRACTICES MEMO** The workshops identified six common challenge areas for SSA integration, as listed below. The Best Practices Memo provides resources from agencies across the country to address these challenges:

1. Data management, accuracy, and analysis
2. Agency culture
3. Safety messaging and communications
4. Public engagement on safety
5. Equity and safety decision-making
6. Project prioritization and readiness



### CASE STUDIES

Experiences from Contra Costa, California; the City of Philadelphia, Pennsylvania; and Clinton County, Ohio were developed into case studies to share SSA integration opportunities adoptable by local agencies in the BMC region.



### GUIDANCE DOCUMENT

Data collected from the Steering Committee, the workshops' benchmarking analyses and action plans, and the best practices review provided the content for this Guidance document on opportunities to further integrate the SSA in safety plans and agency functions.

# The Safe System Approach takes a holistic method to eliminating fatal and serious injuries for all road users.

Zero roadway deaths and serious injuries is our goal, and the Safe System Approach is how we get there.

Rather than taking a reactive approach, the **Safe System Approach** uses a proactive approach, creating one transportation system that is safe. This must be done in a way that, should a crash occur, it cannot result in fatal and serious injury to all road users. It recognizes that humans make mistakes but that it takes shared responsibility to prevent death and serious injuries on our roadways.



Source: BMC

The Safe System Approach is based on six principles:



**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.



**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 afterward.



**DEATH AND SERIOUS INJURIES ARE UNACCEPTABLE** Prioritize the elimination of crashes that result in death and serious injuries.



**REDUNDANCY IS CRITICAL** Reducing risks requires strengthening all parts of the transportation system so that if one part fails, the other parts still protect people.



**HUMANS MAKE MISTAKES** The transportation system should be designed and operated to accommodate certain types and levels of inevitable human mistakes to avoid death and serious injuries when a crash occurs.



**HUMANS ARE VULNERABLE** The transportation system should be human-centric and designed and operated to accommodate the human body's vulnerabilities and limits for tolerating crashes.

The Safe System Approach also includes five elements:



**SAFE ROADS** Design roadway environments to mitigate human mistakes and account for injury tolerance, to encourage safer behaviors, and to facilitate safe travel by the most vulnerable users.



**SAFE SPEEDS** Promote safer speeds on all roads through a combination of thoughtful, equitable, context-appropriate roadway design, appropriate speed-limit setting, targeted education, outreach campaigns, and enforcement.



**SAFE ROAD USERS** Encourage safe, responsible driving and behavior by people who use our roads and create conditions that prioritize their ability to reach their destination unharmed.



**SAFE VEHICLES** Expand the availability of vehicle systems and features that help to prevent crashes and minimize the impact on both occupants and non-occupants.



**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.

**Strategies to address risk through the Safe System Approach should address as many of the five elements as possible to create a systemic approach to safety.**



# Benchmarks help local jurisdictions assess their progress in applying the Safe System Approach.

## Benchmarks can be applied at multiple stages of assessment.

Local jurisdictions that have not yet assessed their safety programs can do so using the benchmarks. The benchmarks can also be used as an annual evaluation tool to determine how and where progress is being made.



Source: BMC

This project developed benchmarks to help local jurisdictions:



**UNDERSTAND** Be aware of the basic activities to implement a Safe System Approach.



**BASELINE** Assess where the jurisdiction is in addressing Safe System needs.



**IDENTIFY** Inventory successes and gaps in the jurisdiction's safety programs, and develop strategies to further address the benchmarks.

Ask three questions when reviewing the benchmarks:



### IS THIS AN INSTITUTIONAL PRACTICE?

Continue to build these practices into plans and programs.



### IS THIS AN OCCASIONAL PRACTICE?

Discuss why or whether these practices can or need to be institutional practices, and identify the steps to achieve further success.



### IS THIS NOT A CURRENT PRACTICE?

Discuss why or whether these practices can or need to be institutional practices, and identify the steps to achieve further success.

## Other safety terms connect to the Safe System Approach.

There are many other forms of safety terminology that are used to frame and strategize ways to reduce risk on roads. Although these terms are not necessarily part of the Safe System Approach, they all share the same underlying mission—preventing fatal and serious injury crashes. Using the Safe System Approach incorporates all these elements to inch us closer to these goals.

**VISION ZERO** Vision Zero is an international movement that started in Sweden in 1997. The goal is to eliminate all traffic fatalities and serious injuries while increasing safety, health, and equitable mobility for all. The goal is Vision Zero, and the Safe System Approach is the framework to achieve that goal.

### TOWARD ZERO DEATHS (TZD)

Toward Zero Deaths is a national strategy on highway safety with the goal of creating a highway system free of fatalities through a sustained and even accelerated decline in transportation-related deaths and injuries. TZD focuses on uniting safety stakeholders nationwide and spearheading a cultural change in highway safety.

### CREATING A POSITIVE SAFETY CULTURE

Traffic Safety Culture is made up of the values, beliefs, and attitudes that influence the behaviors of road users and stakeholder actions. The Safe System Approach builds on a set of values and beliefs where a shared culture encourages and supports the coordination and integration of safety actions across all involved parties.

**THE E'S OF SAFETY** Known as engineering, enforcement, emergency response, and education, these topics are often incorporated into safety efforts to ensure multiple disciplines are reflected. The Safe System Approach incorporates these concepts and frames them in a way where these issues are not independent of one another, but working together toward a safer network.

## Safe Roads benchmarks

- CIP projects prioritize transportation safety
- CIP projects prioritize vulnerable road users
- Complete Streets or other safety design policies are available and followed
- Projects prioritize separating users in space and/or time
- Projects prioritize increasing attentiveness and awareness
- Maintenance policies that integrate safety considerations are in place and followed
- Planners, engineers, and designers collaborate on safety improvement projects
- Crash data are being collected and used to identify existing crash concerns, locations, and safety improvements
- Crash data are being collected and used to identify potential crash locations, risks, and safety improvements
- A geospatial identification of crash or risk locations is developed
- Crash data are augmented with other datasets to identify safety needs
- FHWA proven countermeasures are being implemented
- Equity is considered in analysis and the decision-making for safety improvements

## Safe Road Users benchmarks

- Safety education programs are in place and proven effective
- Enforcement efforts are in place and proven effective
- Existing state, regional and/or local safety education campaigns are being used
- Education campaigns and deployment are coordinated across agencies
- NHTSA proven countermeasures are being implemented
- Other countermeasures or ideas are being used to engage the public in safety
- Social media or other communications outlets are used to share safety information regularly
- Legislation to impact road user behavior is in place
- Equity is considered in the decision-making for safety education and/or enforcement efforts
- The public has opportunities to engage in safety to increase their support and interest

## Safety culture benchmarks

- All staff prioritize safety in their job responsibilities
- Agencies coordinate regularly on transportation safety priorities
- Agencies have made clear their support of transportation safety
- Agencies have a dedicated safety champion
- Agency leadership regularly discusses transportation safety
- Agency leadership have committed to an eventual goal of zero
- Agency training on transportation safety is available to current and/or new employees
- Transportation safety training, events, workshops are encouraged for all employees
- Agencies have implemented accountability measures for safe driving of staff

## Local safety planning benchmarks

- Stakeholder committee meets regularly to discuss the plan, implementation, and conduct monitoring
- Stakeholder committee is representative of the community and underserved communities
- Targets to achieve significant declines in severe crashes are set
- The public is aware of/engaged in the local SHSP plan and implementation
- The local SHSP reflects input from the public and stakeholders
- The local SHSP assesses current policies, plans, guidelines, and standards
- The local SHSP discusses implementation
- The local SHSP identifies a comprehensive set of projects and strategies, time ranges, and prioritization criteria
- The local SHSP describes how progress will be measured over time
- Safety data, trends, or other information are being routinely monitored and shared with the public

## Safe Speeds benchmarks

- Ability to conduct automated enforcement and/or lower speed limits
- Appropriate practices are followed to set speed limits based on context
- Speed limits are being enforced
- There is ongoing education/campaigns related to speed
- Roadway design to advance self-enforcing speeds is prioritized
- Studies are conducted to evaluate speed-related improvements

## Safe Vehicles benchmarks

- Agency representatives participate in state/national connected and automated vehicle (CAV) committees
- Training is provided and advanced driver assistance systems (ADAS) are part of all new fleet vehicle acquisitions
- Safety measure are used (e.g. seat belt policy, child passenger safety seat availability)
- Vehicle-to-Infrastructure (V2I) is considered during maintenance or new constructions

## Post-Crash Care benchmarks

- Coordination is in place between responder agencies and engineers
- A reporting system is available to identify hazards affecting emergency responses
- Traffic Incident Management training is standard across all transportation and safety agencies
- Response data are shared to evaluate incidents that do not qualify for a crash report
- EMS and law enforcement communicate injury severity for accurate capture on crash report



# Institutionalizing the Safe System Approach into planning and programming is not a one-size-fits-all process.

The successes local jurisdictions can capitalize on—and the challenges—are different across agencies.

Once a baseline assessment of strengths and gaps has been completed, strategies can be customized and employed to address specific needs. The following are ideas to operationalize the Safe System Approach into common agency functions based on feedback from the three local jurisdiction workshops, best practices review, and case studies.

The Safe System Approach can be integrated into:



## Definition

**Culture** is a commitment to safety as an organizational priority, where everyone feels responsible for safety and pursues it in their job responsibilities on a regular basis.

To achieve a Safe System, a safety culture is the foundation. It is cultivated through leadership commitment, resource allocation and project implementation, and staff education. Without it, support to institutionalize a Safe System Approach may not be evident.

## Implementation strategies

### SEEK LEADERSHIP SUPPORT AND BUY IN

- Invite leaders to planning efforts and demonstration projects to see safety efforts firsthand.
- Write a safety resolution and obtain leadership support. Ensure resolutions are implementable, shared across agency staff, and everyone is educated on next steps and goals.
- Update elected officials, at least annually, on safety initiatives, progress, and challenges.

### SET A VISION AND GOALS

- Convene stakeholder agencies and agree on common safety goals and principles. Starting with a shared understanding ensures each agency works toward the same priorities.
- This exercise occurs during the development or update of a safety plan. Other transportation plans, policies, and programs would adopt these goals and principles.

## Resources

### LEADERSHIP

- [Safety Resolution](#)
- [Annual Safety Report](#)

### SAFETY VISION AND GOALS

- [Working Together to Achieve Zero](#)

### EDUCATION AND TRAINING

- [BMC Safety Subcommittee](#)
- [Local SHSPs](#)
- [Maryland SHSP](#)
- [RSP Certification](#)

### SAFETY POLICIES

- [Safety Workplace Transportation Policies](#)

### EDUCATE AND TRAIN STAFF

- Encourage staff to become Road Safety Professional (RSP) certified.
- Provide opportunities for staff to meet and discuss transportation safety.
- Encourage all staff to participate in existing committees to learn more about safety:
  - Local SHSP
  - BMC Safety Subcommittee meetings
  - Maryland Strategic Highway Safety Plan

### ESTABLISH INTERNAL SAFETY POLICIES

- Have safe driver, bike, and/or scooter policies and trainings in place for those who use these as part of their workday assignments.



## Definition

**Equity** is a commitment to integrating safety into the transportation system, services, and decision-making processes for all users, with a focus on underserved and underrepresented communities.

To achieve a Safe System, all users in all communities must be heard, engaged, and planned for. Crashes, particularly those resulting in deaths and severe injuries, are not evenly distributed among all socioeconomic, racial, and ethnic, and other demographic groups. To truly reduce crashes, disparities must be eliminated by prioritizing equity in safety decision-making.

## Implementation strategies

### ENGAGE COMMUNITY REPRESENTATIVES

- Identify communities of concern during the demographic analysis. Based on that information, identify organizations, resident leaders, and or advocacy groups who work for or with those communities. Invite them to participate in safety meetings. Paying for their participation can support their ability to engage.

### ENGAGE THE PUBLIC

- Create a community engagement strategy where techniques focus on “going to people,” and creating a sustained interest in safety. Ideas include street teams, community events, and public comment opportunities.

## Resources

### ENGAGING COMMUNITIES

- [Working with CBOs](#)

### SAFETY ANALYSES

- [ETC Explorer](#)
- [Equity Data and Analysis Resources](#) (see Data Resources)
- [Mapping](#)

### PUBLIC ENGAGEMENT

- [Community Engagement Strategy](#)

### PROJECT PRIORITIZATION

- [MAG Safety Program](#) (see Evaluation Sheet and Guidance)

### APPLY SAFETY ANALYSES

- Use the USDOT Equitable Transportation Community Explorer (or conduct an independent demographic analysis) to identify and visualize communities of concern.
- Overlay crash and demographic data to understand where and which communities are being impacted by severe crashes.

### PRIORITIZE PROJECTS

- Create performance metrics related to communities of concern.
- Incorporate performance measures into project prioritization process as a lens to evaluate safety improvements.



## Definition

**Public engagement** includes different approaches, methods, and ways to engage in conversations with communities on transportation safety topics.

To achieve a Safe System, all persons should have the opportunity to learn about transportation safety and share their opinions. It can instill a sense of personal responsibility, create buy-in, excitement, and interest in transportation safety issues and needs.

## Implementation strategies

### DEVELOP A PLAN

- Create a customized Community Based Engagement Plan to outline the different approaches to working with and soliciting feedback from the public.

### HARNESS IN-THE-FIELD EXPERIENCES

- Use demonstration projects, tactical urbanism projects, or safety assessments/audits as opportunities to bring communities into the field to create a better understanding of safety improvements.

## Resources

### DEVELOP A PLAN

- [Community Engagement Planning Guide](#)

### ENGAGEMENT STRATEGIES

- [Methods of Engagement](#)
- [Palm Beach TPA Social Media Toolkit](#)

### IN THE FIELD

- [Safety Demonstration Projects](#)

### DEVELOP ENGAGEMENT STRATEGIES

- Implement strategies from the engagement plan to educate and solicit feedback from the public. Common approaches include safety surveys and pin maps, virtual or in-person public meetings, Social media, safe road user contests, visual presentations, tables at community events, street teams, and citizen task forces.

### ADMINISTER A CULTURE SURVEY

- Administer a public survey to understand what people care and do not care about related to transportation safety. This can provide meaningful insights in where there is traction as well as push points that might need to be tabled to make progress.





**Stakeholder engagement** offers different approaches, methods, and ways for transportation, safety, and other-related agencies to coordinate on and implement safety improvements.

To achieve a Safe System, internal meetings between different departments and external engagement between transportation and safety agencies should occur on a regular basis to break siloes and leverage resources toward a shared safety vision.

## Implementation strategies

### APPLY INTER-AGENCY COORDINATION

- Once leadership has committed to a safety resolution/goal, agencies should share and discuss the guidance internally, provide education on its contents, and identify ways for staff to implement safety priorities in their job responsibilities.
- Conduct a safety culture readiness survey to baseline success and gaps within an agency to further operationalize safety.
- Create standard operating procedures or decision trees to help staff understand when and where they are responsible for safety decisions.

### HARNESS IN-THE-FIELD EXPERIENCES

- Use demonstration projects, tactical urbanism projects, or safety assessments/audits as opportunities to bring agency stakeholders into the field to create a better understanding of safety improvements.

### INTER-AGENCY COORDINATION

- [Vision Zero Model Resolution](#)
- [Readiness to Grow Traffic Safety Culture](#)
- [Example Standard Operation Procedure](#)

### EXTERNAL AGENCY COORDINATION

- [Effectively Engaging Stakeholders](#)

### IN THE FIELD EXPERIENCES

- [Walking Audits](#)

### APPLY EXTERNAL AGENCY COORDINATION

- Assemble transportation and safety agencies on a regular basis to discuss safety priorities and progress.
- Identify opportunities to host or participate in multi-agency safety-related events, campaigns, activities.
- Use common safety performance metrics across agencies and report out/share the information annually.
- Designate a champion at each agency to stay in the loop on safety initiatives, report back, and sustain momentum.



## Definition

**Data collection** gathers quantitative and qualitative information used as inputs into analyses to make informed transportation safety decisions and evaluate efforts.

To achieve a Safe System, crash data are critical to understand historical and existing safety issues for all road users. Incorporating other data, such as roadway, equity, speed, near-misses, and clinical data contributes more to the safety story to better prioritize locations, issues, and proactive solutions.

## Implementation strategies

### DEVELOP A DATA PLAN

- Create a data plan outlining what safety-related data are available, what data are desired to achieve safety goals, how the data will be used, and where to obtain it. For desired, but unavailable datasets, note collection opportunities. This can be easily documented in a Word or Excel table.

### LEVERAGE BIG DATA

- Determine the need for and level of investment in big data, which includes excessive speeding and aggressive acceleration or deceleration, recoded violation events, post encroachment time, and time to collision.

## Resources

### DATA COLLECTION

- [Maryland Crash Data](#)
- [MDOT SHA Open Data](#)
- [BMC Vulnerable Populations Index](#)
- [ETC Explorer](#)
- [Street Story Community Engagement Tool](#)

### BIG DATA

- [Applications of Big Data in Safety](#)

### COLLECT DATA

- For crash data, use the Maryland Crash Data Download or locally available dashboards.
- For roadway data, use the MDOT SHA Open Data files.
- For equity data, use the BMC Vulnerable Populations Index or ETC Explorer.
- Use surveys, comment cards, and other response forms to obtain public and stakeholder input.
- Consider video data for near-miss information.
- Review other safety plans to identify relevant data layers already created.





## Definition

**Data analysis** synthesizes available transportation safety data to determine historical and existing crash trends and types, locations over-represented for severe crashes, and locations where crashes have the potential to occur based on safety performance and other characteristics.

To achieve a Safe System, data analysis identifies existing and potential challenge areas. Analyzing data relative to road design, vulnerable road users, speed, and equity can target solutions to achieve safe spaces for all users.

## Implementation strategies

### REVIEW TRENDS AND CONTRIBUTING FACTORS

- Use the Maryland Crash Data download to review crash trends at a county- or city-wide level to understand year-to-year safety performance and priority areas. This could include:
  - Collision trends by mode
  - Severity trends by mode
  - Primary collision factors and types
  - Temporal and environmental factors
  - Demographic factors
  - Behavioral Trends

### USE A SYSTEMIC APPROACH

- Review available roadway data along the HIN (or larger street network). Identify common attributes associated with crashes (volumes, number of lanes, speed, shoulder width, etc.).
- Identify locations on the network with similar characteristics and explore safety countermeasures that may prevent crashes from occurring.

## Resources

### TRENDS AND CONTRIBUTING FACTORS ANALYSIS

- [Contra Costa Safety Report](#)

### HIGH INJURY NETWORK

- [Vision Zero DC HIN](#)
- [Arlington County HIN](#)
- [Montgomery County HIN](#)

### SYSTEMIC ANALYSIS

- [Montgomery County Predictive Analysis](#)
- [Iowa Bicycle and Pedestrian Systemic Analysis](#)

### SAFETY VISUALIZATION

- [Palm Beach TPA Crash Infographics](#)
- [Contra Costa Story Map](#)

### DEVELOP A HIGH INJURY NETWORK (HIN)

- Use the Maryland Crash Data download and identify high risk areas based on crash frequency, fatal and serious injury crashes, equivalent property damage only crashes, and/or other metrics. Use the data to develop a HIN.
- Overlay the HIN with other factors of interest which could include vulnerable populations, bicycle and pedestrian priority networks, and/or forecasted land uses.

### CONSIDER VISUALIZATION

- Upon completion of the data analysis, consider how to share the information in a way that is easy to understand, visualize, and makes an impact on people. Examples include infographics, maps, story maps, videos/advertisements.



## Definition

**Policy and strategy development** is programmatic and policy-level guidance and countermeasures to direct agencies toward the most appropriate safety projects.

To achieve a Safe System, the core elements and principles of the Safe System Approach should be the organizing framework for action plans and design guidance.

## Implementation strategies

### DEVELOP AND FOLLOW POLICIES THAT ADDRESSES ALL USERS

- Develop, review, and/or update safety-related guidance and policies (i.e., multimodal, complete streets and/or speed).
- Institutionalize a Safety Program, Complete Streets Program, Traffic Calming Program, or something similar to implement safety-related policies.
- Incorporate standards from safety-related policies into project prioritization.

## Resources

### GUIDANCE AND POLICIES

- [Palm Beach TPA Complete Streets Policy and Guidelines](#)
- [Adopting and Putting a Complete Streets Policy into Practice](#)

### POLICY AND STRATEGY FRAMEWORK

- [City of Columbus 2023-2028 Action Strategies](#) (see 2023-2028 Action Strategies)
- [Denver Regional COG Vision Zero Plan](#) (see Regional Objectives section)
- [Safe Streets Clinton County Plan](#) (see Section 3 Action Plan and Strategy Solutions)
- [Maricopa AOG Safe System in Action Plan](#) (see Safety Strategies section)

### ACTION PLAN

- [Maricopa AOG Safe System in Action Plan](#) (see Appendix A Implementation Plan)
- [City of Denver Vision Zero Action Plan](#) (see Vision Zero Action Plan 2.0 section)

### DEVELOP AN ACTION PLAN USING THE SSA FRAMEWORK

- Organize guiding strategies for safety improvements around the Safe System or Vision Zero core principles.
  - Leadership and Commitment
  - Shared Responsibility
  - Data-Driven, Transparency and Accountability
  - Safe Roads and Speeds
  - Safer Road Users
  - Equity and Engagement
- Coordinate with stakeholders, the public, and use the results of the data analysis to formalize strategies and actions to guide project decision-making.
- Develop an action plan to share how principles and strategies will be implemented.



## Definition

**Project prioritization** is the incorporation of safety factors into the prioritization and selection process for all transportation projects and the prioritization of safety projects.

To achieve a Safe System, Safe System elements including safe roads, safe road users, safe vehicles, safe speeds, post-crash care, culture, equity, and technology should be operationalized into the selection process for all transportation and safety projects.

## Implementation strategies

### PRIORITIZE SAFETY IN CIP PROJECTS

- Establish metrics or criteria to evaluate the safety components of capital and other types of transportation projects. Ideas include:
  - Improves safety by reducing or preventing crashes
  - Location on HIN or identified in systemic analysis
  - Available safety funding
  - Addresses complete streets or other safety-related policy goals

## Resources

### SAFETY CRITERIA FOR CIP PROJECTS

- [BMC Best Practices for CIP Development and Task 2 Technical Memorandum](#)
- [City of Fort Collins Transportation Capital Project Prioritization Study](#)

### PRIORITIZING SAFETY PROJECTS

- [Contra Costa Vision Zero Project Development](#) (see Chapter 5)
- [MAG Safety Project Scoring](#) (see RSP Evaluation Sheet and Guidance)
- [Vision Zero Network Developing a Robust Vision Zero Prioritization Process](#)

### PRIORITIZE SAFETY PROJECTS

- Review the results of the crash trend analysis, High Injury Network, systemic analysis, and equity analysis. Develop criteria to prioritize locations for further study. Ideas include:
  - Locations adjacent to/abutting locations receiving safety improvements.
  - Top locations identified on HIN and/or as part of systemic analysis.
  - Top locations in communities of concern.
  - Locations identified as important locations by the public and stakeholders.
- At identified locations, prioritize effective countermeasures. Ideas include:
  - Target mode
  - Crash types
  - Lives saved or crashes prevented
  - Costs and available funding
  - Benefits



## Definition

**Project implementation** is the execution of safety solutions to achieve the Safe System Approach elements and principles and supporting goals, strategies, actions, and performance metrics.

To achieve a Safe System, projects are implemented because they will have an impact on speed, vulnerable road users, system design, behaviors, post-crash care, technology, culture, and/or reduce severe crashes.

## Implementation strategies

### IDENTIFY PRIORITY LOCATIONS

- Review the results of the crash trend analysis, High Injury Network, systemic analysis, and equity analysis to prioritize locations for further study.

### SELECT COUNTERMEASURES

- Develop a countermeasure toolbox which identifies solutions that create safer environments for all users. Toolboxes can be inclusive of solutions across an entire network or be localized to an intersection or segment. They can also include a range of solutions to address engineering, behavior, and policy needs related to the Safe System Approach.

## Resources

### IDENTIFYING LOCATIONS, SAFETY STUDY APPROACH, AND COUNTERMEASURE SELECTION

- [City of Sacramento Vision Zero Top 5 Corridor Studies](#)
- [City of Philadelphia Vision Zero Capital Plan](#)

### ACTION PLAN IMPLEMENTATION

- [City of Phoenix Road Safety Action Plan](#) (see Chapter 5)

### CONDUCT SAFETY STUDIES

- Evaluate crash trends at locations (crash history and crash types).
- Evaluate demographics and surrounding land uses at locations.
- Evaluate travel patterns, existing infrastructure, and speeds at locations.
- Determine community concerns through online or in-person engagement.
- Create crash diagrams.

### IMPLEMENT AN SSA ACTION PLAN

- A safety action plan needs to be implemented. Ensuring action plan activities have leadership buy-in, resource and staff support, performance metrics, and timelines can help. A means to evaluate and discuss results (see Program and Project Evaluation section) is also critical.



## Definition

**Evaluation** measures the effectiveness of safety policies, programs, and projects toward eliminating fatal and serious injury crashes.

To achieve a Safe System, it is critical to understand how policies, programs, and projects are enhancing the safety of the roads and all road users, addressing speed, influencing road user behavior, prioritizing equity, and eliminating crashes.

## Implementation strategies

### SET PERFORMANCE MEASURES AND TARGETS

- Establish outcome and/or output measures for the following:
  - Crashes, by all road users and priority issue areas (i.e., speed, distraction)
  - Safety policies and programs (i.e., education, complete streets implementation)
  - Projects implemented on HIN or as a result of the systemic analysis.
  - Equity
  - Engagement

### PREPARE A DASHBOARD OR ANNUAL REPORT

- Develop a dashboard or another type of tracking system (annual report, excel table) to understand, evaluate, and share safety progress.

## Resources

### PERFORMANCE MEASURES AND TARGETS

- [New York City Safety Metrics](#)

### EVALUATION APPROACHES

- [Arlington County Evaluation Approach](#) (see Chapter 5)

### ANNUAL REPORTS

- [Arlington County Annual Report](#)
- [City of Orlando Commissioner's Briefing](#)

### DASHBOARDS

- [City of Orlando Projects Map](#)
- [Portland Bureau of Transportation Vision Zero Dashboard](#)

### BEFORE AND AFTER REPORTING

- [Arlington County Before and After Studies](#)

### DEDICATE RESOURCES TO EVALUATION

- Identify dedicated staff and/or partners to carry out safety actions (policies, programs, and projects).
- Train staff and/or partners to track progress and input or share data to the dashboard or annual report.
- Provide a forum for staff and partners to meet regularly to discuss progress on safety activities.
- Identify funding resources and ensure they are or will be available to implement safety actions.
- Conduct before and after studies at locations to know the effectiveness of safety solutions.

# This project is yielding even stronger efforts to reduce severe crashes across the BMC region.

## Jurisdictions across the region are eager to apply the Safe System Approach.

Current national efforts and research focus on how to implement projects to achieve the Safe System principles and elements, but the BMC project started at the beginning—helping local agencies operationalize the SSA into planning. This approach helps to enhance safety culture, leverage datasets and analysis that lead to safer roads for all users, engage all users and communities in transportation decision-making, and ultimately set agencies up to identify and implement proven solutions.

## This guidance and accompanying documents help with:



**EDUCATION** Training on the Safe System Approach, especially how it can be integrated into safety plans and programs.



**EXAMPLES** Applications for how other agencies across the country address equity, culture, data analysis, implementation, and engagement in safety planning and programming.



**BENCHMARKS** Metrics to assess level of alignment with the Safe System Approach in planning areas.



**INSTRUCTIONS** Step-by-step guidance for how to operationalize the Safe System Approach into common agency functions.



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