

Conducting Community Engagement with a Safe System Lens

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Introduction

Over 3,600 people died in traffic crashes in California in 2019; more than one in four people who died was a pedestrian or bicyclist (NHTSA). The burden of death and injury is unequally distributed - based on mode type, on race and ethnicity, and on income - as a consequence of historic and structurally inequitable funding and policy decisions (Archer, Sandt, Santana). Our current road network is a dichotomy of areas that connect people to things they need and underserved communities with restricted mobility. The Safe System approach offers transportation professionals with a new way of approaching safety and to improve roadways and mobility.

Originally introduced in Sweden in 1997, the Safe System approach has been gaining momentum in California and nationally with several high visibility reports and publications by the [National Transportation Safety Board \(NTSB\)](#), [Towards Zero Foundation](#), the [Safe System Consortium](#), and the [National Safety Council](#). This approach views human life and health as the paramount consideration when designing a road network ([Towards Zero Foundation](#)). The goal of a Safe System is to eliminate fatal and serious injuries for all road users by proactively putting safeguards in place and working towards sustainable mobility.

Traditionally, human behavior was considered to be the primary variable associated with traffic injury. The Safe System approach refocuses efforts to emphasize transportation system design and operation. It inherently places an emphasis on non-motorized users who are at a higher risk of death or serious injury. Most resources, including the Federal Highway Administration (FHWA), identify the key components of a Safe System as some combination of safe road users, safe vehicles, safe speeds, safe roads, and post-crash care. This Safe System further anticipates that people will make mistakes or have momentary lapses of attention, and acknowledges that the human body has a limited injury tolerance. This approach works to improve safety for all road users through multiple layers of protection, where no individual layer is 100% protective, but when several layers are combined, the overall risk is reduced.

Few resources, if any, address how to apply the Safe System framework in community engagement and planning efforts. As written, this approach relies primarily on transportation agencies to commit to a paradigm shift and adapt their work accordingly. Through our Community Pedestrian and Bicycle Safety Training Program, UC Berkeley Safe Transportation Research and Education Center (SafeTREC) and the nonprofit agency, California Walks (Cal Walks), adapted FHWA's Safe System elements and principles to not only make it more applicable for grassroots community engagement but also to strengthen the impact of the approach. This brief will provide an overview of our thought process and set the stage for future efforts.

Community Pedestrian and Bicycle Safety Training (CPBST) Program

The CPBST program is a statewide active transportation and community engagement project of SafeTREC and Cal Walks. It uses the Safe System Framework to engage residents and advocates to develop an action plan to improve active transportation safety in their communities, support complete streets planning, and strengthen collaboration with local officials and agency staff. Over the course of approximately two months, we work with a Planning Committee, a group of local stakeholders to develop workshop goals and tailor the curriculum to address the community's needs and priorities. The workshop convenes the larger local community to conduct walking and biking assessments of key areas in the community, learn about Safe System strategies to alleviate walking and biking concerns, learn about ways they can further Safe System improvements, and develop action plans for priority infrastructure and community programs.

To learn more about the CPBST, please visit: <https://safetrec.berkeley.edu/programs/cpbst>

Describing the Safe System Approach

To operationalize Safe System approaches, the FHWA has outlined *Principles* and *Approaches*. Principles underscore the assumptions intrinsic to the approach, while elements of action focus on high-level strategies that provide concrete steps toward achieving safety goals. SafeTREC and Cal Walks adapted FHWA's Safe System approach as seen in Figure 1 below.

Safe System Principles

FHWA builds the Safe System approach around seven key principles. SafeTREC and Cal Walks adapted the principles to articulate that everyone should have access to safe public spaces, streets, and transportation choices. We did this by integrating equity into all layers of protection to work toward addressing historical disinvestment and institutional biases. Further, because we work in a community setting, we amended the elements to engage residents and safety advocates as we facilitate their development of an action plan to improve walking and biking safety in their communities and to strengthen collaboration with local officials and agency staff.

The seven principles of the adapted Safe System approach are:

1. Death or serious injury is unacceptable.
2. Humans make mistakes at one time or another.
3. Multiple protections are crucial.
4. All road users share responsibility.
5. Humans are vulnerable;
6. Safety is proactive.
7. Equity is a priority throughout the system.

Safe System Elements of Action

Similarly, FHWA identifies five distinct elements of action that comprise the Safe System approach: safe speeds, safe vehicles, safe roads, safe road users, and post-crash care. We adopt four of the elements, dropping safe vehicles, while adding two new elements for our work with active transportation community engagement.

Our changes reflect a need to engage marginalized communities and invest in active transportation safety. *Safe vehicles* assumes vehicle ownership, specifically vehicles with the newest technological advancements, which is relatively low in the communities where the CPBST works. Instead, we want to provide communities with active transportation safety data and language to advocate for safety improvements in their communities and to empower people to ask for policies that prioritize and fund safety improvements in their neighborhood.

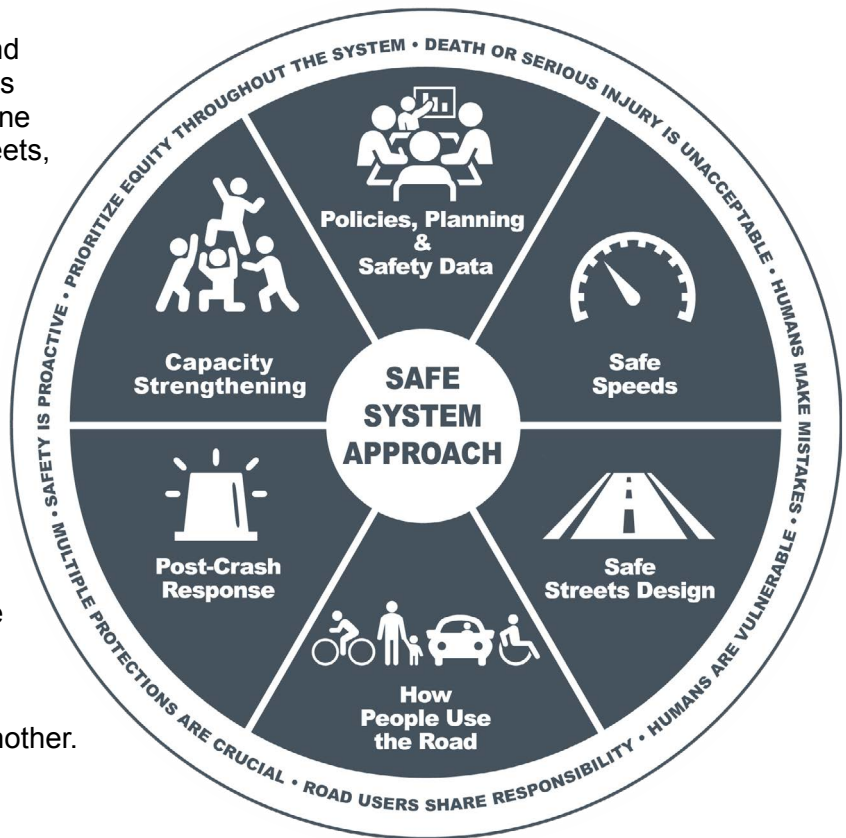


Figure 1. SafeTREC & Cal Walks' adapted Safe System approach

The six elements of the adapted Safe System approach that improve safety for all road users through multiple layers of protection are:

1. Safe speeds. Reduce driver speeds to reduce injury severity for all road users.
2. Safe streets design. Design roads that are people-focused and reduce conflict between users.
3. How people use the road. Create opportunities for and expand awareness of safe walking, biking, and rolling.
4. Post-crash response. Provide physical and emotional care to crash survivors and their families.
5. Capacity building and empowerment. Empower communities to claim ownership of safe streets and public spaces.
6. Policies, planning, and safety data. Create systems change at the local and statewide policy level.

Weaving in the Safe System approach to community engagement

While Safe System approaches traditionally rest with transportation professionals and researchers, communities are also heavily invested in getting places safely and have a key role to play to reach this goal. Several elements of the Safe System approach focus on the built environment and roadway infrastructure to slow traffic and provide safe roadway space for all road users; community engagement also plays a key role in generating support to implement those new infrastructure projects and to promote equity. In many cases, cities and counties need community residents to voice support for new projects. In other instances, it is community residents who generate grassroots momentum behind roadway improvements and advocate for them to their local officials.

Channeling community support to create lasting safety and mobility improvements is a major goal of California's CPBST program. The CPBST aims to build the capacity of community partners to create safer and more accessible streets for walking and biking in their neighborhoods through:

- Supporting community groups in conducting safety assessments, collecting data, applying for street improvement, education and enforcement grants, and planning for safe routes to schools and parks.
- Strengthening collaborations with local officials and agency staff to make California neighborhoods safer and more pleasant for walking and bicycling.
- Facilitating community planning to create actionable next steps.

While engineering strategies and improvements are at the most recognizable transportation components of the Safe System approach, there are numerous other ways communities may connect with Safe System efforts, such as:

- Forming Pedestrian and Bicycle Advisory Committees to provide feedback to decision makers and about issues important to the community.
- Conducting safety education and encouragement activities: walking school buses, bike skills training, helmet distributions for youth, and open streets events.
- Conducting community-led walking and bicycling assessments, including data gathering through [Street Story](#) and documenting through photovoice and videovoice projects.
- Implementing safe speed messaging campaigns.
- Educating local communities about how to advocate for pedestrian and bicycle safety improvements such as high visibility crosswalks.

Conclusion

As more transportation agencies and communities commit to implementing the Safe System approach, we would expect to see pedestrian and bicycle safety needs increasingly prioritized. SafeTREC and Cal Walks had the unique opportunity to apply our adapted Safe System community engagement model in the communities we work with through the CPBST program. From this experience, we strongly believe that active transportation safety efforts are strengthened by recruiting interdisciplinary partners and community residents to contribute local knowledge to safety plans. Ultimately, system level change requires strong collaboration between academic researchers, interdisciplinary state and local departments, and community partners to learn from each other and strengthen best practices in order to achieve our collective goal of zero traffic fatalities.

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