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Equitable Transportation Planning for Pedestrian and Bicycle Safety through the Use of the Safe System Approach

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Introduction

Public health concerns surrounding road use in the United States are prevalent, particularly for road users who walk, bike, and roll. From 2010-2021, fatalities in the United States among bicyclists involved in traffic crashes ranged from 623 to 966 per year with an average of 800 fatalities per year, while approximately 41,615 bicyclists were injured in crashes in 2021 alone (Kirley et al., 2023). From 2017-2021, fatalities in the United States among pedestrians involved in traffic crashes led to a five-year average of 6,502 pedestrian deaths (ibid, 2023). Among pedestrians involved in traffic crashes, there were 7,388 fatalities and approximately 60,577 injuries in 2021 alone, most commonly due to pedestrians having to cross five or more lanes of vehicle traffic, pedestrians walking on roads with speed limits of 30 miles per hour (mph) or higher and/or on roads with traffic volumes of over 25,000 vehicles per day (ibid, 2023).

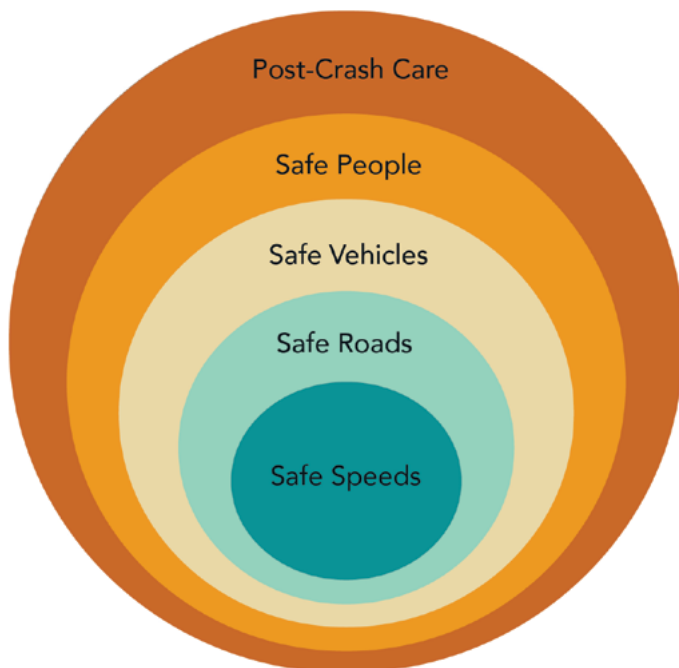
Despite progress in vehicle occupant safety through new technologies (Kahane, 2015), a lack of road safety continues to remain a top contributor to fatalities in the United States (World Health Organization [WHO], 2018). While vehicle occupant deaths decrease, those outside of a vehicle at the time of a crash have become more likely to be injured or killed (National Highway Traffic Safety Administration [NHTSA], 2020) as these technologies

do not protect those walking, biking, or using other alternative modes of transportation such as a scooter or mobility device. These individuals, collectively known as vulnerable road users (California Department of Transportation [Caltrans], 2023), remain far more susceptible to car crash injuries and deaths compared to other road users. This is especially true for children or seniors, who may move at slower speeds or appear less visible to drivers of vehicles, and whose bodies cannot take as much kinetic impact.

The Safe System Approach provides an opportunity to address serious injuries and fatalities from all angles using a human-centered approach that aims to eliminate serious and fatal injuries for all road users. It calls for a paradigm shift in which transportation planners, professionals, and policymakers incorporate public health principles into their practices to advance safe mobility for all. Previous transportation safety frameworks, such as the E's framework, placed emphasis on engineering, enforcement, and education, while implying that the different factors are equally effective (Ederer et al., 2023). The Safe System Approach offers an alternative to enforcement-based road safety measures, such as traditional seatbelt and impaired driving laws enacted in the 1990s, that vary in effectiveness (Nichols & Solomon, 2013) and

chronically lead to racial and economic injustices (Woods, 2021).

Founded in Sweden in 1997, the Safe System Approach includes six principles: deaths and serious injuries are unacceptable, humans make mistakes, humans are vulnerable, responsibility is shared, safety is proactive, and redundancy is crucial. There are five elements to the Safe System Approach: safer people, safer roads, safer vehicles, safer speeds, and post-crash care. Together, these principles and elements provide a blueprint for more proactive and equitable transportation safety in the United States by shifting the focus from individual responsibility and human behavior to designing for human error, reducing the system's kinetic energy, and sharing the responsibility of safety among all road users throughout the system (United States Department of Transportation [USDOT], 2022). It emphasizes building multiple layers of protection for all so that the whole system is intentionally designed to minimize risk and prioritize safety (Mitman et al., 2024). This model has been adopted by the United States Department of Transportation, California Department of Transportation, California Office of Traffic Safety, and numerous other agencies.



ABOVE: The elements of layered protection for the Safe System Approach include Safe Speeds, Safe Roads, Safe Vehicles, Safe People, and Post-Crash Care, ensuring that if one part of the system fails, the other parts will still act as protection.

With the Safe System Approach, transportation planners prioritize population-level interventions with greater and longer lasting safety impacts over individual-level strategies to design streets to be safer and self-enforcing, while increasing equitable outcomes in historically underinvested communities (ibid, 2024). This approach operates by prioritizing ways to manage streets and infrastructure, educating community members on how to use streets in a safer way, and employing strategies that help eliminate fatal and serious roadway injuries. It acknowledges that human error is inevitable while asserting that serious injuries and deaths due to traffic crashes are avoidable and unacceptable. In recognizing that human bodies are fragile and humans make mistakes, this human-centered approach proactively considers health and saving lives when designing road networks while shifting away from traditional measures that emphasize individual-level strategies and enforcement.

This research brief explores how the Safe System Approach works to reframe the current landscape in the United States to promote equitable transportation policies and planning. Topics identified for further discussion and analysis from current literature on equity and the Safe System Approach include 1) engaging diverse communities in transportation planning, 2) turning towards equity to address past systemic injustices, and 3) employing education and prevention strategies to promote “upstream” versus “downstream” (i.e., traditional) approaches.

Engaging Diverse Communities

With a large population of California consisting of people who identify as Latino (40%), Asian American or Pacific Islander (15%), Black (5%), multiracial (4%), and Native American or Alaskan Native (<1%), it is critical that transportation safety initiatives address and reflect the needs and concerns of the State's diverse communities (Johnson et al., 2024). There is a need to center equity in transportation safety planning and both the Vision Zero initiative (with a goal of safe mobility for all people) and the Safe System Approach can address the systems that lead to disproportionate safety impacts that Black, Indigenous, and people of color (BIPOC) and low-income communities experience (Smith & Shahum, 2023). Health equity is one component prioritized in Vision Zero planning that seeks to address the disparities among race and ethnicity in transportation safety risks. For example, Black people are killed in crashes at a rate thirty percent higher than

white people in recent years, whereas people who are American Indian or Alaska Native are killed in crashes at over twice the national rate on a per-population basis (ibid, 2023). These communities disproportionately experience a lack of safety infrastructure and are more likely to be overburdened with wide roads designed for high speeds, leading to more transportation-related serious injuries and fatalities (ibid, 2023). To begin to address these inequities, diverse communities must be engaged and centered in programs that ensure their perspectives are integrated and reflected in transportation safety planning.

One opportunity that the application of the Safe System Approach provides is its potential to reduce the need for traffic enforcement with a shift instead to shared responsibility and accountability at a systems-level (Johns Hopkins Center for Injury Research and Policy, 2021). Community-based alternatives to policing like Community Ambassador Programs (CAPs) were created as an equity solution that expands beyond the scope of traffic safety and have since demonstrated the effectiveness of community members leading health and safety promotion (San Francisco Office of Civic Engagement and Immigrant Affairs [OCEIA], n.d.).

Community Ambassador Programs,

like the one developed by the [City and County of San Francisco](#), employ a community-centered and trauma-informed approach to shift the responsibility of community safety to local experts who live in the communities they work in (City and County of San Francisco, 2024). Ambassadors engage, inform, and assist community members while providing services like safety escorts, reporting emergencies and hazards, conducting wellness checks, and providing referrals to social services. They are required to complete several trainings as CAP team members including the Alive & Free Prescription violence prevention training, homelessness and mental illness sensitivity training, trauma-informed de-escalation practices, implicit bias, cultural diversity, and harassment prevention, NARCAN and harm reduction training, and Neighborhood Emergency Response Team (NERT) training. This approach helps prevent violence while building trust and calming tensions among community members. Cities may explore the ways that CAPs can support community-centered traffic enforcement to center equity and engage communities.

In addition to police enforcement, jurisdictions are implementing programs to address community needs and enhance trust between residents and agencies. Los Angeles Department of Transportation's (LADOT) Dignity Infused Community Engagement (DICE) approach also centers community members in transportation planning (Smith & Shahum, 2023). The approach integrates community perspectives into planning while seeking to heal the negative impacts of broader practices in Los Angeles, with activities like street team development, capacity building training, restorative justice mediation, and paid partnerships with community leaders. Another example of a community-based program that engages diverse groups from within is the Community Connector Program based in Denver, Colorado (ibid, 2023). The program, housed in the City's Department of Transportation and Infrastructure, hires employees with lived experience in the communities they serve with the goal of trust and relationship building as they engage with and support members of the community. They coordinate Community Micro-Grants that build on ideas from community members to improve accessibility to safe public places, walkability, and bikeability. They also seek to address community needs beyond transportation.

The *promotores* model is another community-based model, one that aims to provide linguistically and culturally relevant guidance and education to community members, and is employed by multiple jurisdictions statewide. An example of this model being used in action is the [Promotores Collaborative of San Luis Obispo County](#). The collaborative builds, fosters, and supports a network of *promotores* in San Luis Obispo County to empower a healthier community by providing training, emotional support, and educational materials (Center for Family Strengthening, n.d.). They also collaborate with partner agencies to provide additional training for the group's workforce, with the goal to develop a sustainable, diverse, and comprehensive culture that promotes equal access to community resources and services among all members of the Hispanic community. Individuals from the community can get involved and earn hours to obtain a Community Health Worker certification, upon which they can begin to work as advocates and change agents in their community.

The Safe System Approach seeks to address underlying disparities in transportation risk and safety, particularly among vulnerable road users and those who have been historically underserved (USDOT, n.d.). These frameworks can be tailored

to the needs of specific communities or populations, with an understanding that community engagement throughout planning processes may help address health equity considerations with regard to age, income, race, gender, and ability (National Academies of Sciences, Engineering, and Medicine, 2017). The safety programs outlined above and others that aim to center and incorporate the perspectives of the diverse communities they serve demonstrate the ways that these initiatives can be tailored to address the unique needs of diverse communities. They also provide examples of how shifts towards shared responsibility and accountability have proven effective alternatives to traditional enforcement-based measures.

Turning Towards Equity

As a result of 55,000 people dying on roads throughout the United States in 1972, the National Highway Traffic Safety Administration (NHTSA) adopted a public health approach to road safety, introducing seatbelts and behavioral strategies (Kahane, 2015). Throughout the 1990s, seat belt laws, coupled with enforcement around seat belt usage and drunk driving, became effective methods of reducing road deaths yet decreased in effectiveness due to police resources and shifting priorities of law enforcement (Wiliszowski et al., 2001). Traffic stops as an approach to road safety can result in significant racial disparities, as Black drivers are subjected to more stops and more use of physical force during traffic stops (Harrell & Davis, 2020). Studies have also found evidence of racial bias in seat belt law enforcement, with some research citing disproportionate enforcement according to the race of the driver (Ehsani et al., 2023). Racial disparities also affect BIPOC communities who disproportionately live in low-income areas where they experience 3-4 times higher crash fatality rates when compared to white neighborhoods (Marshall & Ferenchak, 2017), due to road designs that are unsafe for walking and biking (Morency et al., 2012).

The Safe System Approach and Vision Zero offer an alternative to enforcement-based road safety measures. Specifically, the Safe System Approach utilizes a set of strategies adhering to certain principles which promote the creation of a safe and equitable transportation system. Reframing user error for design error and applying this concept to road safety encourages proactive road designs and shifts focus away from an emphasis on rules and compliance. The Vision Zero initiative functions

in a complementary manner towards safe mobility for all people with a goal of eliminating all serious injuries and deaths from roadway crashes (Smith & Shahum, 2023). It centers the Safe System Approach to address health equity in transportation planning efforts with priority towards communities of color, low-income communities, and communities with a history of disinvestment who have adverse health outcomes. Vision Zero serves as a framework for incorporating health equity goals and strategies into meaningful advancement for safe mobility.

New York City was the first adopter of Vision Zero in the United States, adopting a Vision Zero plan in 2014 that included road safety improvements across the city, coupled with stricter police enforcement and education-based campaigns to target vulnerable communities and promote safer driving behaviors for taxi drivers (City of New York, 2014). Yet, New York City's approach to Vision Zero has garnered critiques, such as potential bias in data-driven decision making. A study on the data-driven approach across public sectors found that the collection, storage, and interpretation of data that is relevant to policies can lead to adverse implications for equity and social justice (Abebe et al., 2024). Crash data obtained by a police report may be subject to underreporting of crashes occurring on the roads for various reasons, including distrust or fear of the police, lack of health care or insurance, or unwillingness to file a police report. Another study found that approximately one-third of crashes that involved a vulnerable road user (i.e., a pedestrian or bicyclist) were unreported (ibid, 2024). Despite its criticisms, the Vision Zero plan in New York served as a framework for future active transportation planning efforts in New York and across the United States. Since its adoption of the Vision Zero plan in 2014, New York has continued to implement road safety interventions including training and education campaigns, road engineering, police enforcement, and legislation.

In contrast to New York's enforcement-based Vision Zero approach, other jurisdictions have shifted away from enforcement tactics and towards a more systemic approach. For example, San Francisco has prioritized safe systems and vehicles with an emphasis on data systems, becoming one of the first cities in the United States to link hospital trauma center data with police crash data. In San Francisco, 24% to 39% of bicycle or pedestrian serious injury crash data were collected at a hospital (San Francisco Department of Public Health & San Francisco Municipal Transportation Agency, 2017), allowing the city to fill in gaps in information that may

not be captured by a police crash report alone. This data may include other unreported elements of a crash not included in a traditional police crash report, including non-visible yet serious injuries, or other important information including health conditions or disabilities, or if a crash victim is unhoused (Vanterpool, 2019).

Most notably, San Francisco's approach to link hospital trauma center data with police crash data led to the creation of their High Injury Network (HIN) map that demonstrates how 12% of streets in the city are where 68% of fatal and serious injury transportation-related crashes occur (San Francisco Municipal Transportation Agency, n.d.). This national model has since been adopted by various cities and jurisdictions across the country. The HIN map data has highlighted inequities among traffic fatalities, especially in understanding disparities among outcomes for older adults, non-English speaking populations, low-income or disabled individuals, people experiencing homelessness, and BIPOC communities. Despite the HIN providing a clear and equity-based analysis of where street trauma is occurring, concerns surrounding over-policing in HIN areas have been identified. To ensure equitable outcomes, jurisdictions must identify and invest in non-enforcement based strategies for high-injury corridors, and not simply rely on enforcement measures. San Francisco provides a template for self-enforcing HIN solutions: the city has completed more than 13,000 traffic safety treatments, identified transportation safety champions, coordinated with other city agencies to raise awareness of the need for safer streets, and reduced barriers to adopting safer behaviors when engaging in transportation systems (ibid, n.d.).

As the state of California continues to invest in active transportation infrastructure and technology, with \$1 billion allocated towards urban and rural bicycle and pedestrian infrastructure projects over the next four years (Caltrans, 2024), an increase in new technologies, resources, and infrastructure design requires an examination of the distribution of resources and funding in order to promote an equitable active transportation landscape that addresses past inequities. Such inequities include but are not limited to injustices such as the redlining of cities and discriminatory housing practices, systemic inequities in the distribution of resources, technology, and infrastructure, inequities in funding allocation, and other forms of historic discrimination. Holding agencies and decision-makers accountable for implementing strategies that address historical

and modern disparities in roadway safety is crucial to ensuring equitable access to safe mobility and transportation systems.

Employing an Upstream Approach

The Safe System Approach focuses on ways the larger system can integrate safety in all layers by promoting human health, preventing crashes, and eliminating transportation injuries and fatalities instead of on heavy enforcement. This system employs "upstream" approaches that shift away from enforcement-based measures and instead focus on proactively identifying and addressing risks while accounting for inevitable human mistakes. In doing so, the framework designs for human limitations, reduces overall system kinetic energy, prevents death and serious injuries, and emphasizes shared responsibility amongst all road users. This includes an emphasis on policy developments that address barriers to safe driving and help to make safe driving behaviors an easy choice (Smith & Shahum, 2023). The pivot to a Safe System Approach acknowledges that not all individuals may have access to safe walking and biking choices in the first place. It also seeks to address underlying "root cause" disparities in access to safe mobility, particularly among underserved communities.

One root cause that the Safe System Approach addresses is kinetic energy which exceeds the human body's tolerance, a reference to the speed and mass of vehicles traveling within transportation systems. This kinetic energy has been identified as a leading cause of transportation injuries and death, with studies showing that the likelihood of a fatality as a result of a traffic crash involving a pedestrian increases from 10% with a vehicle traveling at 20 mph, to 40% at 30 mph, and 80% at 40 mph or over (Mitman et al., 2024). To prioritize reducing the root cause of injuries and death, David Ederer and co-authors Rachael Thompson Panik, Nisha Botchwey, and Kari Watkins adapted the Health Impact Pyramid framework into the Safe Systems Pyramid for roadway safety practitioners. Aligning with public health principles, their adapted model demonstrates how population-level interventions have greater impact than those that require more individual effort (ibid, 2024). This model illustrates the impact of the Safe System Approach and how it can be implemented with public health principles that prioritize upstream, population-level approaches.

Through adapting Vision Zero action plans that employ a Safe System Approach, many cities have

employed different strategies to tailor plans for integration into their communities, rethinking the role of enforcement. Tacoma's focus on infrastructure and supportive policies deprioritize enforcement, while Minneapolis' plan seeks to support equity and address inequities related to traffic safety enforcement (Smith & Shahum, 2023). In its updated plan for 2020, Philadelphia aligned with the Safe System Approach by prioritizing strategies for advocacy, empowerment, and community-centered action among residents, over previously focusing on individual behaviors (Vision Zero Network, 2021). The City has also enforced a law that requires data from traffic stops, including demographic information for drivers and passengers, to be collected and published. The State of California passed a similar law in 2015, the Racial and Identity Profiling Act, that requires law enforcement agencies report data on all vehicle and pedestrian stops, and citizen complaints alleging racial and identity profiling, to the Attorney General's Office (California A.B. 953, 2015). The State subsequently passed the Freedom to Walk Act in 2022, decriminalizing jaywalking to prevent pretext stops, where Black Californians are overrepresented (Office of Assemblymember Phil Ting, District 19, 2022). Preventative, upstream measures can proactively address risks and disparities and help support an equitable transportation system for all, whereas enforcement-based measures are an individualistic approach that does not create behavior change like infrastructure is able to. However, shifting the focus away from enforcement-based road safety and towards proactive, Safe System Approach strategies, involves significant public buy-in that can prove difficult to earn.

The conversation surrounding enforcement as a part of the Safe System Approach and Vision Zero is complex. Enforcement has been shown to improve safety outcomes for seat belt use, distracted driving, and alcohol-impaired driving. For speeding and aggressive driving however, no clear safety outcome has been reported (Office of Behavioral Safety Research, 2022). For vulnerable road users, those outside of vehicles, there is a higher likelihood of fatal or serious injury in a crash, especially at higher speeds (USDOT, 2023). In low-income communities where many residents may not own vehicles or drive, this creates inherently inequitable outcomes. Considering the effectiveness of enforcement in traffic safety, yet weighing the harm caused to BIPOC communities, whom are consistently policed at higher rates (Ehsani et al., 2023) and see higher rates of crash-related injuries and deaths (Morency et al., 2012), equity-based approaches and alternatives are needed.

Ederer's Safe Systems Pyramid, consisting of education, active measures, latent safety measures, the built environment, and socioeconomic factors, offers insight into the benefits of shifting to a public health approach for transportation safety that centers equity (Ederer et al., 2023). When used as a framework for transportation safety, a public health approach aims to correct discrepancies in previous traffic safety models and decrease risk at the population level. Individual efforts as well as enforcement are de-emphasized while passive measures that require little to no individual effort are employed to promote change at the systems level. For example, the Built Environment tier of the Safe Systems Pyramid considers the nature of one's exposure to a safe walking or biking environment to help reduce the risk for traffic injuries and fatalities systemically.



ABOVE: Adapted from the Health Impact Pyramid, Ederer's Safe Systems Pyramid for roadway safety practitioners consists of education, active measures, latent safety measures, the built environment, and socioeconomic factors (image designed by Michelle Lieberman of the University of California at Davis).

Furthermore, an understanding that prioritizing specific elements of the Safe System Approach is key. Recently, a study found how in several European cities, reduced speed limits reduced crashes, especially crashes involving pedestrians (Tennoy & George, 2024). In this way, adapting the Safe System Approach to consider the most effective methods can promote equity within the system by focusing on measures that reduce the effect of crashes on the most vulnerable road users.

How the Safe System Approach Informs Equitable Pedestrian and Bicycle Transportation Planning

When planning communities that prioritize the safety of those walking and biking, transportation planners need to center equity throughout the entire process and the Safe System Approach allows them to do so. Currently, our roads are designed to move cars efficiently and quickly above all other road users, oftentimes putting our most vulnerable road users, those walking and biking, at high risk of injury and death. By implementing the Safe System Approach, we can combat this and create equitable, safe streets for our most vulnerable road users.

Since 2010, pedestrian deaths resulting from traffic crashes have increased by 75 percent, and the latest federal data (2022) shows the U.S. reached a 40-year high in the deaths of people walking (Smart Growth America, 2024). With per-capita pedestrian deaths trending upward as income decreases, and Black pedestrians killed at more than twice the rate of their white counterparts, the need for equitable transportation planning becomes starkly apparent (ibid, 2024). Those biking face similar high numbers of serious injuries and deaths on U.S. roads. The National Highway Traffic Safety Administration's (NHTSA) Fatality Analysis Reporting System (FARS), which has operated since 1975, reported 1,105 bicyclist deaths in 2022, more than in any other prior year of reporting (National Center for Statistics and Analysis, 2024). The data shows a clear need to rethink our approach and the Safe System Approach is a prime candidate to employ to combat inequities across U.S. roads.

By utilizing the Safe System Approach, we can center equity into each step of the process and many organizations across the U.S. are adapting the Safe System Approach to highlight the importance of equity at its core. UC Berkeley Safe Transportation Research and Education Center's (SafeTREC) Community Pedestrian and Bicycle Safety program (CPBSP) is one example. The CPBSP team adapted the Federal Highway Administration's Safe System Approach model to incorporate equity into every layer of protection in order to address historical disinvestment, institutional biases, and the disproportionate burden BIPOC communities face with regard to serious injuries and deaths (Chen & Cooper, 2021).

Along with remodeling the approach to fit specific community needs, many organizations are creating tools that address the six elements of the approach. One tool in particular is SafeTREC's Safe Speeds Toolkit, which aims to help California's local jurisdictions set safer speed limits using the Safe System Approach (UC Berkeley Safe Transportation Research and Education Center [SafeTREC], n.d.). This toolkit is especially useful alongside California Assembly Bills 43 (2021) and 1938 (2022) which allow for further reduction of speeds on locally-controlled roads. This includes the ability to lower speed limits by 5 mph in what are considered "high pedestrian and bicycle activity areas," which is determined either by a community asset that brings in a high volume of pedestrian and bicycle traffic or anywhere within a ¼-mile of a hotspot for pedestrian and bicycle crashes. This allows local jurisdictions to strategically reduce speeds where crashes are disproportionately occurring and proactively where they see large numbers of vulnerable road users like schools and universities, senior centers, hospitals, recreational spaces, and more. The Toolkit provides real world examples of cities who have created reduced speed limit zones, a self quiz to aid jurisdictions on identifying their eligibility, and a flow chart to demonstrate the step-by-step process for a local jurisdiction to set speed limits on locally-controlled roads.

The California Department of Transportation's (Caltrans) Vulnerable Road User Assessment is another tool that provides a tangible way for transportation planners to utilize the Safe System Approach to inform equitable pedestrian and bicycle projects (Caltrans, 2023). Since we know that those walking and biking are disproportionately burdened by crash risk, it is imperative that we prioritize the safety of vulnerable road users. The Assessment, part of California's Strategic Highway Safety Plan, identifies key locations across California where vulnerable road user safety improvements are needed and specific safety countermeasures to implement based on the Safe System Approach. Within the Assessment, an array of safety countermeasures are offered to help local jurisdictions see all potential options, with each safety countermeasure categorized by its potential effectiveness and impact to the safety of vulnerable road users. Local jurisdictions can use the Assessment as a planning tool to address the specific safety needs of their communities, picking and choosing which best fits their needs.

Conclusion

Investment in a Safe System Approach requires significant political and public interest, especially on a local level, as the majority of road systems are managed by local jurisdictions. In a manner similar to how the CPBSP adapted the Federal Highway Administration's model, jurisdictions may decide to tailor the Safe System Approach to best fit the needs and concerns of their communities. Washington state's adoption of the Safe System Approach is one example of how jurisdictions have implemented local considerations into their transportation safety practices to better fit the needs of the state (Washington State Target Zero, n.d.). This may help ensure that the principles and elements of each framework are prioritized accordingly based on community perspectives and relevant to the lived experiences of community members. An equity-centered approach seeks to address disparities in the transportation landscape, health outcomes, and allocation of funding and resources.

Engaging stakeholders and decision-makers like city council members and elected officials in adoption efforts may support further implementation of the Safe System Approach across jurisdictions. Encouragingly, adoption efforts of the Safe System Approach and its guiding principles across agency, city and county, and state-wide levels continue to be observed throughout California. Notably, Caltrans is working to integrate equity and the Safe System Approach into California's Strategic Highway Safety Plan (USDOT, n.d.), and recently launched a new equity tool, the [Transportation Equity Index \(EQI\)](#) to help address transportation-related inequities and align with equity goals (Caltrans, 2024). Though many cities have adopted Vision Zero programs, further technical assistance and funding are needed to fully align with a Safe System Approach. Many barriers to change exist amongst levels of municipal governments, as a reliance on traffic fines have long been a part of small town budgets (Dunn, 2020). While strategies to implement a Safe System Approach may vary in effectiveness and scope, a focus on equity is necessary to ensure diverse communities are engaged in planning processes and undo legacies of racial inequities in transportation planning in California (Michael et al., 2021).

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About the Program

This research brief was developed as part of the Community Pedestrian and Bicycle Safety Program (CPBSP). The aim of the CPBSP is to reduce pedestrian and bicyclist fatalities and serious injuries in California. We partner with communities across California to discuss, plan, and implement safety improvements and projects.

The CPBSP prioritizes working in communities that are at disproportionate risk for road traffic injuries and addressing the safety needs of people who are underserved by traditional transportation resources and planning. For more information, visit: <https://bit.ly/CPBSP> or email us at safetrec@berkeley.edu

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Photo by Kris Leckie (Safe Transportation Research and Education Center)