# Safe System Strategies for Bicyclists and Pedestrians Toolkit

# Safe System Approach to Road Safety:

The Safe System Approach focuses on saving lives, with the understanding that humans make mistakes and bodies are fragile. Attention is focused on reducing fatal and serious injuries when a crash occurs through ways a street is designed, the ways we manage our streets and their infrastructure, and engaging and educating communities on how to use streets safely.

The Community Pedestrian and Bicycle Safety Training (CPBST) team adapted the Federal Highway Administration (FHWA) Safe System elements and principles to make them impactful for the communities we work with. Specifically, we include community engagement as a key element in a Safe System, and make equity a central component. We also acknowledge the key role of collaboration between transportation professionals and the communities they work with in order to create safe streets for all.

Within the Safe System Approach, the CPBST team:

- 1. Reviews pedestrian and bike crash data and safety strategies;
- 2. Facilitates walking and biking assessments;
- Strategizes with communities to define specific pedestrian and bike safety goals and actionable next steps;
- 4. Empowers communities to strengthen collaborations to implement specific walking and biking safety recommendations.

We've created a table of potential community improvements that can help you create a safer community with the Safe System Approach. There are many ways to plan a bikeable and walkable community; this toolkit is just a starting point.

Within our table of potential community improvements, we've tagged them with keywords we found relevant to the specific strategy. These keywords include:

- Community Engagement/Partnerships allow opportunities to engage with the community and create partnerships with community-based organizations, local businesses, and others.
- Data strategies that collect, analyze, and provide data for projects.
- Encouragement and Education encourage communities to walk, bike, or use public transportation and/ or provide educational opportunities to learn how to safely walk, bike, or roll in communities.
- Infrastructure infrastructure-specific and change the layout of the roadway.
- Safe Routes to School (SRTS) encourage and support SRTS efforts in communities.
- Speed Management help manage speeds on the roadway to make communities safer for those walking and biking.
- Vulnerable Populations create safer streets and communities for our most- vulnerable populations such as seniors, people with disabilities, and children.

## About the CPBST

The Community Pedestrian and Bicycle Safety Training (CPBST) program is a statewide active transportation and community engagement project of UC Berkeley SafeTREC and California 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.







## VTA

BICYCLE & PEDESTRIAN ADVISORY COMMITTEE OPENING







## Bike and/or Pedestrian Advisory Committees

A volunteer group of residents, community stakeholders, and subject experts that advise and make recommendations to decision makers on walking and biking programs, projects, and policies.

**When to Use:** To provide opportunities for residents, community stakeholders, and subject experts to help shape walking and biking programs, projects and policies.

Community Engagement/Partnerships, Data, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



## Bike and/or Pedestrian Master Plans

An official government document used to guide funding decisions and/or prioritize specific walking and biking improvement programs, projects, and policies.

When to Use: To create city-wide or regional government plans that prioritize walking and biking.

Community Engagement/Partnerships, Data, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



## **Bike Box**

A designated space usually painted in a high-visibility green paint where people biking can stop in front of people driving at a red light. They make sure people biking are visible and encourage more predictable approaches to and through the intersection by all road users.

When to Use: To provide a safe place for people biking to stop at a red light. This allows those biking to wait at a red light in front of those driving, providing higher visibility and awareness for those driving to share the road.

Encouragement and Education, Infrastructure, Vulnerable Populations

## **Bike Lane**

A section of a roadway exclusively for people biking or using a scooter, which reduces conflicts between people walking, biking, and driving. Colored pavement within a bike lane increases its visibility.



- **Protected bike lane:** physically separated space from vehicle travel lanes using bollards, planters, parked cars, and curbs. They provide the highest amount of security and safety.
- Buffered bike lanes: separated space from vehicle lanes using a painted buffered space.
- Conventional bike lane: a space that is striped with white paint and located along the right side of a road.
- **Bike Boulevard:** a shared road intended to prioritize bike travel with painted white sharrows along the route which indicate to all road users to share the space.

**When to Use:** To provide safe, comfortable roads for people biking in the community. By separating those biking from those driving, it's easier for people driving to navigate the road. Oftentimes, they also improve the safety of people walking along the corridor.





## **Bike Parking**

A designated location for bikes to be safely stored, including bike corrals, bike racks, bike lockers, and other parking options. They encourage people to bike to their destinations because they have a safe place to store them.

When to Use: To encourage more people to bike by providing them plenty of safe ways to park bikes at destinations.

Encouragement and Education, Infrastructure



## **Bike Rodeo**

An on-bike education event for youth to teach them the skills needed to ride a bike safely. They can include bike safety inspections, helmet distribution to those in need, and teach bike maintenance skills and rules of the road. Rodeos can also include scooters, skateboards, and roller skates.

When to Use: To encourage school children to bike, scoot, skateboard or roller skate to school and educate them on how to do so safely.

Community Engagement/Partnerships, Encouragement and Education, Safe Routes to School (SRTS), Vulnerable Populations



## **Bike Safety Diversion Program**

A <u>sponsored program</u> by a local law enforcement agency that offers bike traffic school to remove or reduce a traffic violation fine for people who bike. Attendees also learn bike laws and safe riding skills.

**When to Use:** To provide a way for people who bike to remove or reduce a traffic violation fine, similar to what is already provided for people who drive.

Community Engagement/Partnerships, Encouragement and Education, Vulnerable Populations



## **Bike Sensor**

A detector that captures when a bike passes over it to trigger the traffic light. Most commonly, they are either video detectors or in-pavement sensors. In-pavement sensors are often paired with road markings to let those biking know where to position themselves at an intersection to trigger the signal.

When to Use: To prioritize people biking along a roadway and create a safe, accessible path of travel.

Data, Encouragement and Education, Infrastructure, Vulnerable Populations



# Bike Signal

A traffic signal that directs people biking through an intersection and reduces potential conflict with other road users like people walking or driving.

**When to Use:** To provide dedicated signals for people biking especially on corridors with protected bicycle lanes. By separating their movements from people driving, the safety of people biking is increased.

Encouragement and Education, Infrastructure, Vulnerable Populations



## **Bike Train**

A group of students who bike to school accompanied by an adult along a designated route. Students can join the bike train along any of several identified stops.

When to Use: To encourage more students to bike to school, improve the safety of people walking to school, and involve students and parents directly in SRTS work.

Community Engagement/Partnerships, Encouragement and Education, Safe Routes to School (SRTS), Vulnerable Populations



# **Community Benefit Agreement**

A legally enforceable contract between a community coalition and the developer of a proposed development project. In exchange for public support of the project, the developer contributes benefits to the local community, such as pedestrian and bike safety improvements and open green space.

**When to Use:** To improve the safety of people walking and biking or increase open green space for the community at or near new development projects.

Community Engagement/Partnerships, Encouragement and Education, Infrastructure, Speed Management, Vulnerable Populations



# **Community Coalition**

A variety of partners in a community that work together to improve active transportation safety. This can include work in affordable housing and active transportation, land use solutions, and public transportation investments.

When to Use: To provide a well-rounded, safe community for those living in and traveling to it.

Community Engagement/Partnerships, Data, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# **Community Liaison/Promotores Campaign**

A program that trains community residents to become public health workers. They can teach their neighbors advocacy skills to promote safe walking and biking behaviors among their communities.

**When to Use:** To promote safe walking and biking in communities, by teaching the people in the community themselves to become advocates.

Community Engagement/Partnerships, Encouragement and Education, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations

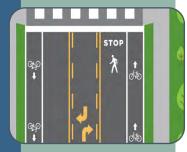


# **Community Walk or Bike Ride**

An event that encourages residents to walk or bike together and explore local themes, such as art, music, history, and architecture.

**When to Use:** To encourage more residents to walk or bike. This can be a more comfortable introduction to walking or biking in the community for those with no experience.

Community Engagement/Partnerships, Encouragement and Education, Vulnerable Populations



## **Complete Streets**

Streets designed to provide a safe, comfortable space for all people using the street, regardless of age or ability. Complete Street policies are set at the state, regional, and local levels and are frequently supported by roadway design guidelines.

**When to Use:** To encourage more residents to walk, bike, or take transit and improve the safety of vulnerable populations using the corridor.

Community Engagement/Partnerships, Data, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# **Curb Extension (Bulbout)**

A sidewalk that is lengthened into the street, to shorten the distance and time it takes to walk across the street. They can be used at corners or mid-block and can be built with paint, bollards, or planters. Curb extensions can often be lengthened to create public spaces, landscaped areas, or transit waiting areas.

**When to Use:** To increase the visibility of people walking at intersections, shortening crossing distances, reduce turn speeds of those driving, increase the waiting space of people walking, provide additional public space, reduce illegal parking at corners crosswalks and bus stops, and provide the space needed to install two curb ramps per corner.

Encouragement and Education, Infrastructure, Speed Management, Vulnerable Populations



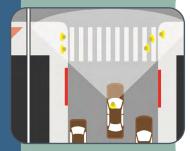
## **Curb Ramp**

A ramp that provides access between the sidewalk and roadway for people using wheelchairs, strollers, walkers, crutches, handcarts, bicycles, and people walking who have trouble stepping up and down high curbs. Without curb ramps in place, people with mobility disabilities are often forced to travel in the street with traffic to move around.

Curb ramps should include truncated domes which serve as a detectable warning, which can be seen, felt and heard.

When to Use: To create roads and sidewalks that are accessible and safe to use for people with disabilities. It is often difficult and dangerous, impossible even, for a person using a wheelchair, scooter, walker, or other mobility device to cross a street if the sidewalk on either side of the street ends without a curb ramp. Curb ramps must be provided in order to have equal access to public spaces for all ages and abilities.

Encouragement and Education, Infrastructure, Vulnerable Populations



# **Daylighting**

The practice of pushing parking spaces 20 to 25 feet back from a pedestrian crossing, which increases the visibility between people walking and driving, reducing conflicts.

When to Use: To increase the safety of people walking along a corridor and improve the visibility between people walking and driving.



## **Designated Safe Route**

A route that redirects students to walk and bike along an identified safer route to and from school that typically has better walking and biking infrastructure.

When to Use: To provide safe ways for school children to walk and bike to school.

Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# Earn-A-Bike Program

A program that provides residents, typically youth, the opportunity to earn a bike by participating in classes that teach them the rules of the road, bike safety, and basic bike mechanic skills.

When to Use: To provide more equitable access to bikes, given that not every resident can afford one.

Community Engagement/Partnerships, Encouragement and Education, Safe Routes to School (SRTS), Vulnerable Populations



# **Engaged Elected Official**

Engaging a decision maker for walking and biking safety in a community to help bring muchneeded support for safety improvements and policies. They can bring awareness and gain public funding support for bike and pedestrian projects.

When to Use: To prioritize biking and walking in a community through the adoption of policies, plans, and laws at the government level.

Community Engagement/Partnerships, Data, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations

Community Pedestrian and Bicycle Safety Training Program Evaluation Report



# **Evaluation of Program or Project**

The collection and analysis of data in order to help make program and funding decisions, as well as understand the impacts of the project or program.

**When to Use:** To use data to prioritize actions and to track progress related to transportation safety efforts. Evaluation may also support future requests for funding.

Data, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# Funding Opportunities that Prioritize Safety

Local, regional, statewide, and national funding sources identified that can pay for safety improvements. This can include OTS grants, Caltrans' Active Transportation Program, and local mini-grant opportunities.

**When to Use:** To implement and improve walking and biking safety programs and infrastructure projects.

Data, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# **Helmet/Light Distribution**

Helmet and bike light distribution to those to residents in need. They typically run in conjunction with bike education to promote helmet use to prevent head injuries and encourage safe riding.

When to Use: To provide more equitable access to helmets and bike lights, which greatly improve the safety of people biking.

Community Engagement/Partnerships, Encouragement and Education, Safe Routes to School (SRTS), Vulnerable Populations



# **High-Injury Network (HIN)**

A data-driven approach to safety that maps fatal and serious crashes to identify streets where the highest concentrations of crashes are occuring. This data can be used to prioritize funding and safety projects in those areas.

**When to Use:** To use data to prioritize actions and to track progress related to transportation safety efforts.

Data, Infrastructure, Speed Management, Vulnerable Populations



# **High-Visibility Road Markings and Signage**

Infrastructure to emphasize or indicate space for particular road users and help them detect each others' location on the road. They also increase visibility at night. They make signs and markings appear brighter and easier to see and read and increase the visibility of road signs, especially during periods of low-light and at night.

**When to Use:** To emphasize or indicate where each road user should be on the road, especially at night when regular paint alone is hard to see.

Encouragement and Education, Infrastructure, Speed Management, Vulnerable Populations



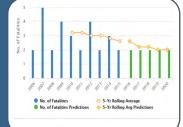
# **Hybrid Beacon (HAWK)**

A marked crossing signal that is activated by people walking. It alerts people driving to stop at an intersection or mid-block crosswalk and brings more visibility to people crossing the road.

When to Use: To increase the safety of people walking by signaling those driving to stop while people walking cross the street.

To increase safety of people crossing the major streets where side-street volumes do not support the installation of a conventional traffic signal.

Encouragement and Education, Infrastructure, Speed Management, Vulnerable Populations



## **Link Crash and Medical Data**

A link between hospital, police, emergency response, and other data can provide accurate, coordinated, and timely monitoring of injuries and deaths. This data can also be used to support prioritizing safety projects, evaluation of projects, and monitoring safety projects.

When to Use: To use data to prioritize actions and to track progress related to transportation safety efforts.

Data, Speed Management, Vulnerable Populations



## **Median Gardening**

The addition of trees and landscaping to medians to provide aesthetic benefits and traffic calming.

When to Use: To calm traffic and add greenery to communities.

Infrastructure, Speed Management



## Multi-Use Trail/Shared Path

A separated off-road space for people walking and biking, away from people driving. Some separate people biking and walking into their own lanes. These are most commonly used along rivers, shorelines, canals, utility rights-of-way, railroad rights-of-way, within school campuses, or within and between parks.

**When to Use:** To provide safe, off-road paths for people walking and biking in the community, especially near parks and other green spaces.

Encouragement and Education, Infrastructure, Vulnerable Populations



# **Neighborhood Speed Awareness Program**

The use of radar trailers and changeable message sign boards to make people driving aware of their speed.

When to Use: To increase traffic safety awareness and lower speeds along specific streets.

Community Engagement/Partnerships, Data, Encouragement and Education, Speed Management, Vulnerable Populations



# **Neighborhood Traffic Circle**

A raised circular island in a residential intersection which directs traffic to flow in one direction.

**When to Use:** To reduce the speeds of people driving and severity of potential crashes by narrowing the travel lane and turning radius of those driving.

Infrastructure, Speed Management, Vulnerable Populations



# Open Streets

A temporary closure of streets to vehicle traffic and opens them to people walking and biking, and other social activities.

**When to Use:** To create temporary closures on community streets to provide a safe, more comfortable place for people walking and biking.

Community Engagement/Partnerships, Encouragement and Education, Infrastructure, Vulnerable Populations



#### **Parklet**

A sidewalk extension that gives people walking more space along the street. Parklets can include benches, tables, greenery, and bike racks, and also provide space for people to sit and enjoy the space next to restaurants and other businesses.

**When to Use:** To provide more open space for residents, including spaces for sitting, eating, and bike parking. They widen sidewalks and can also slow traffic by taking a portion of the roadway.

Encouragement and Education, Infrastructure, Speed Management



# **Participatory Campaign**

A campaign that invites the community to participate in pedestrian and bike educational safety activities such as mural painting, crosswalk performances and neighborhood walk, bike, and bus tours.

**When to Use:** To provide ways for the community to get directly involved in the planning process for a project and provide their input directly to those planning the project.

Community Engagement/Partnerships, Data, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



## **Paved Shoulder**

A functional space for people walking and biking on the edge of a roadway.

When to Use: To provide space for people walking and biking on roads where there are no sidewalks or bike lanes.

Encouragement and Education, Infrastructure, Vulnerable Populations



#### Pedestrian/Bike Count

A data collection of how many people are walking and/or biking on a street to demonstrate the need for more pedestrian and bike infrastructure. This can be collected either manually or through automated counters.

When to Use: To collect volume data to demonstrate the need for safety improvements on a street.

Data, Encouragement and Education, Infrastructure, Speed Management, Vulnerable Populations



# Pedestrian Head Start (Leading Pedestrian Interval)

A traffic signal that gives people walking a 3-7 seconds head start to enter the intersection before people driving receive a green light. This improves the visibility of people walking in the intersection and highlights their right-of-way over turning vehicles.

**When to Use:** To increase the safety of people walking by allowing them a headstart on crossing, which also increases their visibility to people driving.

The National Manual on Uniform Traffic Control Devices (MUTCD) recommends a pedestrian crossing speed of 3.5 feet per second. California's MUTCD recommends 2.8 feet per second where people with disabilities or seniors walk. This allows vulnerable populations, like school children or older adults, more time to cross the street safely.

Encouragement and Education, Infrastructure, Vulnerable Populations



## **Pedestrian Lane**

A defined space on the roadway for people walking. They can be on one or both sides of the roadway.

When to Use: To provide a space for people walking on roads with low to moderate speeds and volumes.

Encouragement and Education, Infrastructure, Speed Management, Vulnerable Populations



## Pedestrian Plaza

A repurposed underutilized street, alley, or other community space that incorporates benches, tables, greenery, and bike racks.

When to Use: To provide more open spaces for people walking.

Community Engagement/Partnerships, Encouragement and Education, Infrastructure, Speed Management



# Pedestrian Safety Island (Pedestrian Refuge Island)

A designated area in the middle of a crosswalk where people walking can stop and rest. Along with the island, high-visibility crosswalks and signage can also be installed.

**When to Use:** To create safe places of refuge for people walking across wide roads or streets where people walking have trouble crossing due to high volumes of traffic. These can also be used in areas where there's a large presence of vulnerable road users like school children or older adults.

Encouragement and Education, Infrastructure, Speed Management, Vulnerable Populations



# **Pedestrian-Scale Lighting**

Lighting that is positioned towards sidewalks and pedestrian paths, located closer to the ground, and installed closer together to improve the walking experience.

**When to Use:** To provide sufficient lighting for people walking and improve sightlines for people walking, biking, or driving at night. It can also provide a sense of safety on previously dark roads that people may have avoided walking on at night.

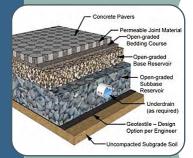
Encouragement and Education, Infrastructure, Vulnerable Populations



## **Pedestrian Scramble**

An intersection that stops driver traffic in all directions and allows people walking to simultaneously cross in all directions of the intersection, including diagonally. This lets people cross the street without having to worry about potential conflicts with drivers turning right on a red light.

When to Use: To provide safety improvements for people walking at intersections with a large volume of people walking. These are oftentimes used in downtown city corridors where people walking often outnumber people driving.



#### Permeable Sidewalk/Pavement

Sidewalk or pavement that allows stormwater to filter through to the soil below. Since water seeps through the pavement, puddles and ice will not form on the road which improves safety for people walking, biking, or driving.

**When to Use:** To manage stormwater on low-traffic roads and provide safe road conditions for people walking, biking, or driving.

Encouragement and Education, Infrastructure



## **Photo and Video Voice**

Tools that use images or videos to communicate perspectives and raise awareness of safety issues in a community. Photo and Video Voice testimonials offer greater flexibility for residents to engage in community planning.

When to Use: To gather more information and data directly from those impacted by traffic violence, near misses, and unsafe streets in a community. This data can then be used as a tool to advocate for safety improvements.

Community Engagement/Partnerships, Data, Encouragement and Education, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# **Placemaking**

An approach that deeply engages the arts, culture, and creativity — especially from underrepresented communities — in planning and designing projects so that the resulting communities better reflect and celebrate local culture, heritage and values.

**When to Use:** To get residents directly involved with improvements in the community and ensure any changes are in line with their vision for the community.

Community Engagement/Partnerships, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management



## **Protected Intersection**

The physical separation and protection of people walking and biking at and in intersections. They can include posts, bollards, concrete, or other infrastructure. Bike crossings are placed next to, but separated from, pedestrian crossings to minimize potential conflicts between those walking and biking as well.

**When to Use:** To improve the safety of people walking or biking at and in intersections with a history of collisions. They can also facilitate left turns for people biking by providing a waiting area to complete the crossing in two stages.



## **Provide Rapid Response**

Physical and emotional care to crash survivors and their families. It can provide a way to get planners in the community to reassess key intersections or streets for safety improvements.

When to Use: To support those impacted by traffic violence and the families who have lost a loved one to traffic violence.

Data, Encouragement and Education, Vulnerable Populations



# Public Bike Repair Station

A station that houses tools to perform basic bicycle repairs and maintenance, such as inflating a flat tire or adjusting brakes, to support safer biking.

**When to Use:** To provide free access to tools for people biking in the community, regardless of their economic status. They also help improve the safety of people biking by providing regular access to bike tools to make sure their bikes are safe to ride.

Encouragement and Education, Infrastructure, Vulnerable Populations



# **Quick-Build Project**

A semi-permanent project that can be implemented quickly to prioritize the safety of those using the street. Oftentimes, they are intended to test improvements and can undergo changes after installation to make them more impactful. They can be completed with as little as paint and posts, but can include concrete and other more permanent elements. They can be planned rapidly and installed roughly within a year of the start of planning.

When to Use: To create impactful, money-saving safety projects. Quick-builds are a tool that can improve the safety of a street for a margin of what a full project would cost. They can be used as a way to test out a project or new infrastructure element before committing to it fully.

Encouragement and Education, Infrastructure, Speed Management, Vulnerable Populations



## Rain Garden

A landscaping feature designed to reduce flooding along a street. They can be installed along with bulbouts to make an area more inviting to walk and bike. They can help manage stormwater, add greenery to a corridor and replace concrete curb extensions to provide an aesthetic alternative.

**When to Use:** To calm traffic along a corridor, while managing stormwater, and provide an aesthetic green element to the street.

Encouragement and Education, Infrastructure, Speed Management



## Raised Crosswalk

A type of speed table that brings the roadway to the same level as the sidewalk. It allows people to cross without a curb ramp and makes people walking in the crosswalk more visible to people driving. Raised crosswalks can be located at intersections or mid-block. At intersection locations, the raised area can be extended to include the entire intersection.

**When to Use:** To physically encourage people driving to slow down before passing over the crosswalk and provide a level path from curb to curb for people walking.



## Rectangular Rapid Flashing Beacon (RRFB)

A marked crosswalk signal that is activated by people walking. It signals to people driving to yield at an unsignalized intersection or midblock crosswalk. They are particularly effective for crossing multi-lane streets with speed limits less than 50 mph.

**When to Use:** To increase the safety of people walking by encouraging those driving to yield to people crossing the street.

Encouragement and Education, Infrastructure, Speed Management, Vulnerable Populations

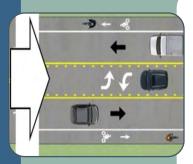


# Reduced Speed Limit Zone

Areas with a decreased speed limit of 25, 20, or 15 miles per hour. These areas are typically near schools or senior zones.

**When to Use:** To reduce the speed of people driving and improve the safety of people walking.

Data, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# Road Rightsizing

The conversion of an existing four-lane, undivided roadway into a three-lane roadway. They can allow the newly reclaimed space to be used as bus lanes, bike lanes, sidewalks, or other uses. They also reduce the speed of people driving which makes it safer for people who walk and bike along the corridor.

**When to Use:** To provide more street space for people walking, biking, or taking transit. It also reduces vehicle speeds along a corridor.

Encouragement and Education, Infrastructure, Speed Management, Vulnerable Populations



#### Roundabout

A circular island in an intersection that directs people driving to slow down and yield before entering the intersection. Roundabouts are an alternative to traffic signals and are designed for roads with speeds greater than 25 mph.

**When to Use:** To promote slower speeds in an intersection. To reduce T-bone and head-on crashes which typically result in more serious injuries.

Encouragement and Education, Infrastructure, Speed Management, Vulnerable Populations



# Safe Haven Program

A program that partners with local businesses and community organizations to serve as safe places where students can go and ask for help on their walk to and from school.

When to Use: To improve the safety of students walking and biking in the community and provide opportunities for local businesses and community organizations to get involved directly in SRTS work.

Community Engagement/Partnerships, Encouragement and Education, Safe Routes to School (SRTS), Vulnerable Populations



## Safe Passages Program

A program that places parents and volunteers at key locations that students travel to get to and from school to support their personal safety and help them make it safely to school.

**When to Use:** To improve the safety of people walking and biking in the community and provide opportunities for parents and volunteers to get involved directly in the SRTS work.

Community Engagement/Partnerships, Encouragement and Education, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# Safety Messaging Campaign

A campaign that informs the general public of a safety message or call to action. They can include community events, public service announcements, pamphlets, billboards, commercials and art.

When to Use: To inform residents on how to create safer streets for all and create an atmosphere where the community can look after one another's safety.

Community Engagement/Partnerships, Data, Encouragement and Education, Speed Management, Vulnerable Populations

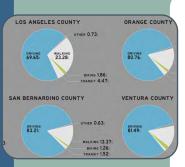


# Safe Routes to School (SRTS) Community Program

A program that consists of a broad partnership of community stakeholders working together to promote walking and biking to school through education, incentives, and infrastructure improvements.

**When to Use:** To create opportunities to promote walking and biking for school children, as well as create safer streets at and surrounding the campus.

Community Engagement/Partnerships, Data, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# Safe Routes to School (SRTS) Data Collection

The gathering of information on how students travel to and from school and parents' thoughts about their children walking and biking to and from school. The National Center for Safe Routes to School offers the <u>Student Travel Tally</u> and <u>Parent Survey forms</u>.

**When to Use:** To better understand how a school currently travels to and from the campus and look to encourage students to walk and bike to school.

Community Engagement/Partnerships, Data, Encouragement and Education, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# **School or Community Crossing Guard Program**

A program that trains adults to direct the traffic of people walking, biking or driving at key intersections, typically near schools. These can be volunteer, part-time, or full-time positions.

When to Use: To improve the safety of people walking to and from the school campus and provide new opportunities for local jobs.

Community Engagement/Partnerships, Encouragement and Education, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



## **Shade Tree**

A tree that provides shade, decreases noise pollution, and improves mental well-being in a community. They can also slow deterioration of pavement, which improves a street's walkability and bikeability.

**When to Use:** To provide a comfortable environment for people walking, slow traffic, manage stormwater, and other community improvements.

Encouragement and Education, Infrastructure, Vulnerable Populations



## **Sidewalk**

A separated place to walk outside of the road. To be accessible, they must be installed in all urban areas and have a minimum width of six feet with sufficient lighting, shade, and level surfaces.

**When to Use:** To make roads accessible to all ages and abilities, especially for residents with disabilities, and in areas where people walking are forced to travel in the street due to insufficient or missing sidewalks.

Encouragement and Education, Infrastructure, Vulnerable Populations



# Sidewalk Landscaping

The conversion of a concrete sidewalk space into a landscaped area. It can include native plants and other neighborhood improvements like rain gardens.

When to Use: To enhance existing sidewalks and add greenery to communities.

Encouragement and Education, Infrastructure



## Slow Streets

The reduction of through vehicle traffic on low-volume and low-moderate speed streets with temporary signage and barriers aimed to create a shared space for people walking and biking.

When to Use: To create cost-effective ways to lower the speed of people driving and create safer, more comfortable routes for people walking and biking.

Community Engagement/Partnerships, Encouragement and Education, Infrastructure, Speed Management, Vulnerable Populations



# Speed Hump

A piece of raised pavement in a street, approximately 3 to 4 inches high at its center which extends the full width of the street, in order to slow vehicle speeds.

When to Use: To reduce the speed of people driving and improve the safety of people walking.



## **Street Story**

A tool that allows community residents and agencies to collect and share information about transportation experiences, including near misses, safety concerns, and safe locations to travel. The platform is publicly accessible and free to use at <a href="https://streetstory.berkeley.edu">https://streetstory.berkeley.edu</a>.

**When to Use:** To gather more information and data directly from those impacted by traffic violence, near misses, and unsafe streets. This data can then be used as a tool to advocate for safety improvements.

Community Engagement/Partnerships, Data, Encouragement and Education, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# **Student Safety Patrol Program**

A program that enlists upper elementary, middle and high school students to direct their peers to and from school during arrival and dismissal. Students can also be walking buddies and provide safe walking and biking education to younger classmates.

When to Use: To get school children involved in advocating and creating safer routes to their schools.

Community Engagement/Partnerships, Encouragement and Education, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# **Temporary Demonstration Project**

A project that installs short-term safety enhancements that allow community residents to experience and give feedback on a project before it is permanently installed. They differ from quick-build projects because they are installed before a decision is made by the local government body. They provide a way to test out potential projects before voting on making them permanent.

**When to Use:** To create a way to test out a potential project, provide residents a tangible way to experience the potential changes, and gather community feedback on the project before permanently installing it.

Community Engagement/Partnerships, Data, Encouragement and Education, Infrastructure, Speed Management, Vulnerable Populations



# **Transportation Injury Mapping System (TIMS)**

A web-based tool that allows users to analyze and map crash data from California's crash database (Statewide Integrated Traffic Records System - SWITRS). The platform is publicly accessible and free to use at <a href="https://tims.berkeley.edu">https://tims.berkeley.edu</a>.

**When to Use:** To use data to prioritize actions and to track progress related to transportation safety efforts.

Data, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



## **Vision Zero**

A strategy to eliminate all traffic fatalities and serious injuries on a city, county, or state's streets. This is accomplished while increasing safe, healthy, equitable mobility for all people using the street but especially vulnerable users.

When to Use: To encourage more residents to walk, bike, or take transit and improve the safety of vulnerable populations using the corridor. To reach zero deaths and serious injuries within a city, county, or state.

Data, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# Walking or Biking Assessment

An assessment to identify safety concerns, barriers, and opportunities for key safety improvements, along specific routes in a community. Key safety improvements can include community programs and/or infrastructure projects.

When to Use: To gather information from residents and others on unsafe conditions on specific streets for people walking and biking. This is a way to gather data to advocate for safety improvements.

Community Engagement/Partnerships, Data, Encouragement and Education, Infrastructure, Safe Routes to School (SRTS), Speed Management, Vulnerable Populations



# **Walking School Bus**

A group of students who walk to school accompanied by an adult along a designated route. Students, including those who are driven to school, join the walking school bus along several identified stops.

**When to Use:** To encourage more kids to walk to school, improve the safety of people walking to school, and get kids and parents involved directly in the SRTS work.

Community Engagement/Partnerships, Encouragement and Education, Safe Routes to School (SRTS), Vulnerable Populations



# Wayfinding

A system of signage and pavement markings that guide people walking and biking to popular community destinations. Wayfinding tells someone walking or biking the distance or the time it will take to walk or bike to a destination.

**When to Use:** To make navigating for people walking and biking as easy as possible. Wayfinding can also encourage walking and biking because navigating the community is easier for those new to walking or biking.

Encouragement and Education, Infrastructure, Vulnerable Populations

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Pedestrian Scale Lighting

Pedestrian Scramble

Permeable Sidewalk/Pavement

**Placemaking** 

**Protected Intersection** 

Public Bike Repair Station

Quick-Build Project

Rain Garden

Raised Crosswalk

Rectangular Rapid Flashing Beacon (RRFB)

Reduced Speed Limit Zone

Road Rightsizing

Roundabout

Safe Routes to Schools (SRTS) Community Program

**Shade Tree** 

Sidewalk

Sidewalk Landscaping

**Slow Streets** 

**Speed Hump** 

Temporary Demonstration Project

Transportation Injury Mapping System (TIMS)

Vision Zero

#### Safe Routes to School (SRTS)

Bike and or Pedestrian Advisory Committees

Bike and/or Pedestrian Master Plans

Bike Rodeo

Bike Train

**Community Coalition** 

Community Liaison/Promotores Campaign

**Complete Streets** 

Designated Safe Route

Earn-A-Bike Program

**Engaged Elected Officia** 

**Evaluation of Program or Project** 

Funding Opportunities that Prioritize Safety

Helmet/Light Distribution

Participatory Campaign

Photo and Video Voice

**Placemaking** 

Reduced Speed Limit Zone

Safe Haven Program

Safe Passages Program

Safe Routes to Schools (SRTS) Community Program

Safe Routes to Schools (SRTS) Data Collection

School or Community Crossing Guard Program

Street Story

Student Safety Patrol Program

Transportation Injury Mapping System (TIMS)

Vision Zero

**Speed Management** 

Bike and or Pedestrian Advisory Committees

Bike and/or Pedestrian Master Plans

Bike Lane

Community Benefit Agreement

**Community Coalition** 

Community Liaison/Promotores Campaign

**Complete Streets** 

**Curb Extension (Bulbout)** 

**Daylighting** 

<u>Designated Safe Route</u> <u>Engaged Elected Official</u>I

**Evaluation of Program or Project** 

Funding Opportunities that Prioritize Safety

High-Injury Network (HIN)
Hybrid Beacon (HAWK)
Link Crash and Medical Data

Median Gardening

Neighborhood Speed Awareness Program

Neighborhood Traffic Circle

Parklet

Participatory Campaignn
Pedestrian/Bike Count
Pedestrian Lane

Pedestrian Plaza

Pedestrian Safety Island (Pedestrian Refuge Island)

Pedestrian Scramble
Photo and Video Voice

**Placemaking** 

Protected Intersection
Quick-Build Project
Rain Garden

Raised Crosswalk

Rectangular Rapid Flashing Beacon (RRFB)

Road Rightsizing
Roundabout

<u>Safe Passages Program</u> <u>Safety Messaging Campaign</u>

<u>Safe Routes to Schools (SRTS) Community Program</u> Safe Routes to Schools (SRTS) Data Collection

School or Community Crossing Guard Program

Slow Streets
Speed Hump
Street Story

Student Safety Patrol Program
Temporary Demonstration Project

Transportation Injury Mapping System (TIMS)

Vision Zero

**Vulnerable Populations** 

Bike and or Pedestrian Advisory Committees

Bike and/or Pedestrian Master Plans

Bike Box Bike Lane

Bike Rodeo

Bike Safe Diversion Program

Bike Sensor Bike Signal

Bike Train

Community Benefit Agreement

**Community Coalition** 

Community Liaison/Promotores Campaign

Community Walk or Bike Ride

**Complete Streets** 

Curb Extension (Bulbout)

Curb Ramp Daylighting

Designated Safe Route
Earn-A-Bike Program
Engaged Elected Officiall
Engaged Elected Officiall

**Evaluation of Program or Project** 

Funding Opportunities that Prioritize Safety

High-Injury Network (HIN)
Hybrid Beacon (HAWK)
Link Crash and Medical Data
Multi-Use/Shared Path

Neighborhood Speed Awareness Program

Neighborhood Traffic Circle

**Open Streets** 

Participatory Campaign

<u>Paved Shoulder</u> Pedestrian/Bike Count

Pedestrian Head Start (Leading Pedestrian Interval)

Pedestrian Lane

Pedestrian Safety Island (Pedestrian Refuge Island)

Pedestrian Scale Lighting
Pedestrian Scramble
Photo and Video Voice
Protected Intersection
Provide Rapid Response
Public Bike Repair Station
Quick-Build Project

Rectangular Rapid Flashing Beacon (RRFB)

Reduced Speed Limit Zone

Road Rightsizing
Roundabout
Safe Haven Program

Raised Crosswalk

Safe Passages Program
Safety Messaging Campaign

Safe Routes to Schools (SRTS) Community Program

Safe Routes to Schools (SRTS) Data Collection School or Community Crossing Guard Program

Shade Tree Sidewalk Slow Streets Speed Hump Street Story

Student Safety Patrol Program
Temporary Demonstration Project

Transportation Injury Mapping System (TIMS)

Vision Zero

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