

Active Transportation in Orange County: Choosing the Safe Route

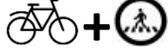


The Issue: Pedestrian & Cyclist Safety

Local Context:

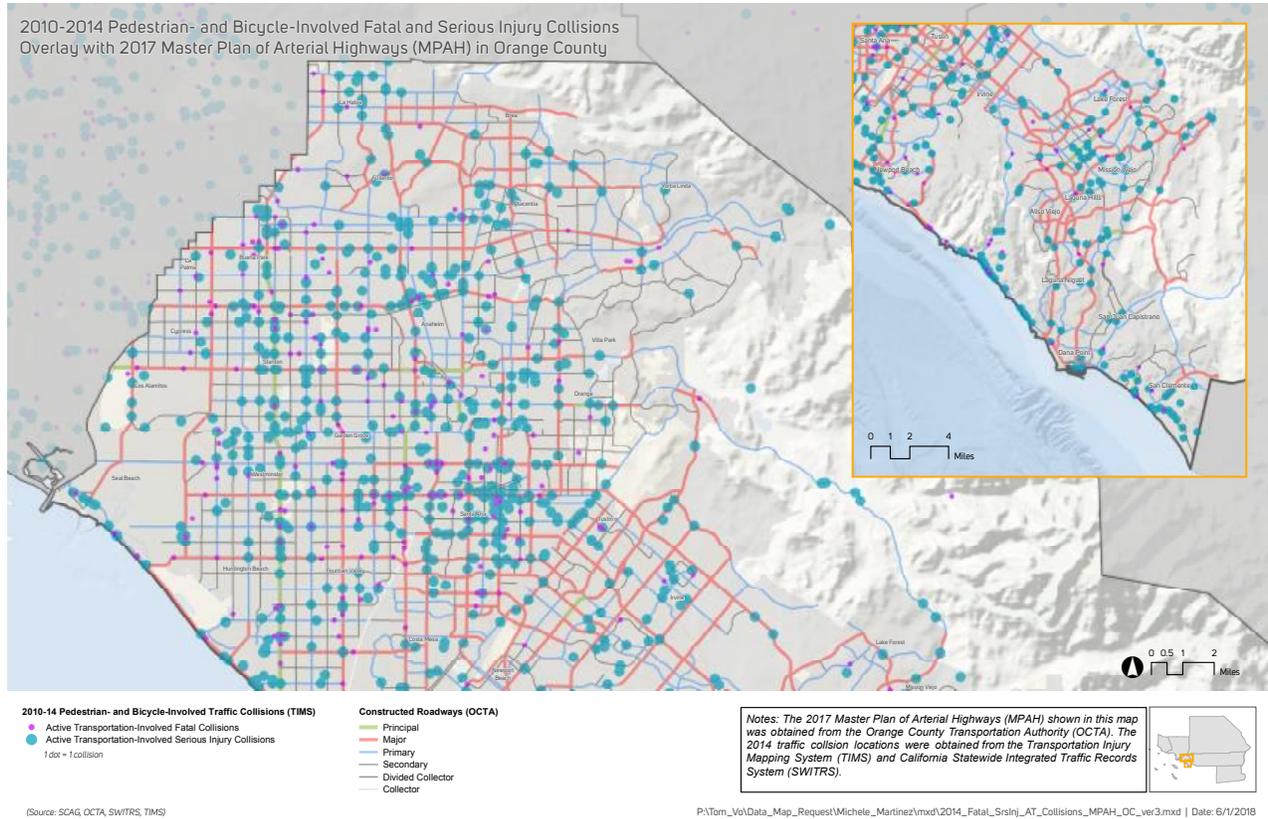
Pedestrian and bicycle safety is a major public health issue in Orange County. Although educating the public about safety and best practices is helpful, there are structural barriers making it difficult to implement traffic calming measures that could lead to safer travel for cyclists and pedestrians. In Orange County, although the numbers of active transportation fatalities (about 60+ annually) have remained fairly constant, serious bicyclist injuries have increased slightly since 2010. Within the region, 11% of all daily



Total Collisions, Fatalities, and Serious Injury Collisions by Mode in Orange County ⁱ		
	MODE	
	Total Non-Motorized 	Total Motorized (Auto, Motorcyclist, Truck, and Train)
Total Collisions by Mode	14% (8% + 6%)	86%
Fatalities (Victims) by Mode	33% (7% + 26%)	67%
Serious Injury (Victims) by Mode	27% (10% + 17%)	73%

trips are made via walking or bicycling; however, **33%** of all collision deaths involve people walking or bicycling (as shown in the table).ⁱⁱ

The map below shows pedestrian and bicycle fatal and serious injury collisions over the 2017 Master Plan of Arterial Highways (MPAH) network in Orange County.



From 2010 to 2014, a total of 1093 active transportation-involved fatal and severe collisions occurred in Orange County. Among both fatal and severe collisions, the majority occurred on major and primary streets, followed by secondary streets. Therefore, the **vast majority of active transportation collisions are occurring on larger roadways**, with more lanes and higher speeds, **within cities**, as the table below demonstrates.

Street Classifications	Fatal	Serious Injury	Total Collision
PRINCIPAL	15	38	53
MAJOR	101	285	386
PRIMARY	73	294	367
SECONDARY	62	195	257
COLLECTOR	4	26	30
Total Collisions	255	838	1093

↑ Increasing roadway size

- Examples of Streets by Street Classification in Santa Ana, California:^{xxi}
- **Major Arterial:** Bristol Street (from Riverglen Ln to West Park Ln)
 - **Secondary Arterial/Collector:** Broadway (from W Halesworth St to W Richland St)
 - **Local:** Washington Avenue (from N Van Ness Av to N Bush St)

Did you know?

"...pedestrian fatalities are now 50% higher in 2016 than they were in 2011."

Furthermore, within SCAG, the Southern California Association of Governments, a Metropolitan Planning Organization (MPO) representing six counties within Southern California, bicycling has increased over 70% from 2007-2012.^{iv} Since 2012, pedestrian fatalities have increased each year and are

now 50% higher in 2016 than they were in 2011.^v

The Problem with Speed



Motor vehicle speed increases crash risk by 1) increasing the likelihood of being involved in a crash, and 2) increasing the severity of injuries sustained by all road users in a crash.^{vi}

Throughout Orange County, **unsafe speed** (of motorized vehicles) is both the **top contributing factor of all collisions** (35%), **as well as of collisions with serious injuries** (21%).^{vii} Therefore, it is crucial that cities have the ability to implement **traffic calming measures**, as this is in the best interest of their residents.



Curb Extension: Example of Traffic Calming Measure^{viii}

The Institute of Transportation Engineers defines traffic calming as a "set of techniques, consisting mostly of physical features, to affect vehicle operations on one or more streets to improve the street environment for other users (i.e., those not using motorized vehicles)."^{ix} The Federal Highway Administration (FHWA) states that "traffic calming utilizes design strategies to slow down cars and increase the visibility of pedestrians and bicyclists," and groups traffic calming measures in the following general categories: 1) bumps, humps, and other raised pavement areas (e.g. speed bumps, raised crosswalks, raised intersections); 2) reducing street area where motor traffic is given priority (e.g. slow points, which narrow a two-way road over a short distance; medians; curb extensions;

On Track to Vision Zero: Learning from Santa Ana, CA

In 2016, the City of Santa Ana published the "Safe Mobility Santa Ana Plan." A goal of this plan is to "achieve zero fatal bicycle/pedestrian collisions," while one of its primary objectives is to "Prioritize traffic safety over congestion management." As compared to residents in Orange County and statewide, Santa Ana residents are far more reliant on walking, bicycling, and public transportation. Nearly 55% of city residents do not have access to a personal vehicle (vs. 37% in Orange County), making "the introduction of safety countermeasures to reduce traffic collisions a priority for Santa Ana policy makers and staff." However, with a focus on safety, **many of the recommendations in the Safe Mobility Plan are not consistent with the current MPAH**, which prioritizes *meeting regional travel demand*.

While arterial streets [i.e. a classification of secondary arterial or higher] constitute only 21% of Santa Ana's roadway network, **60% of all pedestrian collisions and 68% of the collisions involving people on bicycles occur on them** (p. 23). Additionally, larger roadways, larger intersections, streets with long distances between traffic signals, and roadways with higher speeds are associated with increased frequency and severity of collisions in Santa Ana. Collisions are more severe on 1) roadways with more lanes, and 2) roadways with higher speeds (p. 30).

The City of Santa Ana recognizes that traffic calming measures (e.g. lane reductions and narrowing) lead to safer outcomes. The City is in active negotiations with OCTA to reclassify roadways to prioritize bicycle and pedestrian safety, while also attempting to prevent loss of M2 funding (as OCTA controls funding for the streets in which the majority of all pedestrian and bicycle collisions are occurring). Furthermore, Santa Ana continues to actively pursue bicycle/pedestrian safety and improvement grants, securing over \$40 million in the last four years from myriad sources, including the state Active Transportation Program (ATP), federal Highway Safety Improvement Program (HSIP), OCTA's Bicycle Connectivity Improvement Program (BCIP), Affordable Housing Sustainable Community Grants, CDC's Partnership to Improve Community Health (PICH), Office of Traffic Safety, and sustainability grants from CalTrans and SCAG.

narrow traffic lanes); 3) street closures (e.g. partial street closure); 4) traffic diversion, which cause motor vehicles to slow and change direction around a physical barrier (e.g. diagonal road closure, traffic circles, chicanes, barriers placed in the street such as curbs extensions); and 5) surface texture and visual devices (e.g. signing and pavement markings) and 6) parking treatments.^x

Setting Speeds: An Outdated Practice

Speed limits are established by state or local authorities (e.g. CalTrans for freeways in California; city authority for local roadways), with speed limit surveys conducted every 5 years. Requests for changes to a speed limit can be made by citizens, local or state transportation officials, or come from legislation. When a change is requested, an engineering study of the road segment is typically required (by state and local transportation departments) to determine whether a speed limit change is appropriate.

Most transportation departments refer to the Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices*, which provides guidance on conducting engineering studies; the prevailing factor used to establish posted speed limits being the **85th percentile speed** of free-flowing traffic, or the speed at or below which 85% of vehicles are traveling.^{xi} CalTrans, the California State Department of Transportation, also follows the 85th percentile speed standard.^{xii} Randy LoBasso at the Bicycle Coalition of Greater Philadelphia explains, "The 85th Percentile idea, based on the 1964 'Solomon Curve' says speed limits should be set at what 85% of drivers think is healthy. It was created back when the highway system was still young, cars didn't approach speeds as quickly as they do today, and we didn't have the sort of statistics and research on traffic dangers we do today."^{xiii} Despite the predominant use of the 85th percentile speed, the National Transportation Safety Board found that there is **insufficient evidence that the 85th percentile speed is the safest speed.**^{xiv}

The 85th percentile rule prioritizes motorist behavior over pedestrians and bicyclists, who lack protection and are vulnerable to speeding-related crashes. This is particularly important in urban areas, such as Orange County, where vehicles and vulnerable road users (i.e. pedestrians, bicyclists) have increased interaction. In consideration of all road users, rather than the conventional 85th percentile approach, a safe system approach should especially be used to set speed limits in urban areas.^{xv} In interviews with NTSB, several transportation officials from Vision Zero cities stressed that,

It is critical to lower speed limits to minimize the injury risk for vulnerable users, but this is often difficult, as state transportation department policies emphasize the use of the 85th percentile speed.

Furthermore, "alternative approaches and expert systems for setting speed limits are available, which incorporate factors such as crash history and the presence of vulnerable road users such as pedestrians."^{xvi} Despite the availability of safe system approaches, outdated policies and standards at the regional level, which are driven by transportation authorities at state and federal levels, largely discourage the use of proven speed-management strategies.

Funding Roads

The Orange County Transportation Authority (OCTA) established the Master Plan of Arterial Highways (MPAH) in 1956 in order to create a coordinated regional arterial highway network that serves the mobility needs of Orange County residents. The MPAH depicts a network of freeways, transportation corridors, and arterial highway classifications, and "defines the ultimate number of through lanes of arterial streets and designates the traffic synchronization street routes in OC." The goals set forth by the Orange County MPAH are:^{xvii}

- **Goal 1:** Provide a Countywide Circulation (Arterial Highway) System to Accommodate Regional Travel Demand
- **Goal 2:** Provide an Arterial Highway System that Supports Land Use Policies of the County and Cities

Eligibility for Funding Local Transportation

Every two years, OCTA reviews cities' and County Circulation elements and determines whether a local jurisdiction is eligible to receive Measure M (M2) net revenues, a constant funding stream that cities rely on for street maintenance (e.g. repairs, resurfacing) and Capital Improvement Program (CIP)^{xviii} transportation work,^{xix} in addition to State or Federal monies. (Typically, 0% of a city's general funds go to transportation projects.) In order to be eligible for M2 Net Revenues and programs, a city must adopt a General Plan Circulation Element that is consistent with the MPAH, meaning that "local general plans maintain an equivalent number of minimum through lanes on each arterial highway shown on the MPAH."^{xx} While cities may want to reduce speeds and create safer active transportation environments, **the goals outlined by the MPAH can conflict with local plans and policies.** With speed limits based on outdated policies, and with the undeniable role of **unsafe speed** in collisions, traffic calming measures are essential to creating safe routes for all citizens, especially for vulnerable pedestrians and cyclists.

As part of the MPAH, OCTA sets the policies and controls local tax revenue funding for **arterial highways**, the major through roads that are expected to carry large volumes of traffic. As outlined by the MPAH, in Orange County, a local agency can use horizontal (e.g. traffic circles) and vertical (e.g. speed humps) speed control measures on collector (two-lane, undivided) and divided collector (two-lane, divided) arterials. However, these specific speed control measures are limited to smaller road classifications and are not appropriate for all roadway classifications (e.g. road diets and narrowing of travel lanes are more appropriate for higher roadway classifications). Furthermore, the MPAH classifies roadways and regulates minimum lane widths, as well as the minimum number of lanes. The higher roadway classifications exist to allow people to travel more quickly. While the roadway system has kept up with demand for personal vehicles, it has not kept up with the increase in bicyclists,^{xxi} leaving safety concerns largely unaddressed.

While traffic calming measures, such as the narrowing of lane widths or road diets (lane reduction), prioritize safer speeds, it is challenging for Orange County cities to implement them. In order to create safer routes for citizens, local agencies can either 1) attempt to reclassify roads, or 2) determine whether to remove a lane from the MPAH. However, removal of a lane from the MPAH means that they risk losing M2 Net Revenues. Therefore, such as in the case of Santa Ana, it is preferable for OCTA to work directly with cities to reclassify corridors in order to prevent loss of funding.

In addition to challenges from OCTA, due to concerns about traffic congestion, there is often public controversy surrounding traffic calming measures such as road diets. However, despite initially being met with significant opposition, road diets are largely successful in providing benefits to citizens, including through increasing safety for citizens, enhancing economic vitality, and increasing quality of life within neighborhoods.^{xxii,xxiii} Furthermore, there is minimal impact on vehicle capacity under average daily traffic (ADT) conditions (<20,000 vehicles).^{xxiv}

The Opportunities

Based on the learnings from the pedestrian and bicyclist safety trends, it is critical that active transportation modes are supported through programs, policy, and systems changes at local, regional, and state levels.



"...Local communities need the authority to use proven strategies to slow speed and save lives... to prioritize safety over speed by updating practices toward setting speed limits, enforcement, and designing roadways for safe speeds."

-Leah Shahum, Founder and Director, Vision Zero

1. **Adopt Statewide Policies Supporting Safer Speed Limits:** Among the NTSB’s recommendations are to, “Revise traditional speed-setting standards to balance 85 percentile approaches with safe systems approach that better incorporates crash history, safety of pedestrians, bicyclists.” Support state policy that allows cities to reduce speed limits on arterial highways without danger of losing transportation funding from county transportation agencies.
2. **Pass Statewide Policies Supporting Active Transportation:** States have the ability to pass policies that “increase flexibility for local jurisdictions throughout the county to implement additional types of safety improvements.”^{xxv} For example, **Assembly Bill 2363** allows local authorities to determine where the speed should be lower based on pedestrian/biker safety, and to maintain the ability to reduce a local speed limit by an additional five miles per hour based on criteria defined in a traffic and engineering study. This bill expands the definition of a traffic and engineering study to include the potential for or frequency of traffic collisions that result in deaths or injuries.
3. **OCTA and/or City Adopts a Vision Zero Campaign Resolution/Policy:** Vision Zero is a comprehensive approach to eliminate all traffic fatalities and serious injuries. OCTA and cities within the region should adopt a Vision Zero Campaign Resolution or Policy, as focusing only on an Active Transportation Plan or Complete Streets is insufficient. Orange County can be a leader in addressing the safety considerations facing pedestrians and cyclists. Within the Vision Zero plan, a chapter or action plan for Safe Routes to School should also be included. Strategies for adopting a Vision Zero Campaign/Policy include leveraging Safe Routes to School as a way to build community support, to bring attention to data, and to give voice to community testimony.
4. **Ensure Community Engagement as Part of Process for Regional Active Transportation Plans:** It is critical that any regional plans for active transportation and Vision Zero include meaningful public participation. For example, the Los Angeles Vision Zero Alliance, a citywide coalition of community-based and advocacy organizations, works to support and implement Los Angeles’ Vision Zero efforts.
5. **Educate Community on Pedestrian and Bicycle Safety through Best Practice Models:** In Partnership with Go Human, since 2014, the City of Garden Grove hosts an annual open streets event where residents can explore 2.5 miles of open road, promoting a bike- and pedestrian-friendly city. The events have allowed tens of thousands of visitors to experience the downtown area car-free.^{xxvi} Cities should leverage this successful community strategy via engaging activities, demonstrations, and interactive art, which educate residents about bicycle and pedestrian safety bike lanes in the community.



Thousands fill car-free streets at Re:Imagine GG 2017

6. **Increase Collaboration between OCTA and Municipalities:** Cities and OCTA can work together in order to improve safety for citizens, particularly on arterial highways. In particular, “OCTA collaboration is required for installation of treatments that might reduce the number of vehicle travel lanes on an MPAH roadway or affect the ability of that travel way to accommodate existing and future traffic volumes.”^{xxvii} Additionally, cities should “work with OCTA to evaluate the reclassification and potential removal of high collision corridors from the MPAH, in the interest of installing safety improvements that reduce travel lane width and intersection size.”^{xxviii}
7. **Modernize the MPAH language:** The current MPAH prioritizes traffic congestion management over the safety of pedestrians and bicyclists by mandating that cities follow policies that prioritize speed. OCTA must place greater importance on the safety of all of today’s travelers, including pedestrians and cyclists, by overhauling MPAH language that penalizes cities for prioritizing the safety of all its residents.

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The Alliance for a Healthy Orange County (AHOC) is a county-wide collaborative of health care organizations, community-based organizations, and universities whose mission is to champion policy strategies and leverage funding opportunities that result in enhanced health outcomes and reduced health disparities for Orange County residents.

One of AHOC's key goals is to identify and build support for Active Transportation and find sources of funding at the local, state, and federal level for Orange County's active transportation projects and programs which promote healthy communities. AHOC works with cities to collaborate and coordinate with regional and county organizations, such as OCTA, SCAG, and Caltrans. AHOC has been successful in advocating for Active Transportation Coordinators at SCAG and for a Complete Streets Design Manual for Orange County. AHOC has also worked with cities to support successful Active Transportation Fund applications, which to date has resulted in over \$40 million in funding.

Ersoylu Consulting

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Collaborator

Southern California Association of Governments (SCAG)

Southern California Association of Governments (SCAG) is the nation's largest metropolitan planning organization (MPO), representing six counties, 191 cities and more than 19 million residents in an area covering more than 38,000 square miles. SCAG undertakes a variety of planning and policy initiatives to encourage a more sustainable Southern California now and in the future. The agency develops long-range regional transportation plans including sustainable communities strategy and growth forecast components, regional transportation improvement programs, regional housing needs allocations and a portion of the South Coast Air Quality management plans.



References

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- ^{iv} SCAG serves Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County. SCAG undertakes a variety of planning and policy initiatives to encourage a more sustainable Southern California, including looking at Transportation Safety and regional existing conditions.
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- ^{xiii} <https://usa.streetsblog.org/2017/08/11/the-85th-percentile-rule-is-killing-us/>
- ^{xiv} NTSB Safety Study
- ^{xv} NTSB Safety Study
- ^{xvi} NTSB Safety Study
- ^{xvii} OCTA, Guidance for Administration of the Orange County Master Plan of Arterial Highways, Effective Date: August 14, 2017: https://www.octa.net/pdf/mpah_guidelines.pdf
- ^{xviii} A **Capital Improvement Plan (CIP)** is a multi-year funding plan to implement capital projects and/or programs, including transportation.
- Active Transportation Program (ATP):** A federal and state funded programs which provides construction and educational grants for projects that increase the proportion of biking and walking, increase traffic safety and mobility for pedestrians and cyclists, and reduce childhood obesity.
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