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Regional Transportation Planning Agency - Local Transportation Commission  
Monterey County Service Authority for Freeways & Expressways  
Monterey County Regional Development Impact Fee Joint Powers Agency  
Email: [info@tamcmonterey.org](mailto:info@tamcmonterey.org)

## **TECHNICAL ADVISORY COMMITTEE**

**Thursday, March 5, 2020**

**Transportation Agency Conference Room**

**55-B Plaza Circle, Salinas**

**\*\*9:30 AM\*\***

Complete agenda packets are on display at the Transportation Agency for Monterey County office and at these public libraries: Carmel, Marina, Monterey, Salinas Steinbeck Branch, Seaside, Prunedale, and King City. Any person who has a question concerning an item on this agenda may call the Agency Secretary to make inquiry concerning the nature of the item described on the agenda. Please recycle this agenda.

### **1. ROLL CALL**

*Call to order and self-introductions. According to Transportation Agency and Committee bylaws, Committee membership consists of representatives from the Transportation Agency voting and ex-officio members, and other agencies that may be appointed by the Transportation Agency. Currently the Committee membership includes representatives from 12 Cities, the County, MST, Caltrans, City of Watsonville, the Air District, and AMBAG, for a total of 18 members. Five members of the Technical Advisory Committee, representing voting members of the Transportation Agency Board of Directors, constitute a quorum for transaction of the business of the committee. If you are unable to attend, please contact the Committee coordinator. Your courtesy to the other members to assure a quorum is appreciated.*

### **2. PUBLIC COMMENTS**

Any member of the public may address the Committee on any item not on the agenda but within the jurisdiction of the Committee. Each member of the public is allotted with three minutes to address any concerns. Comments on items on today's agenda may be given when that agenda item is discussed.

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### **3. BEGINNING OF CONSENT AGENDA**

Approve the staff recommendations for items listed below by majority vote with one

motion. Any member may pull an item off the Consent Agenda to be moved to the end of the **CONSENT AGENDA** for discussion and action.

- 3.1 APPROVE** the draft Technical Advisory Committee Minutes for February 6, 2020.

- Zeller

## **END OF CONSENT AGENDA**

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- 4. RECEIVE** update on 2022 Regional Transportation Plan's development and process for updating jurisdictional project lists.

- Jacobsen

*Agency staff is developing the project lists for the 2022 Regional Transportation Plan. Staff will outline the process for jurisdictions to review their projects from the 2018 Regional Transportation Plan and provide updated information for the 2022 Plan.*

- 5. RECEIVE** update on the Zero Fatalities Task Force report published by the California State Transportation Agency.

- Deal/Jacobsen

*The Zero Traffic Fatalities Task Force published its report in January 2020. Findings recommend a change in how speed limits are set and regulated. Staff will present the findings of the task force report.*

- 6. RECEIVE** Presentation on Permazyme sub-grade treatment for road rehabilitation projects.

- Deal

- 7. ANNOUNCEMENTS**

- 8. ADJOURN**

**Next Committee meeting will be on  
Thursday, April 2, 2020 at 9:30 a.m.  
TAMC Conference Room  
55-B Plaza Circle, Salinas**

**REMINDER:** If you have any items for the next Committee Agenda, please submit them to: Transportation Agency for Monterey County; Attn: Rich Deal; 55-B Plaza Circle, Salinas, CA 93901, email: [rich@tamcmonterey.org](mailto:rich@tamcmonterey.org)

The Committee Agenda will be prepared by Agency staff and will close at noon nine (9) working days before the regular meeting. Any member may request in writing an item to appear on the agenda. The request shall be made by the agenda deadline and any supporting papers must be furnished by that time or be readily available.

Documents relating to an item on the open session that are distributed to the Committee less than 72 hours prior to the meeting shall be available for public inspection at the office of the Transportation Agency for Monterey County, 55-B Plaza Circle, Salinas, CA. Documents distributed to the Committee at the meeting by staff will be available at the meeting; documents distributed to the Committee by members of the public shall be made available after the meeting.

**Transportation Agency for Monterey County  
55-B Plaza Circle, Salinas, CA 93901-2902  
Monday thru Friday 8:00 a.m. - 5:00 p.m.  
TEL: 831-775-0903  
FAX: 831-775-0897**

***If requested, the agenda shall be made available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans with Disabilities Act of 1990 (42 USC Sec. 12132), and the federal rules and regulations adopted in implementation thereof. Individuals requesting a disability-related modification or accommodation, including auxiliary aids or services, may contact Transportation Agency at 831-775-0903. Auxiliary aids or services include wheelchair accessible facilities, sign language interpreters, Spanish Language interpreters and printed materials, and printed materials in large print, Braille or on disk. These requests may be made by a person with a disability who requires a modification or accommodation in order to participate in the public meeting, and should be made at least 72 hours before the meeting. All reasonable efforts will be made to accommodate the request.***

**CORRESPONDENCE, MEDIA CLIPPINGS, and REPORTS - No items this month**



## ***Memorandum***

**To:** Technical Advisory Committee  
**From:** Michael Zeller, Principal Transportation Planner  
**Meeting Date:** March 5, 2020  
**Subject:** **Draft Technical Advisory Committee Minutes - February 6, 2020**

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### **RECOMMENDED ACTION:**

**APPROVE** the draft Technical Advisory Committee Minutes for February 6, 2020.

### **ATTACHMENTS:**

- ▣ DRAFT TAC Minutes February 6, 2020

**TECHNICAL ADVISORY COMMITTEE MINUTES**

**Meeting Held At  
Transportation Agency for Monterey County  
Conference Room 55-B Plaza Circle, Salinas**

**DRAFT Minutes of Thursday, February 6, 2020**

<b>COMMITTEE MEMBERS</b>	<b>FEB 19</b>	<b>MAR 19</b>	<b>APR 19</b>	<b>MAY 19</b>	<b>JUN 19</b>	<b>AUG 19</b>	<b>SEP 19</b>	<b>OCT 19</b>	<b>NOV 19</b>	<b>JAN 20</b>	<b>FEB 20</b>
R. Harary, Carmel-by-the-Sea (S. Friedrichsen)	P	P	P	C	P	C	P		P		P
D. Pick, Del Rey Oaks				A		A			P		
P. Dobbins Gonzales (M. Sundt)	P		P(A)	N	P	N	P/A	P		P	
D. Pike, Greenfield	P(A)			C		C					P
O. Hurtado, King City, <b>Vice Chair</b> (S. Adams)	P	P		E	P	E	P	P	P	P	P
B. McMinn, Marina (E. Delos Santos)	P	P	P	L	P	L	P	P	P		P
A. Renny, Monterey (F. Roveri)	P(A)	P(A)	P	L	P(A)	L		P	P(A)	P	P
D. Gho, Pacific Grove (M. Brodeur)	P	P	P	E	P(A)	E		P	P	P	P
A. Easterling, Salinas, <b>Chair</b> (J. Serrano)	P	P	P	D	P	D	P	P	P	P	P
L. Gomez, Sand City (F. Meuer)	P(A)	P	P		P		P	P	P		P(A)
S. Ottmeyer, Seaside (L. Llantero)	P(A)		P					P	P	P	P
D. Wilcox, Soledad (B. Slama, E. Waggoner)											
E. Saavedra, MCPW (R. Martinez)	P	P(A)	P(A)				P	P	P	P/A	P(A)
Vacant , Monterey County Economic Development											
H. Adamson, AMBAG (P. Hierling)	P(A)	P	P						P(A)	P/A	P(A)
O. Ochoa-Monroy, Caltrans (K. McClendon)	P(A)	P	P				P	P			P
M. McCluney, CSUMB											
A. Romero, MBUAPCD											
P. Said, FORA											
L. Rheinheimer, MST (M. Overmeyer)	P(A)	P	P		P			P(A)		P(A)	P(A)

STAFF	FEB 19	MAR 19	APR 19	MAY 19	JUN 19	AUG 19	SEP 19	OCT 19	NOV 19	JAN 20	FEB 20
D. Hale, Exec. Director	P	P						P	P	P	
T. Muck, Dep. Exec. Director	P	P	P		P		P	P	P	P	
M. Zeller, Principal Transp. Planner	P	P	P		P		P	P	P	P	P
C. Watson, Principal Transp. Planner											
M. Jacobsen, Transportation Planner							P	P	P	P	P
T. Wright, Public Outreach Coordinator					P						
R. Deal, Principal Engineer	P		P		P			P	P		P
A. Green, Senior Transportation Planner		P	P		P					P	
S. Castillo, Transportation Planner	P									P	
L. Williamson, Senior Engineer	P	P	P		P					P	P

**OTHERS PRESENT:**

Rick Riedl      Wallace Group

**1. ROLL CALL**

Chair Andrew Easterling, City of Salinas, called the meeting to order at 9:30 am. Introductions were made and a quorum was established.

**1.1 ADDITIONS OR CORRECTIONS TO AGENDA**

None.

**2. PUBLIC COMMENTS**

None

**3. BEGINNING OF CONSENT AGENDA**

**M / S / C: Martinez / Hurtado / unanimous**

**Ayes:** Harary, Pike, Hurtado, McMinn, Renny, Gho, Easterling, Martinez

**No:** none

**Abstain:** Ottmeyer

**3.1 APPROVE** the minutes of the Technical Advisory Committee meeting of January 9, 2020.

**END OF CONSENT AGENDA**

#### **4. US BIKE ROUTE 95 THROUGH MONTEREY COUNTY**

Madilyn Jacobsen, Transportation Planner, provided information on the status of US Bicycle Route 95 in Monterey County and in California.

US Bicycle Route 95 is a national bike route that follows the coast of California through the states of Washington and Oregon to the north. In order to designate a US Bicycle Route, each local road owner needs to communicate to Caltrans that they support the route. The Cities of Monterey and Sand City have already expressed their support of the route to Caltrans. Among the 70 local agencies along the route in California, 43 have approved the designation.

Brian McMinn, City of Marina, asked if the Bicycle and Pedestrian Facilities Advisory Committee had weighed in? Ms. Jacobsen responded that it has not yet gone to that committee but staff could present it to them.

Orchid Ochoa-Monroy, Caltrans, asked if the group has usage data. Kerry Irons, Adventure Cycling Association, responded that it's difficult to discern between those traveling long distance and just riding locally.

Robert Harary, City of Carmel, asked if the proposed route bypasses Carmel and instead goes through the County, do I have to get the County's blessing to request realignment? Mr. Irons responded that I can work with you and the County on this issue.

Raul Martinez, County of Monterey, asked about the bike route going through Molera Road, with a potential concern with left turns from Molera on to Highway 1, and if there are any maintenance responsibilities for the route going along farm roads? Mr. Irons responded that there should not be any responsibilities above what a jurisdiction is already required to maintain, and that he can work with the County on the alignment.

#### **5. 2020 COMPETITIVE GRANTS GUIDELINES**

Michael Zeller, Principal Transportation Planner, presented information about the 2020 Regional Surface Transportation Program Competitive Grants program.

The Transportation Agency periodically programs Regional Surface Transportation Program and Transportation Development Act 2% funds to local projects. Transportation Agency staff requested that jurisdictions review and provide feedback on the draft fund estimate, competitive scoring rubric, and schedule.

Andrea Renny, City of Monterey, asked what benefit / cost model should jurisdictions use? Mr. Zeller responded that you can use the same as last cycle (Caltrans Cal B/C) or create your own.

Scott Ottmeyer, City of Seaside, provided feedback that the City is considering applying for an Active Transportation Program grant and would like the advanced schedule. The consensus from the remainder of the Committee was to follow the schedule from the previous cycle.

**6. CALTRANS DISTRICT 5 ACTIVE TRANSPORTATION PLAN PRESENTATION**

Staff from Caltrans District 5 presented on the Active Transportation Plan.

Caltrans District 5 is developing an Active Transportation Plan that will identify bicycle and pedestrian needs and improvements on, across, and parallel to the State Transportation System within the Counties of Santa Cruz, San Benito, Monterey, San Luis Obispo and Santa Barbara. Caltrans Caltrans is seeking input from local agencies.

Rich Deal, Principal Engineer, asked how Caltrans District 5 would like to receive input from the jurisdictions? They responded that jurisdictions can contact them using the contact info on the fact sheet or send comments to Orchid Ochoa-Monroy.

**7. PERMAZYME SUBGRADE TREATMENT PRESENTATION**

This presentation was rescheduled to March 2020.

**8. ANNOUNCEMENTS**

Rich Deal announced that the Transportation Research Board International Roundabout Conference will be held May 18-20 in Monterey.

Laurie Williamson announced that the Transportation Agency's Regional Wayfinding Program needs contact information from each jurisdiction in order to execute Memorandums of Understanding.

**9. ADJOURN**

The meeting was adjourned at 10:49 am.





**Memorandum**

**To:** Technical Advisory Committee  
**From:** Madilyn Jacobsen, Transportation Planner  
**Meeting Date:** March 5, 2020  
**Subject:** 2022 Regional Transportation Plan - Project Requests

**RECOMMENDED ACTION:**

**RECEIVE** update on 2022 Regional Transportation Plan's development and process for updating jurisdictional project lists.

**SUMMARY:**

Agency staff is developing the project lists for the 2022 Regional Transportation Plan. Staff will outline the process for jurisdictions to review their projects from the 2018 Regional Transportation Plan and provide updated information for the 2022 Plan.

**FINANCIAL IMPACT:**

The 2022 Regional Transportation Plan is being prepared in-house by staff in coordination with Agency committees and the Board of Directors. The Plan's environmental document is budgeted by the Association of Monterey Bay Area Governments not to exceed \$225,000, of which TAMC will pay \$60,000, and will cover the tri-county Metropolitan Transportation Plan as well as the individual Monterey, Santa Cruz and San Benito County Regional Transportation Plans. The Plan will include cost estimates for transportation projects in Monterey County through the 2045 horizon year of the plan. The 2018 Regional Transportation Plan's financial estimate identified a total of approximately \$4.9 billion in projected funding for transportation projects in Monterey County through the 2040 horizon year of the plan.

**DISCUSSION:**

Projects being proposed for state and federal funding must be identified in a Regional Transportation Plan, which the Agency updates on a 4-year cycle.

The Regional Transportation Plan includes a listing of regionally significant projects on the regional road, highway, rail and transit networks planned over the time horizon of the plan, which add capacity and need to be included in the AMBAG Regional Travel Demand Model. The plan must also identify all other planned local street, bike/pedestrian and transit projects that may use state or federal funding.

The list of projects identified in the plan must be consistent with the needs, goals and priorities identified in the policy element and the total cost of those projects must fall within the funding capacity of the long range revenue forecast. The draft list of projects is comprised of the project list from the 2018 Regional Transportation Plan, and will be sent out separately for each jurisdiction to review with instructions on how to submit their edits.

Staff requests that member jurisdictions review the list of their local projects and provide feedback on any cost

or scope changes, or if projects need to be added or deleted by June 30, 2020.



## **Memorandum**

**To:** Technical Advisory Committee  
**From:** Rich Deal, Principal Engineer  
**Meeting Date:** March 5, 2020  
**Subject:** Zero Fatalities Task Force report

### **RECOMMENDED ACTION:**

**RECEIVE** update on the Zero Fatalities Task Force report published by the California State Transportation Agency.

### **SUMMARY:**

The Zero Traffic Fatalities Task Force published its report in January 2020. Findings recommend a change in how speed limits are set and regulated. Staff will present the findings of the task force report.

### **FINANCIAL IMPACT:**

The report has implications for roadway design that could have a financial impact. The investment of road funding in road diets and pedestrian safety initiatives could result in a reduction in injuries and fatalities.

### **DISCUSSION:**

Assembly Bill 2363 (Friedman) established the Zero Traffic Fatalities Task Force. The statutory goal of the Task Force is to develop a structured, coordinated process for early engagement of all parties to develop policies to reduce traffic fatalities to zero. The Task Force examined alternatives to the 85 percentile as a method for determining speed limits in California.

California’s current speed-limit-setting methodology was developed for rural roads and relies on smart choices by 85 percent of drivers. That is, a speed limit is set after studying how fast people drive on a given segment of road and then adjusting it to the speed driven by 85 percent of those drivers. It assumes that “most drivers will drive at a safe and reasonable speed based on the road conditions,” says the report. “It is also based on the idea that speed limits are safest when they conform to the natural speed driven by most drivers and that uniform vehicle speeds increase safety and reduce the risks for crashes.”

However, there is no strong evidence that traveling at the 85th percentile speed results in safer outcomes. Among the problems that have arisen with this method are “speed creep,” in which speed limits go up over time as limits are raised, people drive faster, and then limits are raised again.

The report recommends allowing cities more flexibility in setting speed limits, allowing them to keep current speed limits even if a survey shows that 85 percent of drivers are exceeding the limit, and creating more classes of locations where speed limits can be set at a particular speed without having to do a traffic survey (for example, near schools and in business districts). It also recommends developing a way to conduct traffic speed surveys that takes into account bike and pedestrian safety.

Task Force members overwhelmingly agree that changing a road's infrastructure is the most important factor to reduce vehicle operating speeds. When surveyed, 13 of 15 survey respondents said that design elements effectively reduce speeds. One Task Force member noted that a local city had recently reduced the speed limit in school zones. However, the accompanying wide streets encouraged drivers to ignore the signs and continue driving fast; the lowered speed limit was in itself "not enough to make our streets truly safe".

Many of the recommendations for policy considerations carry the messages of Vision Zero. Vision Zero represents a fundamentally different way to approach traffic safety through partnerships with police departments, public health officials, transportation professionals and policy makers. It is a strategy to eliminate all fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all.

One example of a policy consideration that carries the message of Vision Zero is to allow greater reduction in speed limits if a roadway is identified as part of a statewide "High Injury Network." Possible criteria identified for implementing a statewide High Injury Networks include the number of fatal and serious injury collisions and the rate of crashes that occur in disadvantaged communities. A sampling of policy considerations and an excerpt from the report are included as **attachments** and the full report and a blog post summary are online as **web attachments**.

The California Association of Governments are working with Assembly Members Friedman and Ting on Assembly Bill 2121, introduced February 6, 2020. The draft language and a news release are available as **web attachments**. TAMC staff will monitor this bill and bring a recommendation to the Executive Committee and full Board.

Committee members Andrew Easterling and Andrea Renny will present on their Cities' Vision Zero programs at the May 2020 Committee meeting.

#### ATTACHMENTS:

- Sample of Policy Considerations from Report
- Excerpt from AB 2363 Zero Traffic Fatalities Task Force, CalSTA Report of Findings

#### **WEB ATTACHMENTS:**

- [California State Transportation Agency \(CalSTA\) Report of Findings: AB 2363: Zero Traffic Fatalities Task Force February 6, 2020 article in StreetsBlog, "Zero Fatalities Task Force Report: Change the Way Speed Limits Are Set: The "85th Percentile Rule" relies on outdated assumptions and needs to be fixed"](#)
- [AB 2121 \(Friedman\): Traffic Safety](#)
- [Assembly Member Friedman News Release re: AB 2121](#)

# AB 2363 Zero Fatalities Task Force: Sample of Policy Considerations

## Key Recommendations for Policy Considerations

### Establishing Speed Limits

#### *Speed Limit Recommendation #3*

Revise traffic survey procedures to specifically require consideration be given to bicyclist and pedestrian safety and develop guidance to describe how to consider bicyclist and pedestrian safety in a traffic survey.

#### *Speed Limit Recommendation #4*

Allow state and local agencies to post speed limits below 25 mph when supported by a traffic survey.

#### *Speed Limit Recommendation #5*

Increase the reduction allowance for posted speed limits to allow greater deviations from the 85th percentile speed. Currently, the posted speed may only be reduced by 5 mph from the nearest 5 mph increment of the 85th percentile speed. Classes of locations where the posted speed may be reduced further should include:

- High Injury Networks (HIN). Steps to implement include developing a statewide definition of a HIN. Possible criteria may include:
  - A minimum of three years of the most current crash data
  - Weighting of fatal and serious injury crashes
  - Weighting of crashes that occurred in disadvantaged communitiesThe resultant HIN should: identify specific locations with high crash concentrations; identify corridor-level segments with a pattern of crash reoccurrence; and be able to be stratified by mode.
- Areas adjacent to land uses and types of roadways that have high concentrations of vulnerable road users. Steps to implement include defining vulnerable populations (e.g., pedestrians, bicyclists, scooter users, transit users, seniors, children) and developing criteria to identify eligible streets (e.g., streets close to transit centers, homeless shelters, urban parks/playgrounds, and healthcare facilities as well as types of streets like bicycle boulevards and neighborhood greenways).

#### *Speed Limit Recommendation #9*

Allow for a traffic survey to retain the existing speed limit (or revert to one determined in a prior traffic survey) unless a registered engineer determines that significant design changes have been made to the roadway since completion of the last traffic survey with the specific intent of increasing the safe operating speed. Currently, if a speed survey shows that vehicle operating speeds have increased, agencies must raise the posted speed limit even if the roadway design has not changed, contributing to speed creep over time.

## Engineering

### *Engineering Recommendation #6*

Develop a statewide traffic safety monitoring program that identifies and addresses locations with speeding-related crashes, with the long-term goal of substantially reducing speeding-related fatalities and serious injuries. Newly developed traffic calming devices (see C-EN3) will be the toolbox for this speeding-related monitoring program. An evaluation of the completed monitoring program investigations will help to inform a possible recommendation on modification to the definition of “speeding-related” in crash reporting.

## Enforcement

### *Enforcement Recommendation #1*

Use of automated speed enforcement should supplement, not supplant, existing law enforcement personnel.

### *Enforcement Recommendation #4*

Convene a forum where law enforcement agencies Statewide can discuss issues and barriers to consistent and continual traffic safety enforcement.

- The goal of the forum would be to share best practices and develop recommendations to overcome the lack of prioritization of traffic safety enforcement across the State.
- This event would keep local law enforcement engaged in traffic enforcement operations and reinforce the need for traffic safety enforcement.
- This event should include a focus on data-driven, evidence-based strategies to provide for consistent and continual traffic safety enforcement.

## Education

### *Education Recommendation #1*

Develop a statewide coordinated traffic safety campaign to:

- Inform and educate the California population at large on how they can travel safely and abide by the laws of the road.
- Prioritize public awareness, outreach, and education on traffic safety and the dangers of excessive speed.
- Expand the reach of individual campaigns being implemented at regional and local levels, and leverage investment through coordinated messaging, visuals, and branding.

*These recommendations were selected by staff as most relevant to Monterey County. A full discussion of findings and recommendations for policy considerations is available in **Chapter 9** (pg. 53) of the **CalSTA Report of Findings**.*

## Traffic Fatalities and Injuries, Speed, and Safety

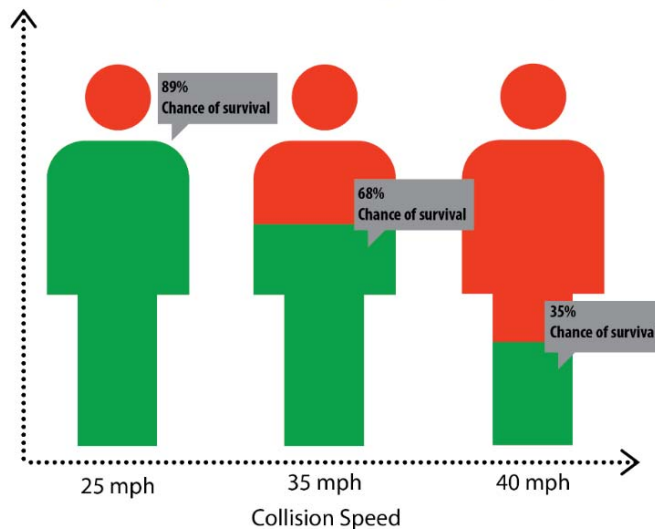
While the overarching objective of the transportation system is to provide mobility, transportation professionals dedicate significant resources to create a system that is safe for all users. Yet transportation professionals and policy makers continue to grapple with increases in road traffic fatalities, injuries, and crashes at the local, state, national, and even global levels.

According to the World Health Organization, deaths from road traffic crashes have continued to climb, reaching 1.35 million in 2016, and representing the eighth leading cause of death globally. Within the U.S. in 2017, there were 37,133 people killed in motor vehicle traffic crashes. Additionally, in the same year, 746,000 people were injured.<sup>2</sup> Traffic crashes have economic costs as well, which was estimated at \$242 billion nationally. **In California, nearly 3,600 people die each year in traffic crashes and more than 13,000 people are severely injured.** Collectively, these traffic crashes cost California over \$53.5 billion.

Many factors contribute to traffic fatalities and injuries, including speeding, distracted driving, and impaired driving. However, the relationship between speeding and traffic fatalities and injuries is an increasing subject of attention. Of the 37,133 traffic fatalities in 2017, 9,717 (26%) were involved in crashes where at least one driver was speeding. Nationwide, speeding contributes to approximately one-third of all motor vehicle fatalities. It is important to note that the notation of “speeding” for the purpose of crash reporting includes vehicle speeds that are unsafe for conditions as well as in excess of the speed limit; see Section 8.2 for more information.

Recent important studies have highlighted excessive speed as a key risk factor in road traffic injuries and fatalities. According to a 2017 National Transportation Safety Board (NTSB) report, speed increases crash risk in two ways: it increases the likelihood of being involved in a crash and it increases the severity of injuries sustained by all road users in a crash. While the relationship between speed and crash involvement is complex, the relationship between speed and injury severity is consistent and direct. There is clear and convincing evidence, supported by statistical analyses, that crash severity increases with individual vehicle speed.

Exhibit 2-1 – Relationship between Vehicle Speed, Crashes, and Fatalities<sup>11</sup>



Excerpt from **AB 2363 Zero Traffic Fatalities Task Force, CalSTA Report of Findings**  
(emphasis added in **bold**)

The relationship between speed and injury severity is especially critical for vulnerable road users such as bicyclists and pedestrians. In the U.S., on average, a pedestrian is killed in a motor vehicle crash every 88 minutes. **In the event of a crash between a vehicle and a pedestrian or bicyclist, the vehicle's speed will largely determine whether the person hit will survive.** Exhibit 2-1 depicts this relationship, demonstrating that the faster a vehicle is traveling, the less likely it is that the person will survive.

For the purposes of crash reporting, "speeding" is used to identify vehicles that are traveling at speeds which are: 1) unsafe for conditions or 2) exceed the speed limit. Speeds that are unsafe for conditions are based on basic speed law which is defined as driving at a speed greater than is reasonable or prudent considering weather, visibility, traffic, and roadway conditions. Because the definition of speeding includes these two different conditions, it is unknown to what degree exceeding a posted or statutory speed limit contributes to the total number of speeding-related crashes.

In addition to the impact of absolute vehicle speed on both crash severity and crash frequency, speed variance within a traffic flow is often cited as contributing to crash risk. However, the University of California Institute of Transportation Studies (UC ITS) Research Synthesis commissioned specifically for this report found that research on speed variation and safety is limited and generally inconclusive. Furthermore, there is an absence of research related to speed variation impacts on crash frequency or severity of collisions involving pedestrians and bicyclists in urban environments.

Given the rise in traffic fatalities and injuries, the contributing role of excessive speed to those crashes, and the particular vulnerability of pedestrians, bicyclists, and scooter users, transportation professionals and policymakers in the U.S. are struggling to find solutions to make roadways safer. The issue of speed limits and speed management is an increasingly important topic among stakeholders as speeding has been repeatedly demonstrated to be a main factor in crash injury and severity.

Speeding, however, is a multi-faceted problem. There are many factors that can influence how fast drivers choose to operate their vehicles. These include the design of the roadway, the road's posted speed limit, the enforcement of speed limits, and the driver's behavior. In their efforts to get drivers to slow down, practitioners use multiple tools, including lowering speed limits, increasing enforcement, and changing the roadway infrastructure. Ultimately "any measures that can achieve reductions in average operating speeds, including lower speed limits, enhanced enforcement, and communications campaigns, as well as engineering measures, are expected to reduce fatal and injury crashes."

While many consider road design and engineering the effective countermeasure to reduce operating speed, many cities, including Portland, Seattle, and New York City, have also lowered the posted speed limits on their roadways. Although some subject matter experts maintain that lowering posted speed limits does not cause drivers to slow down, recent research has indicated that this approach is effective. The UC ITS research synthesis found that research studies clearly indicate speed limit changes cause changes in drivers' speed. Moreover, "reducing vehicle speed limits will likely reduce vehicle speeds and improve safety across most road environments."

UC ITS concluded that "even though reducing speed limits may only have a small effect on vehicle speeds, those changes in speed result in meaningful safety improvements" especially for vulnerable road users such as bicyclist and pedestrians." Other studies support the finding that even a small change in vehicle operating speed can have large safety impacts. According to one, "**a reduction of 3 mph in average operating speed on a road with a baseline average operating speed of 30 mph is expected to produce a reduction of 27% in injury crashes and 49% in fatal crashes.**"



Excerpt from **AB 2363 Zero Traffic Fatalities Task Force, CalSTA Report of Findings**  
(emphasis added in **bold**)

Furthermore, since pedestrians and bicyclists are particularly vulnerable to severe injury and death when struck by higher-speed vehicles, **“countermeasures aimed at reducing vehicle speeds have the potential to save lives.”**

National research results, as well as the results of the UC ITS research synthesis, support the notion, which is advocated by many California cities and local governments, that **lowering speed limits will make streets safer**. In California and the rest of the U.S., establishing the speed limit is based on a long-standing methodology known as the 85th percentile speed. This methodology is discussed in Section 3.0 of this report. However, it is important to note that studies have shown that using the 85th percentile speed to establish speed limits has actually increased drivers' operating speeds as an “unintended consequence.” This approach creates a phenomenon known as “speed creep,” in which higher speed limits prompt motorists to drive faster, which in turn prompt higher speed limits.

While recent research has shown that changing speed limits is an effective method for reducing vehicle operating speeds and increasing road safety, the absolute magnitude of operating speed changes from speed limit changes alone are small but meaningful. Further, there are many broader trends and contexts to consider, including the inherent trade-off between speed and safety, the safety advances presented by emerging vehicle technologies, and recent statewide developments related to safety and transportation. These trends and contexts are discussed in the next section.



## ***Memorandum***

**To:** Technical Advisory Committee  
**From:** Rich Deal, Principal Engineer  
**Meeting Date:** March 5, 2020  
**Subject:** **Permazyme Subgrade Treatment Presentation**

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### **RECOMMENDED ACTION:**

**RECEIVE** Presentation on Permazyme sub-grade treatment for road rehabilitation projects.

### **DISCUSSION:**

This presentation offers an alternative sub-grade treatment to extend the life of new pavement. With new Measure X and SB1 pavement maintenance funding now available to cities and counties, sub-grade treatment alternatives may provide a way to extend the life of those maintenance projects and allow agencies to maintain more road miles over time.