MEMORANDUM

TO: Nevada County Transportation Commission

FROM: Daniel B. Landon, Executive Director Daniel B Landon

SUBJECT: Executive Director's Report for the November 2019 Meeting

DATE: November 20, 2019

ZERO TRAFFIC FATALITIES TASK FORCE

The third Zero Traffic Fatalities Task Force workshop was held on October 21, 2019. Discussion items included:

- Develop and implement a new approach to determine posted speed limits that takes into account how a street is used and by whom.
- Revise traffic survey procedures to increase the weighting of other factors.
- Eliminate the requirement to increase speed limits after a traffic survey if the roadway conditions have not changed since the last survey.

A set of white papers that jointly provide a review of research on the topic of safety and speed was prepared to support the discussions of the Zero Traffic Fatalities Task Force. The executive summary of the document included the following comments: "The topic of safe speeds has always been the subject of much debate" and "At the heart of the debate is the intuitive trade-off between speed and safety."

As part of this effort, the following findings have been established:

- **Evidence about speed and safety (why is this important?)**
  There is consistent evidence that as speed increases, the probability of a fatality in a crash increases too. This is supported by the laws of physics. There is also a strong statistical relationship between average operating speed and crashes. This does not mean that traveling 50 mph on an urban arterial is safer than traveling 70 mph on a highway, but these findings establish that, all else equal, going faster is less safe. In light of this, reducing speed limits will most likely create safety benefits.

- **History of the 85th percentile (where does the current practice came from?)**
  The current practice of setting speed limits to the 85th percentile can be traced back to the late 1930s. This was based on the assumption that 85 percent of the drivers are sufficiently careful not to operate

their cars too fast for conditions. It was also noted that it must, however, be adjusted in the light of crashes. There is no empirical study that demonstrates that the 85th percentile speed optimizes safety.

- **Limitations of the current speed limit setting practices (why we need to reconsider them?)**
  Drivers have a tendency to underestimate speed. This can range from an underestimate of 10% at higher speeds (70 mph) and up to 30% at lower speeds (35 mph). This demonstrates that drivers have limited capability to self-regulate a safe speed, especially at lower speed areas. It is therefore undesirable to rely on operating speed to establish safe speed. Moreover, over time, the practice of the 85th percentile can create an upward drift in operating speeds (*assuming that collectively, drivers elect speeds such that about half of them drive faster than the speed limit. This behavior, if coupled with a periodical application of the 85th percentile rule, would cause an upward drift in speeds*).

- **What are promising alternatives to set speed limits (how can we do it better?)**
  Other countries with desirable safety performance set speed limits based on the combination of the built environment (including roadway features and geometry), the vehicle fleet, and a desire to establish credible speed limits to encourage compliance. Changes to the limit or to the layout of the road or environment are implemented to ensure alignment between credibility and desired safety. Moreover, some jurisdictions, including domestic ones, are incorporating speed limit setting laws that give cities more flexibility to implement slower speed zones in urban areas.

- **Other opportunities to improve road user safety (what else can we do?)**
  There is a body of literature that can support practitioners in identifying a set of road design improvements to reduce crashes of all modes. The vehicle industry provides a high level of protection to occupants and is making initial efforts to provide more protection to non-occupants, too. Infrastructure-based emerging technologies can provide safety benefits for all users.

A set of findings and recommendations based on the Task Force's work is being prepared and will be delivered to the California State Transportation Agency (CalSTA) in mid-November. CalSTA will finalize the report and deliver it to the California Legislature on January 1, 2020.