

January 3, 2017

Mr. Bernard Soriano  
Deputy Director  
Department of Motor Vehicles  
2415 First Avenue  
Sacramento, CA 95818

RE: CALIFORNIA DEPARTMENT OF MOTOR VEHICLES REVISED DRAFT  
AUTONOMOUS VEHICLES DEPLOYMENT REGULATIONS

Dear Mr. Soriano,

As advocates for Vision Zero in San Francisco, we write to provide feedback on the revisions to the draft regulations for the testing and deployment of autonomous vehicles. Absent strong regulation from state or local authorities, our city has already become a testing ground for this unproven—and potentially dangerous—technology. While autonomous vehicles hold the promise of reducing collisions and improving congestion in the long-term, strong regulations are critically needed to ensure that the development of the technology is mutually beneficial to the cities and the residents it serves.

We appreciate the opportunity to weigh in as your department builds out the regulatory framework for what is expected to be technology that revolutionizes the way automobiles use our streets. As you consider revisions to the existing regulations, we would urge you to pay special attention to the following areas of concern for people who walk and bike:

1. **Autonomous vehicle (AV) technology must protect the most vulnerable road users: people who walk and bike.** San Francisco has committed to reaching Vision Zero—zero traffic deaths and serious injuries for all road users—by 2024; if autonomous vehicles are to become an integrated part of our transportation network by that time, they must not contribute to traffic crashes. Before deployment of AVs onto public streets, the technology (i.e. “dynamic driving task”) must be proven to be able to guide AVs to safely interact with all road users in a predictable and legal manner, with special attention to people who are walking and biking.
2. **Autonomous vehicle technology must be able to respond to our urban environment, especially streets designed for the safety of people walking and biking.** Streets are changing with regularity in San Francisco, and what is defined in the regulations as “Operational Design Domain” is not static. Again, AVs must be proven to be able to safely interact with all infrastructure, regardless of quality or upkeep.
3. **Manufacturers must pay for costs associated with testing and monitoring AV technology.** The advent of AV technology brings opportunities, but San Francisco does not currently have the resources to fully support infrastructure investments, fees and insurance requirements, data analysis, transportation planning, and more related to the testing and deployment of AVs onto public streets. There must be a strategy developed between manufacturers and all levels of government (federal, state, and local) to bring additional funding and resources to ensure the safe and successful testing and deployment of AVs.

4. **There must be clear procedures requiring companies to proactively engage local government and communities.** Prior to testing of AVs on San Francisco's streets, there was no opportunity for public dialogue and no decision by San Francisco elected officials on whether these vehicles would be permitted. Ample public hearings and approvals need to be held prior to any testing to ensure the safe testing and adequate oversight and enforcement of AV technology on public roads.
5. **Ethical decision-making protocols must prioritize people walking and biking.** Ethical decision-making is whether, under a life-or-death situation for the vehicle occupant and a person outside of a vehicle, the vehicle will put the driver's life or the person outside the vehicle's life at greatest risk. Given that people outside vehicles do not have two tons of steel, air bags, and seat belts to protect them, vehicles must be required to prioritize their safety.
6. **There needs to be deeper analysis and appropriate data collection on the impact of autonomous vehicles on local infrastructure throughout testing.** It is unclear what impact AVs will have on congestion, pavement quality, curb usage, and more. The analysis must begin now, and manufacturers must be forthcoming with data that will be relevant to measuring impact and identifying needs as AV technology moves closer to deployment stage. The data collected through AV testing can also help determine existing conditions, especially for bicycle and pedestrian infrastructure, helping the City to be more proactive in improving infrastructure. We would recommend that data be made as publicly available as possible with stringent reporting requirements.
7. **Data reporting must happen as close to real-time as possible.** Recognizing this technology will advance and change quickly, it is essential that regular data reporting occurs with either real-time sharing with DMV or as close to real-time as possible.
8. **Autonomous Vehicle Test Driver Training must include safety training related to urban infrastructure.** During the testing phase, it is critical that test drivers know how to operate and share streets with people who walk and bike. Maneuvering through new infrastructure, from protected intersections to protected bicycle lanes and painted safety zones, needs to be understood by the driver in order to better ensure the technology is performing correctly in "dynamic driving tasks" and ensure that testing on public streets does not put vulnerable road users further at risk. We would further recommend that disengagements include more specifics regarding interactions with bicycle and pedestrian infrastructure.
9. **There should be strict accountability for manufacturers to adhere to the regulations.** Loopholes in the current regulations should be closed and accountability mechanisms with appropriate penalties must be written in to ensure that manufacturers can and will be held to the regulations. The strongest regulations are rendered useless without accountability.

Technology has an important role to play in achieving Vision Zero, but it must be adequately studied and regulated. California can be a leader in creating those standards. As autonomous vehicles move forward through the regulatory process, nonprofits working

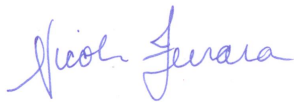
to advance the safety of people using our streets should be engaged in developing these standards.

We thank the California Department of Motor Vehicles for undertaking the regulation of this emerging technology. We look forward to the outcome of the regulation review and are happy to make ourselves available in the interim should you have further questions regarding our recommendations.

Sincerely,



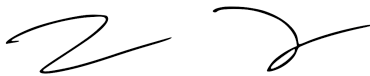
Brian Wiedenmeier, Executive Director  
San Francisco Bicycle Coalition



Nicole Ferrara, Executive Director  
Walk San Francisco



Tom Radulovich, Executive Director  
Livable City



Tony Dang, Executive Director  
California Walks



Glenn Motola, CEO  
The Arc San Francisco



Thea Selby, Chair  
San Francisco Transit Riders



Phil Chin, Co-chair  
Chinatown Transportation Research & Improvement Project (TRIP)



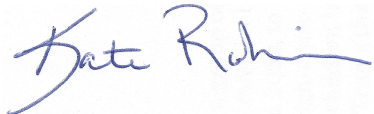
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Friends of Monterey Boulevard



Kate Robinson, Executive Director  
Tenderloin Safe Passage

CC: California Secretary of Transportation, Brian Kelly  
Assemblymember David Chiu  
Assemblymember Phil Ting  
Senator Scott Wiener