NACTO RECOMMENDATIONS FOR REFORMS TO NHTSA SAFETY REGULATIONS

The following is a living document that will be updated as city needs and NHTSA proposals evolve.

The National Highway Transportation Safety Administration (NHTSA) is the part of USDOT charged with motor vehicle safety standards. It has broad authority to regulate the design and technology used in motor vehicles sold in the United States. The agency writes and adopts the Federal Motor Vehicle Safety Standards (FMVSS) and other regulations. It also encourages the collection of crash data through the Model Minimum Uniform Crash Criteria.

NHTSA's approach to vehicle regulation needs to expand its scope from a limited consumer-protection approach to a holistic public health approach that protects all road users.

City transportation officials have stepped up as leaders in the national vehicle safety dialogue, developing local standards and regulations on vehicle size, safety features, and operations within city limits. NACTO has published guidance in collaboration with the Volpe Center on large vehicle safety and regulation in cities. It is critical that NHTSA enshrine this guidance, and other priorities for the safety of everyone on US streets, into its regulatory practices.

Traffic fatalities for vehicle occupants have largely held steady over the last decade, while traffic deaths for people outside of vehicles (pedestrians and bicyclists) have skyrocketed by more than 50% since 2009. Vehicle standards have failed to protect those outside of vehicles, resulting in thousands of preventable deaths each year. Especially in multimodal urban environments, vehicle design and regulation is critical to ensuring safe operations and movement.

NHTSA should use its broad authority over vehicle safety and design regulations to support the Biden Administration's climate, equity, and safety goals by taking the following actions:

1 →

Commit to a Safe System approach to all agency activities that puts safety first for all street users.

2 →

Update FMVSS to include new, proven safety features to all new motor vehicles beginning as soon as possible.

3 →

Expand NCAP star ratings to incorporate the safety of people outside the vehicle and the full environmental performance of vehicles.

4 →

Update and enhance funding eligibility requirements for agencies/jurisdictions that receive NHTSA funding for traffic enforcement.

5 →

Champion transparent and equitable automated enforcement.

6 →

Revise the Model Minimum Uniform Crash Criteria (MMUCC) to collect clearer, more actionable data for street and road designers, pursuant to a safe systems approach.

7 →

Establish rigorous safety testing standards for autonomous vehicles.

City transportation experts and practitioners recommend the following updates and improvements to NHTSA's guidance and standards for the vehicles that operate on local streets and roadways.

1

Commit to a Safe System approach to all agency activities that puts safety first for all street users.

A Safe System approach recognizes humans will always make mistakes, and that a truly safe transportation system does not rely on perfect behavior but rather on reducing the likelihood and severity of crashes so that errors don't result in death. NHTSA should **replace or supplement pure cost-benefit analysis screening for new vehicle regulations** by introducing an injury-minimization analysis for evaluating new vehicle safety standards.

2

Update FMVSS to include new, proven safety features to all new motor vehicles beginning as soon as possible.

New, proven technologies and tools are commercially available and should be included in the FMVSS, including:

a. **For Trucks & Heavy Goods Vehicles:** Despite making up only 4 percent of the US fleet, freight trucks and other heavy goods vehicles count for a disproportionate, and growing, number of traffic fatalities.[1]

    i. **Adopt direct vision standards, such as those in use in the UK and EU, including requirements for** low-entry cab-forward or sloped hood design and high-visibility "peeper-window" doors.

    ii. **Require proven safety features on trucks such as:**

        1. Speed governors, as required already in Canada and the EU.
        2. Side guards.[2]
        3. Cross-over mirrors.

b. **For all vehicles:** Today, many life-saving technologies are only available on high-end vehicle models, if at all.

    i. **Require new motor vehicles to include new technologies proven to improve safety** as part of the standard vehicle technologies.

        1. Pedestrian Automatic Emergency Braking (PAEB).
        2. Crash Mitigation features, such as softer hoods. This includes revising the Bumper Standard to allow for softer hoods and putting a maximum on front-end height, including in light trucks, minivans, and SUVs, to minimize harm to pedestrians in the event of a collision.

    ii. **Require that new technologies can accurately detect, identify, and respond to moving cyclists, pedestrians, and other road users,** in particular:

        1. Intelligent speed assistance, already required in model year 2022 in the EU, making use of human-machine interface research.
        2. Automatic emergency braking (AEB), including pedestrian detection.

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1   https://nacto.org/optimizing-large-vehicles/
2   https://ops.fhwa.dot.gov/publications/fhwahop16081/index.htm

3 **Expand NCAP star ratings to incorporate the safety of people outside the vehicle and the full environmental performance of vehicles as summarized in GAO report 20-419.**

Since 2010, NHTSA has documented that large high-front vehicles present increased risks to people walking and biking, including large passenger vehicles (pickup trucks and SUVs), and are directly related to the increase in pedestrian fatalities. An upgrade to NCAP to account for the safety benefits of smaller vehicles is long overdue. NHTSA should augment the program by testing the risks vehicles pose to vulnerable road users, crashworthiness features, and crash-avoidance technologies.

   a. **Update NCAP ratings to consider the safety of both vehicle occupants and people outside the vehicle.** Align NCAP ratings with survivability of crashes to people outside the sale vehicle, such as people bicycling, walking, and in other vehicles, including effects of weight and front-end design. Explore EURO NCAP and ANCAP as models for increasing protection for people outside of vehicles.

   b. **NCAP ratings should also reflect the environmental impact of a vehicle.** Criteria should include fuel efficiency, air pollutants, well-to-wheel emissions, the life cycle of the vehicle, and the range of electric and hybrid vehicles. The existing Green NCAP ratings used in the EU can act as a starting point for a similar US rating that can be rolled into NCAP.

4 **Update and enhance funding eligibility requirements for agencies/ jurisdictions that receive NHTSA funding for traffic enforcement.**

Each year, NHTSA provides more than $500 million in Highway Safety Grants to local enforcement agencies for traffic enforcement. To ensure this funding supports Biden Administration equity and safety goals, NHTSA should update requirements for receiving funding to focus on actions proven to lead to traffic fatalities (e.g. speeding vs. tinted windows) and enhance data collection and reporting requirements to ensure lawmakers and the public have sufficient and accurate information from which to make policy decisions about safety and policing outcomes. These include:

   a. In order to be eligible for NHTSA funding, require State and local law enforcement agencies to collect and report on data for all stops, including demographic data (at a minimum race and ethnicity), and reason for the stop. To support this, NHTSA should also develop consistent data collection and reporting standards and procedures across all States and jurisdictions.

   b. Allocate NHTSA funds only to trained traffic safety personnel certified by an appropriate organization, rather than distributing funds broadly across enforcement agencies.

   c. Allocate NHTSA funds specifically to activities connected to high-risk actions such as speeding, traffic-control disregard, oversize vehicle violations, and failure to yield to pedestrians or bikes.

   d. Allocate NHTSA funds for enhanced crash data collection and analysis, especially speed analysis and black boxes analysis ("EDRs") in all fatal and serious injury crashes.

5 Champion Transparent and Equitable Automated Enforcement.

Automated enforcement (e.g. speed and red light cameras) are a predictable, proven tool for reducing speeding and other, safety related, traffic violations. Thoughtfully implemented camera programs offer a more effective and more equitable path to traffic enforcement than manual enforcement because they address the sporadic, and prone to bias, aspects of manual traffic enforcement, and can help address some enforcement concerns by reducing the number of direct in-person interactions between people and law-enforcement officers. To support these efforts, NHTSA should:

a. Develop clear guidance for cities and states to implement effective, equitable, automated traffic enforcement systems, particularly for speed enforcement.

b. Provide technical support to cities and states implementing effective, equitable automated traffic enforcement systems, particularly for speed enforcement.

c. Provide detailed guidance on adjudication of automated ticketing, including diversion programs in cases where fines would be unduly punitive.

d. Continue efforts to ensure that automated traffic enforcement systems remain data-secure, and that states and cities issuing contracts require that data collected by third-party contractors remains in use only for traffic violation enforcement.

6 Revise the Model Minimum Uniform Crash Criteria (MMUCC) to provide

clearer, more actionable data for street and road designers, pursuant to a safe systems approach. The MMUCC is used by states to develop collision reports used by state and local law enforcement. The data from these reports is the primary source of information on traffic crashes in the United States, and is used extensively in urban transportation safety planning and design.

a. Provide states with resources and technical assistance to meet improved MMUCC criteria within 5 years.

b. Require states to update crash reporting methods in line with improved MMUCC criteria.

c. Enhance MMUCC reporting criteria to include, at a minimum:

  i. Expand the speed-related data elements to include speed estimates at time of collision and method of calculation (including but not limited to:. skid mark analysis, radar, and black box/EDRs).

  ii. Require disclosure of crash data from black boxes ("EDRs") in all fatal and serious injury crashes.

  iii. Add a person type category for people using powered standing scooters.

  iv. Provide detailed categorization of the mechanics of motor vehicle-pedestrian collisions, including data fields indicating the crosswalk or leg of the intersection, or other part of the interaction in which a pedestrian was struck.

  v. Provide detailed categorization of motor vehicle-bicycle collisions, similar to the diagrammed options already available for vehicle-vehicle collisions but encompassing bike infrastructure.

  vi. Add data elements related to vehicle automation, including vehicle equipment (automation level of 0 to 5) and activation or use of these features. Require manufacturers to code automation features into Vehicle Identification Numbers (VINs).

  vii.As primary users of traffic collision data, city departments of transportation, particularly safety designers and analysts, should be involved in the process of developing the next edition of the MMUCC.

7 Establish rigorous testing standards for autonomous vehicles.

There are currently no standards automated vehicles (AVs) must meet before testing on public roads. AV companies are already deploying their vehicles on city streets and federal action has not kept pace with the development of technology. Additionally, automated driving creates fundamentally new challenges that call for expertise that crosses historic jurisdictional boundaries, including:

a. **Develop a plan to ensure that driving automation addresses safety first.** This plan should include the timeline and regulatory tools to address key safety regulatory priorities for Level 3-5 automated vehicles.

b. **Establish new and revised minimum safety standards necessary to authorize operation of vehicles without human controls**, including requirements for event data recorders to capture and retain all sensor data that informs analysis of crash and near miss causation. Identify features for which safety standards may vary for fleet-operated vs. personally owned vehicles.

c. **Develop safety reporting requirements and a national safety reporting database** for analysis of selected measures of safety performance arising from testing or deployment of Level 3-5 automation on public streets so the nation has the capacity to determine whether automated driving is truly safer than human drivers while ensuring robust user-privacy protections.

d. Consistent with NTSB Safety Recommendation H-19-49 and H-19-50, **develop a task group of independent experts to support state development and evaluation of applications for authority to test or deploy driverless technology** on public roads without safety drivers and to support NHTSA evaluation of FMVSS exemption petitions.

e. **Establish policy governing consideration of FMVSS exemption petitions** that give priority to vehicles that are zero emission vehicles, that include wheelchair accessible model versions (to the extent they are passenger vehicles), and/or are for use in testing public purposes in collaboration with public agencies.

Further Reading

A Safe Systems Approach

- FHWA, Zero Deaths & Safe System approach
- WSDOT, Washington State Injury Minimization and Speed Management Policy Elements and Implementation Recommendations
- NACTO, City Limits: Setting Safe Speed Limits on Urban Streets

FMVSS / Safe Vehicle Design

- UK Direct Vision Standards
- Additional research on Direct Vision benefits
- TfL, Safer Urban Trucks: the Evidence for Change
- NACTO, Optimizing Large Vehicles for Urban Environments
    - ADAS
    - Downsizing

NCAP / Vehicle Ratings

- Current US NCAP
- GAO-20-419: Pedestrian Safety report
- EURO NCAP
- ANCAP
- ValuePenguin analysis of vehicles involved in most fatal crashes.
- Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, issues in May 2020.
    - Consumer Reports, The Un-SAFE Rule: How a Fuel-Economy Rollback Costs Americans Billions in Fuel Savings and Does Not Improve

Enforcement / Highway Safety Funding

- Dept. of Justice, A Resource Guide on Racial Profiling Data Collection Systems: Promising Practices and Lessons Learned
- Harvard Civil Rights - Civil Liberties Law Review, The Long Road to Ending Pretextual Stops
- Stephen Rushin & Griffin Sims Edwards, An Empirical Assessment of Pretextual Stops and Racial Profiling
- Stanford Open Policing Project
- PennLive, Few states require local police to collect race data on traffic stops

Automated Enforcement

- Congressional Research Service, Safety Impact of Speed and Red Light Cameras
- NACTO, City Limits: Setting Safe Speed Limits on Urban Streets

MMUCC / Crash Data

- NACTO, Managing Mobility Data
- UK Road Traffic Statistics

Autonomous Vehicle Safety

- NACTO, Blueprint for Autonomous Urbanism