**STRATEGIC PLAN FOR THE AASHTO COMMITTEE ON TRAFFIC ENGINEERING**
**ADOPTED JUNE 20, 2018**

## COMMITTEE ON TRAFFIC ENGINEERING PURPOSE STATEMENT

The Committee on Traffic Engineering (CTE) shall investigate, assess, report on, and develop recommendations on all aspects of traffic engineering, including: the effectiveness of new and existing traffic control practices and devices in terms of context, cost, and public safety; advancements and innovations in methods and equipment that reduce costs, lower energy consumption, improve motorist guidance, and reduce crashes; and the standards and guidelines contained in the Manual on Uniform Traffic Control Devices (MUTCD) and other technical documents. The committee shall be responsive to both internal external stakeholders to advance the practice of engineering through research, experimentation, and implementation to balance the safety and mobility needs of all users efficiently, equitably, and in a context sensitive manner. As part of the committee's charge, eight delegates and eight alternates selected from the Member Departments for their experience and knowledge of traffic control devices shall participate as AASHTO's representatives on the National Committee on Uniform Traffic Control Devices.

## CTE VISION

CTE members improve the everyday life of road users on state highway networks by advocating for traffic engineering solutions that incorporate the CTE core values.

## CTE MISSION

CTE pursues its vision by promoting the CTE core values to the application of traffic engineering practices, supporting traffic engineering research and implementation, sharing information between internal AASHTO groups and external stakeholders, and creating policies, standards, and guidelines that support the CTE vision.

## CTE CORE VALUES

CTE emphasizes the following core values in seeking to achieve its Vision, Mission, and Goals:

- **Safe:** Road user safety is emphasized in every decision.
- **Efficient:** Demand and capacity are balanced for optimal operation.
- **Innovative:** Practices are updated to reflect advances in science, technology, theories, and policies.
- **Consistent:** Practices are presented in a consistent manner to meet driver expectancy.
- **Flexible:** Traffic engineering solutions strike a balance between providing consistent treatments to road users and adapting to the variable conditions of specific sites.
- **Equitable:** The needs of all road user populations are considered.
- **Context-sensitive:** Solutions strike a balance between competing needs and concerns such as historic preservation, environmental sustainability, the creation of vital public spaces, harmony with the community vision, and aesthetics.
- **Cost-effective:** Solutions are optimized with respect to available resources, the overall needs of the transportation system and the implementation context,
- **Responsive:** Traffic engineers interact with and respond to the needs and concerns of the traveling public in a respectful and understanding manner.

**CTE GOALS**

CTE relies upon subcommittees and task forces to address individual goals, strategies, and/or implementation actions.

**Goal 1:** Address how the implementation of Connected/Autonomous Vehicles (CAV) and related technologies will impact traffic engineering infrastructure.

*Strategy 1:* Identify critical CAV issues.

Action 1: Develop CAV state-of-the-practice document for CTE members.

Action 2: Identify traffic engineering implementation issues associated with CAV technologies.

*Strategy 2:* Determine traffic engineering infrastructure and practices needing updates to accommodate CAV technologies.

Action 1: Identify research needs.

Action 2: Review research results.

Action 3: Coordinate with stakeholder groups.

Action 4: Prepare white paper on traffic engineering and CAV implementation.

*Strategy 3:* Develop traffic engineering CAV implementation guidelines.

Action 1: Design guidelines/criteria for traffic engineering infrastructure.

Action 2: MUTCD criteria for traffic control devices used by CAV.

**Goal 2:** Improve access and safety of non-motorized user groups to member department roadways.

*Strategy 1:* Promote pedestrian access.

Action 1: Identify critical pedestrian concerns for member departments and to identify needed changes to the *AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities.*

*Strategy 2:* Promote bicycle access.

Action 1: Identify critical bicycle concerns for member departments and to identify needed changes to the *AASHTO Guide for the Development of Bicycle Facilities.*

*Strategy 3:* Promote accessibility for user groups with disabilities.

Action 1: Develop recommendations for implementing the *Public Rights of Way Accessibility Guidelines* regulation when published as a final rule.

*Strategy 4:* Address transit issues within the traffic engineering arena.

Action 1: Work with other AASHTO committees and groups to identify traffic engineering content for the *AASHTO Guide for Geometric Design of Transit Facilities on Highways and Streets*.

**Goal 3:** Improve member department use of traffic control devices.

*Strategy 1:* Address the use of rectangular rapid-flashing beacons (RRFB).

Action 1: Develop guidelines for the use of rectangular rapid-flashing beacons.

Action 2: Developing guidelines for the use of innovative flashing rates and patterns in beacons and signals.

*Strategy 2:* Improve speed control and regulation.

Action 1: Identify existing uses of variable speed limits and develop guidelines for variable speed limits on state highways.

*Strategy 3:* Promote effective management of traffic control device assets and infrastructure

Action 1: Identify existing uses of asset management practices in member departments.

*Strategy 4:* Develop traffic signal timing parameters for member departments.

Action 1: Develop guidelines for signal change and clearance intervals.

*Strategy 5:* Improve traffic signal control strategies.

Action 1: Develop guidelines for adaptive signal control.

*Strategy 6:* Contribute to keeping the MUTCD current and relevant.

Action 1: Work with the NCUTCD to identify opportunities for updating the MUTCD.

*Strategy 7:* Assess benefits of alternative sign alphabets/fonts.

Action 1: Develop recommendations for use of Clearview.

**Goal 4:** Assess the use of big data/mega data to improve traffic engineering practices.

*Strategy 1:* Identify types of big data with traffic engineering applications.

Action 1: Develop applications and guidelines for utilizing big/meta data.

**Goal 5:** Prepare and update traffic engineering technical products.

*Strategy 1:* Develop new CTE publications.

Action 1: Clearinghouse of state traffic engineering standard sheets.

Action 2: AASHTO guidelines for signal change and clearance intervals.

Action 3: Case studies of traffic engineering success stories.

*Strategy 2:* Evaluate and revise existing publications that CTE is solely responsible for:

Action 1: Selection of Supplemental Guide Signs for Traffic Generators Adjacent to Freeways (Part I of AASHTO Guidelines for Supplemental Guide Signing).

Action 2: Guidelines for Airport Guide Signing (Part II of AASHTO Guidelines for Supplemental Guide Signing).

Action 3: Listing of Control Cities for Use in Guide Signs on Interstate Highways (Part III of AASHTO Guidelines for Supplemental Guide Signing). This list is now posted on the CTE website

*Strategy 3:* Evaluate and revise existing publications that CTE contributes to.

Action 1: *AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities*.

Action 2: *AASHTO Guide for the Development of Bicycle Facilities*.

Action 3: *Guide for Geometric Design of Transit Facilities on Highways and Streets*.

Action 4: *Roadway Lighting Design Guide*.

Action 5: *Manual on Uniform Traffic Control Devices*.

**Goal 6:** Maintain five-year planning horizon for traffic engineering technical goals, potentially considering the following strategies among others that are not listed.

*Strategy 1:* Evaluate the impacts of changes in user characteristics and vehicle characteristics on traffic engineering practices.

*Strategy 2:* Evaluate the impacts of advances in technologies on traffic engineering practices, including the use of Intelligent Transportation Systems (ITS).

*Strategy 3:* Evaluate impacts of Complete Streets and related concepts (Livable Communities, Road Diets) on state traffic engineering practices.

*Strategy 4:* Evaluate the impacts of driver distraction and driver impairment on driver performance and system safety and efficiency.

*Strategy 5:* Evaluate the impacts of advertising messages on driver performance and system operation, with consideration of the beneficial aspects of advertising within the right of way.

*Strategy 6:* Evaluate the impacts of changing road user demographics and behavior on traffic engineering practices. Driver demographics continue to change as the country becomes more diverse. Driver behavior is also a concern due to increasing demands for attention within the vehicle. Examples of both include older drivers, younger drivers, English as a second language drivers, driver training and licensing, distracted drivers, impaired drivers. Drivers are increasingly relying upon in-vehicle navigation aids for directions and guidance rather than traditional traffic control devices.

*Strategy 7:* Differences between rural and urban challenges. Traffic engineering practices and improvements can differ depending upon whether the location is within a rural or urban area. Many traffic engineering challenges and the related actions focus upon urban conditions.

*Strategy 8:* Impacts of planning and design decisions upon traffic engineering operations. Factors such as horizontal alignment, access management, and pavement design can have a significant impact on the quality of traffic operations.

**Goal 7:** Identify and promote key legislation and regulation changes at the national and state level.

*Strategy 1:* Improve regulations/laws associated with new and/or revised traffic engineering practices to provide uniformity in legal and regulatory approaches.

Action 1: Flashing yellow and red arrow traffic signal indications.

Action 2: Pedestrian countdown signal indications.

Action 3: Rectangular rapid-flashing beacons.

Action 4: Regulations related to implementation of automated/autonomous vehicles.

*Strategy 2:* Legislation and regulation related to incorporating technology into traffic engineering practices and vehicle operations.

Action 1: Responsibility of agencies for meeting performance criteria for traffic control devices used by connected/autonomous vehicles.