Infrastructure Owner Operators (IOOs)
Guiding Principles for
Connected Infrastructure supporting
Cooperative Automated Transportation (CAT)

August 2019 Update for
the Council on Public Transportation
What is Cooperative Automated Transportation (CAT)?

CAT is all modes of transportation working together to improve safety, mobility, equity, and operations efficiency through interdependent vehicle and systems automation and information exchange.
IOOs and Guiding Principles (GPs) for CAT Connected Infrastructure

- Guiding Principles for connected infrastructure supporting CAT are needed by IOOs to facilitate collaboration, educate the workforce, support interoperable deployments, and inform the public.
- In the near term, the GPs reflect the consensus direction of the IOOs and can support impact assessment of CAV developments in a rapidly changing CAT environment.
- Over the longer term, GPs are intended to give IOOs maximum institutional flexibility while working together to develop and deploy CAT strategy, standards, infrastructure, telecommunications, data exchange, best practices, and public information.
GP Development Timeline

Jan-Feb 2019
Initial Development

Mar-May 2019
AASHTO, ITE, ITSA 1st Review

Mar 1: shared in CAT Meetings at Washington Briefing
May 8: revised with Task Force
May 21-22: First look at AASHTO Spring Meeting

Jun-Sep 2019
Committee and Partner Reviews

ITSA Annual Mtg
AASHTO councils and committees
Transportation Policy Forum
ITE Annual Mtg
APTA

Oct-Dec 2019
GP Adoption and Applications

Resolution submitted for balloting
AASHTO Annual Mtg
Task Force input to draft GP applications

Jan-Mar 2020
3rd-party Outreach and Implementation

Task Force and 3-party outreach
AASHTO Washington Briefing
Guiding Principles Structure and Status

• Five high-level Principles have been defined
• Each high-level Principle contains 4-5 supporting principles with additional details
• The GPs have evolved as they have been reviewed by AASHTO, ITE, and ITSA stakeholder groups
  • The current version reflects the consensus of all groups
  • Comments and revisions have been tracked throughout the process
High-level Guiding Principles 1-3

• GP 1 – AUTOMATION. Support increased vehicle automation to improve traveler safety, mobility, equity, and efficiency.

• GP 2 – DATA. Achieve a connected vehicle ecosystem that enables reliable, secure V2I data exchanges in order to support cooperative automated transportation.

• GP 3 – TELECOMMUNICATIONS. Protect and utilize the 5.9 Gigahertz (GHz) spectrum designated for “operations related to the improvement of traffic flow, traffic safety and other intelligent transportation service applications”. (FCC)
High-level Guiding Principles 4-5

• GP 4 – MULTI-MODAL OPERATIONS. Develop CAT strategies that enhance existing transportation system operational capabilities.

• GP 5 – MULTI-MODAL COLLABORATIONS. Collaborate and communicate with CAT stakeholders in the planning, testing, and demonstrations of CAT applications to support eventual interoperability and to achieve positive impacts on safety, mobility, equity, and efficiency.
AASHTO Stakeholders and Adoption

Board of Directors
- Executive Committee
- Strategic Management Committee

Special Committees:
- AASHTOWare
- Research and Innovation

Policy Bodies:
- Transportation Policy Forum

Councils:
- Aviation
- Water
- Rail
- Public Transportation
- Active Transportation

Program Delivery and Operations Committees:
- Planning
- Environment and Sustainability
- Design
- Bridges and Structures
- Traffic Engineering
- Right of Way and Utilities
- Materials and Pavements
- Construction
- Maintenance
- Transportation System Operations

Enterprise/Cross-Discipline Committees:
- Safety
- Transportation System Security and Resilience
- Data Management and Analytics

Administration Committees:
- Communications
- Performance-Based Management
- Funding and Finance

Agency Administration
- Human Resources
- Internal and External Audit
- Knowledge Management
- Civil Rights
GP Review and Adoption Process within AASHTO

- Informational GP presentations are being made to AASHTO Committees and Councils and Regional Meetings at their respective annual meetings and/or via webinars
- Informational GP presentations are being made to ITE and ITSA at their respective Committees and Councils and Annual Meetings
Discussion Opportunities for IOO GPs for CAT

AASHTO Committee Meetings

- Safety (Apr. 2019)
- Traffic Engineering (June 16-19, Columbus, OH)
- Maintenance (July 13-18, Grand Rapids, MI)
- Transportation System Operations (Aug. 26-29, Jackson, WY)
- Council on Public Transportation (Aug. 14)
- Planning/CAV Taskforce (TBD)
- Data Committee
- Others (TBD)
- Transportation Policy Forum (July 18)
- AASHTO Annual Mtg (Oct. 5-9, St. Louis, MO)

Other Meetings

- ITSA Annual Meeting (June 2019)
- ITE Annual Meeting (July, Austin, Texas)
- APTA (TBD)
- TRB AVS Symposium (July, Orlando, Florida)
- Others (TBD)
Questions and Discussion on GPs thus far

• Expanding the IOO partners identified in the GPs from original focus on OEMs to include mobility service providers and, more generally, all CAT stakeholders

• Defining the scope of CAT; inclusion of all modes and users

• Inclusion of equity with safety, mobility, and efficiency objectives

• Emphasizing protection and use of the 5.9 GHz spectrum with currently available and developing technologies
Next Steps

- AASHTO committees that have seen the GPs were asked to reflect on their ability to do their work relative to CAT/CAV within the broad scope of these Guiding Principles.
- All committees and partners have offered enthusiastic support.
- The TPF has approved a Resolution proposing the GPs for adoption by the AASHTO Board of Directors at the Annual Meeting in October.
- A Tech Memo is being developed to address and support GP implementation across all modes.
How the CPT Can Help

• Provide perspective: can your council do its work relative to CAT/CAV within the broad scope of these Guiding Principles?
• Identify opportunities for Guiding Principles to facilitate CAT development and deployment
• Identify areas of the Guiding Principles where you might envision the greatest implementation challenges
• Describe areas where you might like to see more information or clarifications to help guide CAT development and deployment