MEETING NOTES

Truck & Bus Technology Subcommittee ACS60(5) Annual Subcommittee Meeting

January 11, 2022 | 10:30 AM – 12:00 PM | Marquis Salon 14 (M2)
Subcommittee Chair: Abby Morgan (amorgan@kittelson.com)

Agenda:
1. Introductions
2. Presentations
   a. **Richard Bishop, Bishop Consulting** – *Industry Updates*
   b. **Andrew Krum, VTTI** – *Naturalistic Driving Data Baseline for Automated Driving System-Equipped Commercial Motor Vehicles*
   c. **Will Schaefer, CVSA** – *Electronic Inspections*
3. Panel Q&A
4. Discussion on New Technology Research Needs

Meeting Notes:

Presentation: **Richard Bishop, Bishop Consulting** – *Industry Updates*

- Updates on industry deployments across globe
- Overview of applications for automated trucks:
  o Controlled environments
  o Street environments
  o Resource roads
  o Highways
  o Goods transport

Presentation: **Andrew Krum, VTTI** – *Naturalistic Driving Data Baseline for Automated Driving System-Equipped Commercial Motor Vehicles*

- Overview of recently completed study using SmartDrive event data from 2012-2016 to serve as a baseline to develop Operational Design Domains (ODDs).
- Final Report: https://rosap.ntl.bts.gov/view/dot/57506
- Technical Brief: https://ntlrepository.blob.core.windows.net/lib/82000/82100/82193/Naturalistic_Driving_Baseline_CMV_Report_Final_Report_Research_Brief_08-19-21.pdf

Presentation: **Will Schaefer, CVSA** – *Electronic Inspections*

- Electronic enforcement inspections are needed for all vehicles (human-driven and driverless). Current applications of Level VIII Electronic Inspections are not widely used today, though some states are testing. CVSA is considering enhanced inspection on vehicles before trips as an alternative to making an automated truck with no driver pull into a weigh station (which may have different geometries, procedures, and pedestrians in environment).

- Research or development needs:
  - Universal Vehicle ID
  - Enforcement-related data
  - Data to better understand how the vehicles are maintained.
  - Tools to incentivize fleets to adopt without mandate (such as by-pass system in exchange for data)

Discussion on New Technology Research Needs:

- Electronic inspection could look at:
  - Tire pressure, tread depth, temperature
  - Lighting system failure
  - Foundation brakes
  - Automatic slack adjusters; Disc brakes
  - Wheel bearing vibration sensors (to detect no lubricant or fire on wheel end)

- What data elements are commercially available on vehicles that could be translated to an enforcement check? An alert from a sensor does not necessarily require enforcement action. A threshold might be established to define when action in needed.

- Will automated driving systems (ADS) lead to a utilization change for trucks?
  - Disconnecting hours of service (HOS) from vehicle hours of use
  - Do OEMs have the data to predict this change in use?

- Are there unintended safety consequences from automatic emergency braking (AEB) systems braking while cornering for liquid loads or oversized loads?

- Are AEB systems configurable to the nature of the load?
  - What are fleet policies working with suppliers?
  - How would time to collision calculations change with load, weight, loading changes?

Attachments:

Presentation slides:

- ACS60-5_Truck-Bus-Technology_Bishop_2022.pdf
- ACS60-5_Truck-Bus-Technology_Krum_2022.pdf
- ACS60-5_Truck-Bus-Technology_Schaefer_2022.pdf