Partnership for Analytics Research in Traffic Safety

Presenter: Schuyler St. Lawrence
About PARTS

Phase II
- Eight Automakers
- 70% Market Share

2020
- Organizing for Scale

2021
- Operating at Speed
- Planning for Growth
About PARTS

Collaboration
Expertise
Trust

IN:
OEM Data & Decoding

OUT:
Benchmark Insights

IN:
Crash Data & Funding

OUT:
Aggregated Results

Role:
• Data Stewardship
• Analysis
• Program Integrator
Large Partner-Provided Dataset Enables Meaningful Results

**NHTSA Crash Data**
- Police-reported crash data (NHTSA)
- 21.7M vehicles from 12.2M crashes
- 13 states participating

**Auto Manufacturer’s Vehicle Equipment Data**
- 47 million passenger vehicles
- 93 models (MY2015–MY2020)
  - MY 2020 is partial data
- 7 vehicle segments
  1. small cars
  2. midsize cars
  3. large cars
  4. small SUVs
  5. midsize SUVs
  6. large SUVs and pickups
  7. minivans

After the crash data is linked to vehicle equipment data, we have 2.4M crash-involved study vehicles.
ADAS Market Penetration Rates
for Features Examined in PARTS Study

Penetration rates are reported for the following ADAS features:

- Automatic Emergency Braking (AEB)
- Pedestrian Automatic Emergency Braking (PAEB)
- Lane Departure Warning (LDW)
- Lane Keeping Assistance (LKA)
- Blind Spot Warning (BSW)

Note: Full document available at NHTSA.gov/PARTS
Automatic Emergency Braking (AEB)

AEB penetration increased from 5% to 74% over 6 years for vehicles in the PARTS study set

Note: Rates represent a partial view of the U.S. automobile market, both in terms of manufacturers and models. Vehicles in the PARTS study may not be representative of the entire market.
Pedestrian Automatic Emergency Braking (PAEB)

PAEB penetration increased from 2% to 66% over 6 years for vehicles in the PARTS study set.

Note: Rates represent a partial view of the U.S. automobile market, both in terms of manufacturers and models. Vehicles in the PARTS study may not be representative of the entire market.
Lane Departure Warning (LDW)

LDW penetration increased from 12% to 71% over 6 years for vehicles in the PARTS study set.

Note: Rates represent a partial view of the U.S. automobile market, both in terms of manufacturers and models. Vehicles in the PARTS study may not be representative of the entire market.
Lane Keeping Assistance (LKA)

LKA penetration increased from <1% to 61% over 6 years for vehicles in the PARTS study set.

Note: Rates represent a partial view of the U.S. automobile market, both in terms of manufacturers and models. Vehicles in the PARTS study may not be representative of the entire market.
Blind Spot Warning (BSW)

BSW penetration increased from 29% to 62% over 6 years for vehicles in the PARTS study set.

Note: Rates represent a partial view of the U.S. automobile market, both in terms of manufacturers and models. Vehicles in the PARTS study may not be representative of the entire market.
Reflections

• Significant growth in ADAS demonstrates industry’s voluntary and proactive commitment to safety

• Even with these strides, we recognize the continued need to learn and improve at a time when annual fatalities are increasing

• This public-private partnership is unique, evolving, and enables innovative approaches for collaborating on safety

• With market penetration rising, we need to better understand, *Are these features effective in real-world conditions?*
Coming Soon! ADAS Effectiveness Results

Interim Results Shared with Partners

- ✔ Completed
  - Aggregate & Benchmark
  - AEB & Lane Management

Expand Dataset

- ✔ Completed
  - Crash data: Expanded from 9 to 13 states
  - Refined system-relevant crashes

Analyze Feature Effectiveness

- In-Process
  - AEB
  - PAEB
  - Lane Management

Share Aggregate Results with Community

- April 2022
For More Information on PARTS

Website: NHTSA.gov/PARTS

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