Driving Rules/Guidelines

Established State Tests (Written and On-Road) Are A Defined Source Of Driving Validation Tests.
Emergency/Evasive Maneuvers for “Edge Cases”

• AEB
  – Vehicle
  – Pedestrian
  – Intersections/Crossings
• Avoiding Crash Scenarios
  – VTTI Naturalistic Driving Database
  – Volpe Study
  – AV Developers Contributing Data From Real-World Incidents

Data Sets Can Provide Validation Tests For “Edge Cases”.
Simulation vs Vehicle Tests

Simulations allow for increased test coverage across production vehicle tolerance bands and traffic scenarios. They also allow for the analysis of combinations that may be difficult to obtain otherwise. However, conclusions require correlation to actual system components, which is often challenging. Simulation is not always a substitute for real-world testing where local norms/behavior occur.

Automotive Safety System Developers Have Successfully Used Simulation For Decades To Help Ensure Performance Goals In Complex Systems.
Driving Behavior/Norms

- Anticipating potential behavior of other road users
- Enhancing traffic flow and safety:
  - Wide berth when overtaking parallel-parked vehicles, cyclists, etc.
  - Encroaching upon, or crossing over, oncoming traffic lane lines when appropriate.
  - Maximize the pavement

Desirable Driving Behaviors/Norms are Often Region-Specific. Situation Flexibility Can Benefit AVs, As Afforded to Human Drivers Today.
Like any customer-facing businesses, AVs will likely thrive or fail based on numerous competitive factors, customer/municipal expectations, and mobility alternatives.