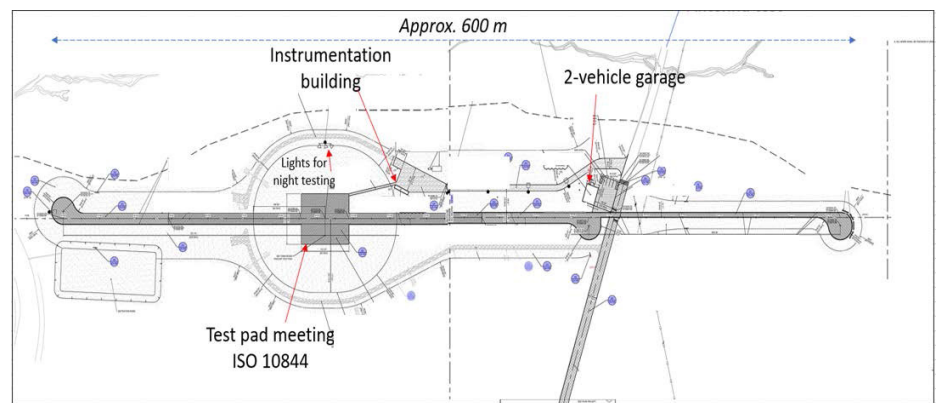


## FACT SHEET

# ARIZONA MOBILITY TEST CENTER VEHICLE EXTERIOR NOISE

Information about the AMTC exterior noise test facility

**Pass-By Noise and low speed acoustic vehicle alert system (AVAS) tests measure the sound emitted by a vehicle as it passes a stationary microphone at a predetermined speed and distance. These results are used to evaluate the vehicle's noise emissions and ensure compliance with relevant regulations.**



Exposure to noise (particularly vehicle) is a concern for many countries throughout the world. Automotive manufacturers are required to prove compliance with noise standards. Historically, internal combustion vehicles had requirements to keep vehicle noise at or below a certain level.

AMTC can conduct several Noise tests. Some of the most common are:

### US State/Local Regulations CMVSS 1106, ECE R51 (51-02 & 51-03)

- Measures the Maximum SPL
- Procedure includes constant speed testing and wide-open throttle acceleration

### ECE R117

- Measures the Maximum SPL that tires create while rolling

### ECE R138 (EU Standard) and FMVSS 141 (US)

- Measures the Minimum SPL of vehicles without an internal combustion engine
- Tests are conducted in both forward and reverse directions

The Pass-by Noise facility at AMTC offers an ISO 10844 certified surface. Track layout and design allows for efficient test setup with cables pre-run underground to pull boxes near the track.

Trackside weather station allows for real time verification of windspeed, wind direction, ambient temperature, track temperature and humidity.

Typical test standards include:

- ISO 362:1997, ISO 362-1:2015, ISO 16254:2016
- SAE J1470, SAE J2805, SAE J1492, SAE J2889-1



The facility also offers:

- Hottinger Bruel & Kjaer (HBK) equipment
- Track marking and lighting allowing 24-hour testing
- Technicians available for support or full-service testing
- A 2-vehicle garage (including a vehicle hoist) with a Level 2 EV charger
- Secure storage for confidential vehicles
- A permanent office trailer next to the test area for clients to use. Amenities include:
  - Wi-Fi
  - Restroom
  - Heating and Air Conditioning

*Reference: "Development, Construction and Certification of a Facility for Exterior Noise Regulatory Compliance Testing" SAE Paper 2023-01-1035*

**FOR MORE INFORMATION**

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