

ON
THE
ROAD



MARGARITELLI
ROAD
SAFETY

SUMMARY OF RESULTS

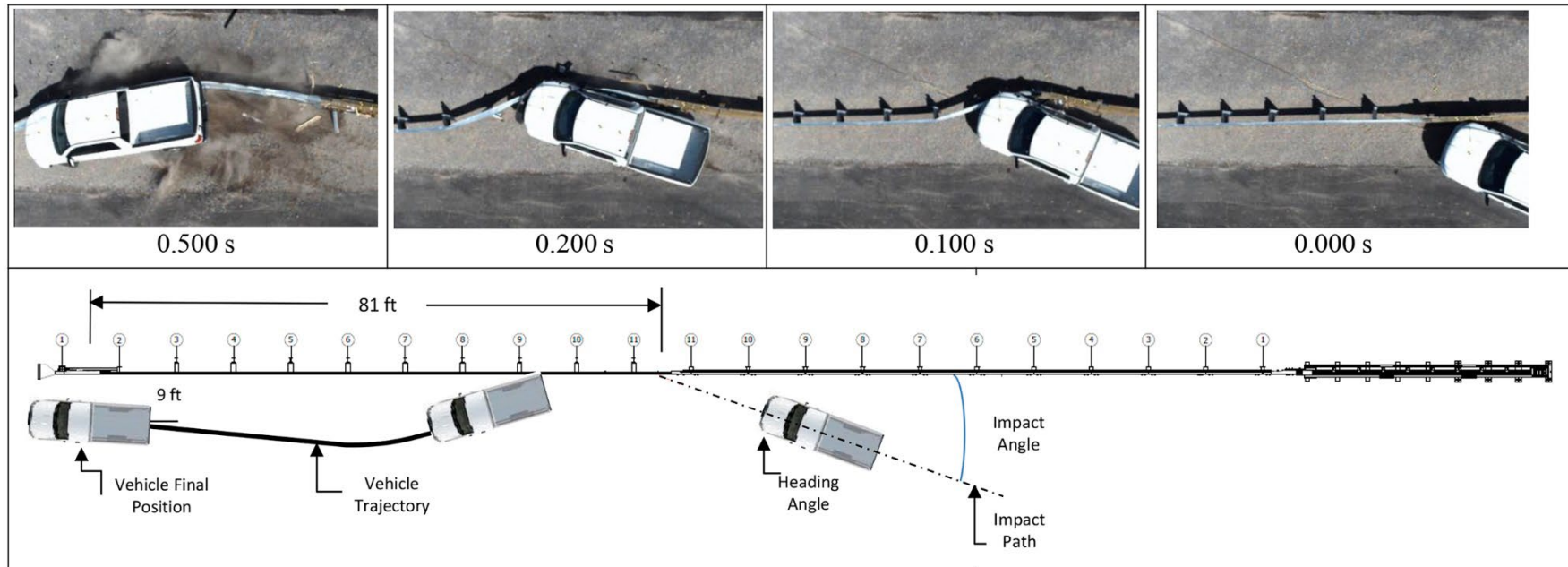


RANGER
GUARDRAIL

RGS-01 to MGS Transition

Tested at:



**General Information**

Test Agency Calspan LLC
 Test Standard Test No. MASH Test 3-21
 Calspan Test No. BR0296
 Test Date 03-27-2025

Test Article

Type Longitudinal Barrier Transition
 Name Ranger Guardrail to MGS Transition

Installation Length 165 ft (50.2 m) including terminals

Material or Key Elements ... The Ranger Guardrail to MGS transition design connects 62'-6" long Ranger section to 12'-6" MGS sections using a composite transition element. Design includes a Beaver End Terminal at upstream end and MSKT End Terminal at downstream end. Height of Ranger and MGS from ground are 34" and 31", respectively.

Surface Type and Condition Barrier installed on a flat MASH compatible soil of coarse crushed limestone

Test Vehicle

Type/Designation 2270P
 Make and Model 2019 Dodge Ram 1500
 Curb 5,066 lb (2,306 kg)
 Test Inertial 5,092 lb (2,310 kg)
 Dummy N/A
 Gross Static 5,092 lb (2,310 kg)

Impact Conditions

Speed 62.5 mph (100.6 km/h)
 Angle 25.0°
 Location/Orientation 43 in (1,100 mm)
 Downstream of Ranger
 Post 11

Impact Severity 119 kip-ft (161 kJ)

Exit Conditions

Speed 42.3 mph (68.1 km/h)
 Trajectory/Heading Angle ... 12.2°

Occupant Risk Values

Longitudinal OIV 17.5 ft/s (5.3 m/s)
 Lateral OIV 10.4 ft/s (3.2 m/s)
 Longitudinal Ridedown 10.0 g
 Lateral Ridedown 5.9 g
 THIV 6.9 m/s
 ASI 0.68

Max. 0.050-s Average

Longitudinal -5.7 g
 Lateral -3.8 g
 Vertical -2.9 g

Post-Impact Trajectory

Stopping Distance 81 ft (24.7 m) downstream
 9.0 ft (2.7 m) left of CIP

Vehicle Stability

Maximum Yaw Angle 34.6°
 Maximum Pitch Angle 4.9°
 Maximum Roll Angle 9.8°
 Vehicle Snagging None
 Vehicle Pocketing No

Test Article Deflections

Dynamic 53.6 in (1,363 mm)
 Static 31.1 in (789 mm)
 Working Width 64.3 in (1,632 mm)

Vehicle Damage

VDS 01RFQ2
 CDC 01RFEW2
 Max. Occupant Comp.
 Deformation 2.4 in (61 mm)
 Side front panel