FEDERAL REGISTER Document Number: 2022-04894
Summary: (NHTSA Introduction)
NHTSA's New Car Assessment Program (NCAP) provides comparative information on the safety performance of new vehicles to assist consumers with vehicle purchasing decisions and to encourage safety improvements. In addition to star ratings for crash protection and rollover resistance, the NCAP program recommends particular advanced driver assistance systems (ADAS) technologies and identifies the vehicles in the marketplace that offer the systems that pass NCAP performance test criteria for those systems.

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Parent Agency: Department Of Transportation
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Request for comments (RFC)

Action Reply:
Comments

Date Submitted: March 14, 2022
Comments Submitted By:
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Attachments: (File Name)
NHTSA-2021-0002_Label-Web-Support_David-DeVeau.pdf

Index

Page) Title

Introduction

This submittal is in support of NCAP Performance Test Criteria for Advance Driver Assistance Systems (ADAS) and Autonomous Driver Systems (ADS) to be added into the NCAP Rating System and will further demonstrate how a 10 Star Speed Based Rating System will comply with NCAP test types at speed requirements per present and future roadmap objectives and enable automotive manufacturers to also exceed NCAP requirements with pre-approval of self-certified and third-party testing conditions of additional crash protection and collision avoidance technology that is competitively driven for addition into the NCAP Ratings System.

It is clearly understood that NHTSA testing for NCAP be defined for technology that has proved to improve road safety. It is also understood that the objective of NCAP is to enable and encourage manufacturers to accelerate road safety with improved and new safety features.

It is proven that automotive manufacturers need and are willing to comply with minimum safety requirements. That the five to ten year roadmap cycle to add minimum safety requirements is within their basic ability.

It is also clear that automotive manufacturers' willingness to add safety technology must be inspired by market share. That encouraging increased budgets for additional safety improvements must include profitable incentives to exceed NCAP requirements.

It is also very clear that NCAP can not continue with being only reactive to advancing safety technology. NCAP must lead with minimum and maximum conditions for improved and new road vehicle crash protection and collision avoidance safety systems.

The following will demonstrate that the NCAP Safety Ratings Label and Internet Web Support is more than a free marketing tool for automotive manufacturers. That the New Car Assessment Program is a very effective tool for the NHTSA monitoring and recalls system to reduce road traffic fatalities as well to inspire a competition for industry to continue to improve safety when implemented as shown in the following examples of a NCAP 10 Star Speed Safety Rating Label and Web Support Systems.

Crash Protection Measurement

PASS: External Bruising and Abrasions
PASS: Internal Joint Sprains
PASS: Internal Organ Bruising
FAIL: External or Internal Damage

ALL MAIN SEAT LOCATIONS: (Nearest to Doors or Windows)
Humanoid Crash Dummy
225 Pound Male Adult (Example)
180 Pound Female Adult (Example)
80 Pound Adolescent Child (Example)

ANY SECONDARY SEAT LOCATION: (In the Middle or Center)
Humanoid Crash Dummy In Additional Safety Seat
Up to 80 Pound Child (Example)

CONDITIONS:

- Vehicle Areas Defined Collide At Speed Specified
- Occupant Compartment Is Measured For Intrusion Of Occupational Areas
- All Occupants Are Measured and Visually Inspected For Crash Results
- Laboratory Conditions Simulate Actual Crash Conditions Within 80%

Collision Avoidance Measurement

WARNING Systems:
Audio and or Visual and or Tactile Vibration Alerts

ASSIST Systems:
Tactile Resistance and or Initial Intervention

AUTOMATIC Systems: (ADAS)
Complete Intervention and or Activation

AUTONOMOUS Systems: (ADS)
Automated Directional and or Speed Control

CONDITIONS:

- Warnings and Assist Systems Are Measured On Ability Within A Minimum Measurement of Distance

- Automatic and Autonomous Systems Are Measured On Ability To Anticipate and or Calculate Course and Perform Actions

- All Systems Are Measured On Ability To Perform Specific Tasks On Specified Road Types Within A Range of Environmental Conditions Up To Speed Specified

- Laboratory Conditions Simulate Actual Collision Conditions Within 80%

Testing Measurement Levels

Crash Protection Levels:

L0: Occupant Safety Systems
Structural Absorption and or Diversion for Compartment Integrity
Personal Restraints and or Movement Absorption for All Seat Locations

L0-P: Pedestrian Safety Systems
Structural Absorption and or Diversion
Pedestrian and or Pedestrian Operated Vehicles

L0-M: Motorcycle Safety Systems
Structural Absorption and or Diversion
Two Wheel Vehicle Rider and or Passenger

Collision Avoidance Levels:

L1: Warning Systems
Internal Audio and or Visual Alerts and or Tactile Vibrations
Automated and or Selected Safety Features

L1-P: Pedestrian Warning Systems
Internal / External Audio and or Visual Alerts
Pedestrian and or Pedestrian Operated Vehicles

L1-M: Motorcycle Warning Systems
Internal / External Audio and or Visual Alerts
Two Wheel Vehicle Rider and or Passenger

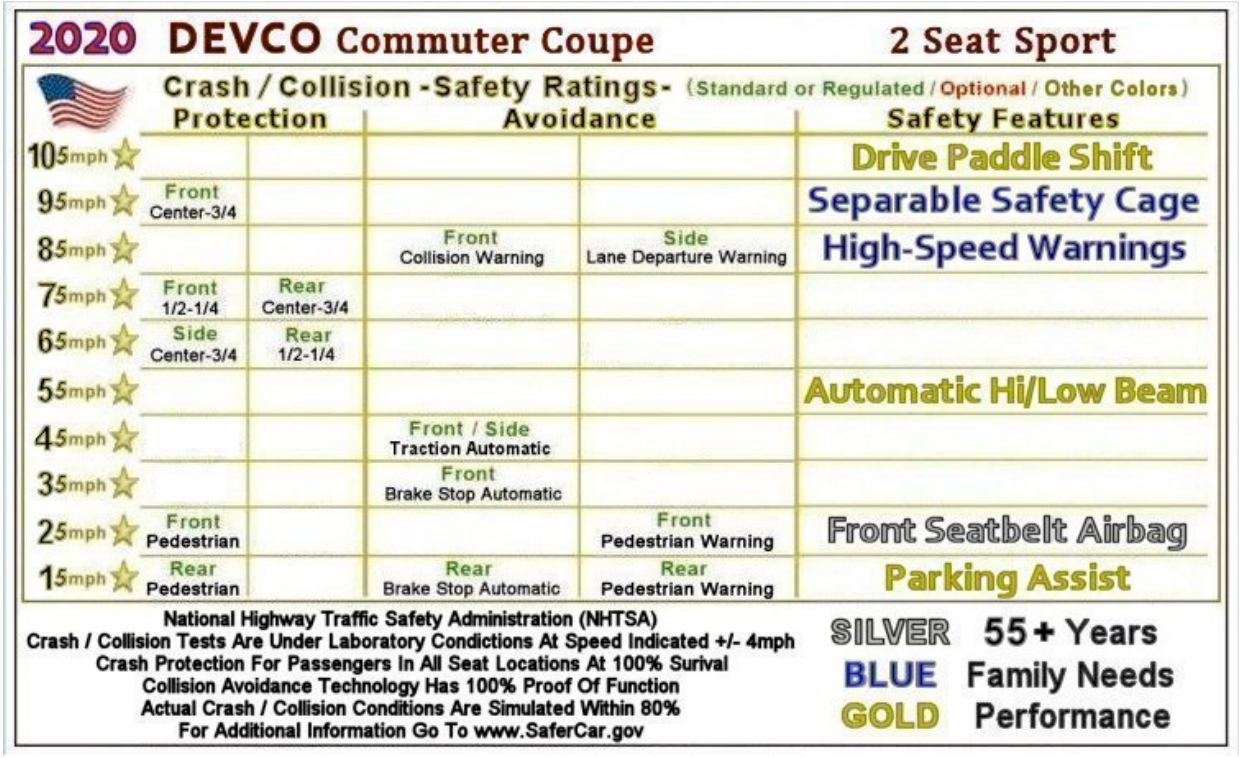
L2: Assist Systems
Tactile Resistance and or Initial Intervention
Directional and or Speed Counter Measures

L3: Automatic Systems
Complete Intervention and or Activation
Directional and or Speed Control

L4: Autonomous Systems
Directional and or Speed Control
No Human Driver Intervention

NCAP Label

EXAMPLE: BASIC MODEL



2020 DEVCO Commuter Coupe — 2 Seat Sport

Crash / Collision -Safety Ratings- (Standard or Regulated / Optional / Other Colors)

	Protection		Avoidance		Safety Features
105mph ☆					Drive Paddle Shift
95mph ☆	Front Center-3/4				Separable Safety Cage
85mph ☆			Front Collision Warning	Side Lane Departure Warning	High-Speed Warnings
75mph ☆	Front 1/2-1/4	Rear Center-3/4			
65mph ☆	Side Center-3/4	Rear 1/2-1/4			
55mph ☆					Automatic Hi/Low Beam
45mph ☆			Front / Side Traction Automatic		
35mph ☆			Front Brake Stop Automatic		
25mph ☆	Front Pedestrian			Front Pedestrian Warning	Front Seatbelt Airbag
15mph ☆	Rear Pedestrian		Rear Brake Stop Automatic	Rear Pedestrian Warning	Parking Assist

National Highway Traffic Safety Administration (NHTSA)
Crash / Collision Tests Are Under Laboratory Condictions At Speed Indicated +/- 4mph
Crash Protection For Passengers In All Seat Locations At 100% Surival
Collision Avoidance Technology Has 100% Proof Of Function
Actual Crash / Collision Conditions Are Simulated Within 80%
For Additional Information Go To www.SaferCar.gov

SILVER 55+ Years
BLUE Family Needs
GOLD Performance

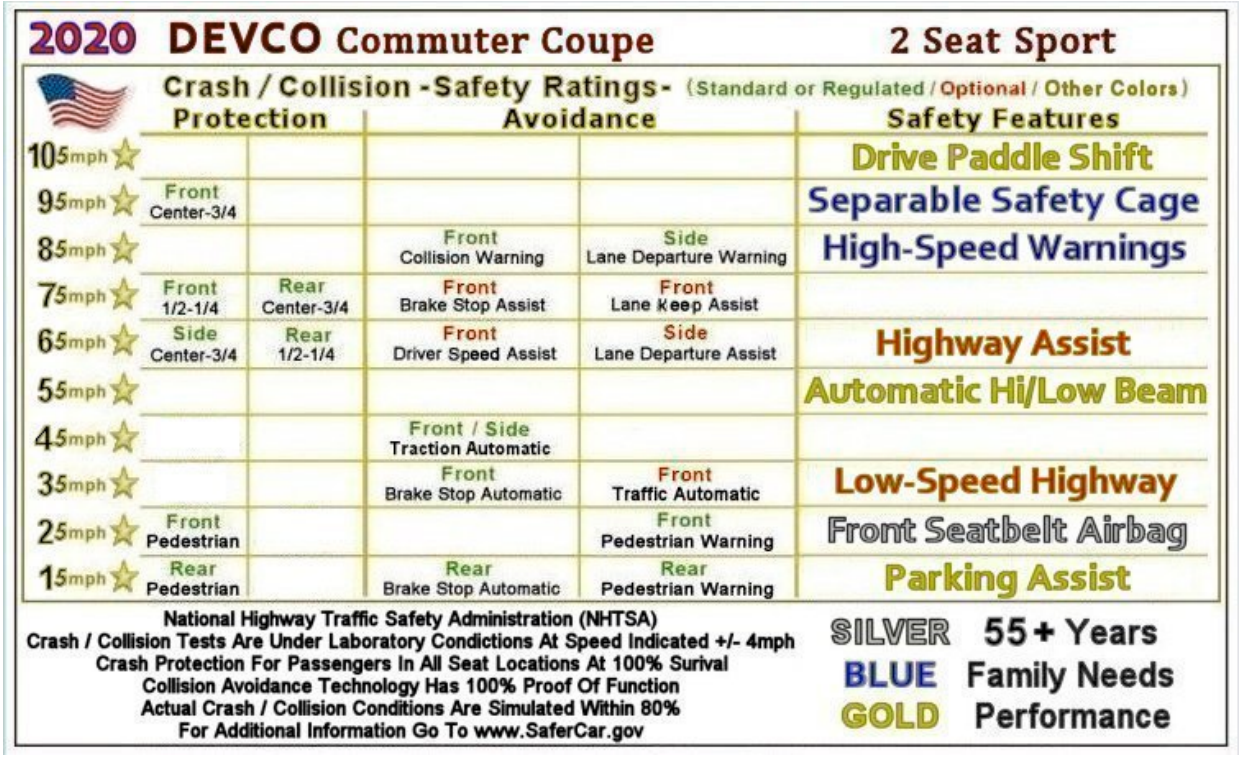
<u>Regulatory Oversight Authority & Conditions</u>

National Highway Traffic Safety Administration (NHTSA)
Crash / Collision Tests Are Under Laboratory Conditions At Speed Indicated +/-4mph
Crash Protection For Passengers In All Seat Locations At 100% Survival
Collision Avoidance Technology Has 100% Proof Of Function
Actual Crash / Collision Conditions Are Simulated Within 80%

Sticker Must Be Displayed On New Vehicles Sold In The U.S. Per 49 USC §32302

NCAP Label

EXAMPLE: BASIC MODEL OPTIONS



2020 DEVCO Commuter Coupe — 2 Seat Sport

Crash / Collision -Safety Ratings- (Standard or Regulated / Optional / Other Colors)

	Protection		Avoidance		Safety Features
105mph ☆					Drive Paddle Shift
95mph ☆	Front Center-3/4				Separable Safety Cage
85mph ☆			Front Collision Warning	Side Lane Departure Warning	High-Speed Warnings
75mph ☆	Front 1/2-1/4	Rear Center-3/4	Front Brake Stop Assist	Front Lane Keep Assist	
65mph ☆	Side Center-3/4	Rear 1/2-1/4	Front Driver Speed Assist	Side Lane Departure Assist	Highway Assist
55mph ☆					Automatic Hi/Low Beam
45mph ☆			Front / Side Traction Automatic		
35mph ☆			Front Brake Stop Automatic	Front Traffic Automatic	Low-Speed Highway
25mph ☆	Front Pedestrian			Front Pedestrian Warning	Front Seatbelt Airbag
15mph ☆	Rear Pedestrian		Rear Brake Stop Automatic	Rear Pedestrian Warning	Parking Assist

National Highway Traffic Safety Administration (NHTSA)
Crash / Collision Tests Are Under Laboratory Condictions At Speed Indicated +/- 4mph
Crash Protection For Passengers In All Seat Locations At 100% Surival
Collision Avoidance Technology Has 100% Proof Of Function
Actual Crash / Collision Conditions Are Simulated Within 80%
For Additional Information Go To www.SaferCar.gov

SILVER 55+ Years
BLUE Family Needs
GOLD Performance

Crash Protection / Collision Avoidance / Model Safety Features

Expansive Main Categories with Clear and Targeted Safety Features

NCAP Label

EXAMPLE: BASIC MODEL OPTIONS ALTERNATE

2020 DEVCO Commuter Coupe — 2 Seat Sport

Crash / Collision -Safety Ratings- (Standard or Regulated / Optional / Other Colors)

	Protection		Avoidance		Safety Features
105mph ☆					Drive Paddle Shift
95mph ☆	Front Center-3/4				Separable Safety Cage
85mph ☆			Front Collision Warning	Side Lane Departure Warning	High-Speed Warnings
75mph ☆	Front 1/2-1/4	Rear Center-3/4	Front Brake Stop Assist	Front Lane Keep Assist	
65mph ☆	Side Center-3/4	Rear 1/2-1/4	Front Driver Speed Assist	Side Lane Departure Assist	Travel Congested Highways?
55mph ☆					Automatic Hi/Low Beam
45mph ☆			Front / Side Traction Automatic		
35mph ☆			Front Brake Stop Automatic	Front Traffic Automatic	Highway Commute Stop & Go?
25mph ☆	Front Pedestrian			Front Pedestrian Warning	Front Seatbelt Airbag
15mph ☆	Rear Pedestrian		Rear Brake Stop Automatic	Rear Pedestrian Warning	Parking Assist

National Highway Traffic Safety Administration (NHTSA)
Crash / Collision Tests Are Under Laboratory Condictions At Speed Indicated +/- 4mph
Crash Protection For Passengers In All Seat Locations At 100% Surival
Collision Avoidance Technology Has 100% Proof Of Function
Actual Crash / Collision Conditions Are Simulated Within 80%
For Additional Information Go To www.SaferCar.gov

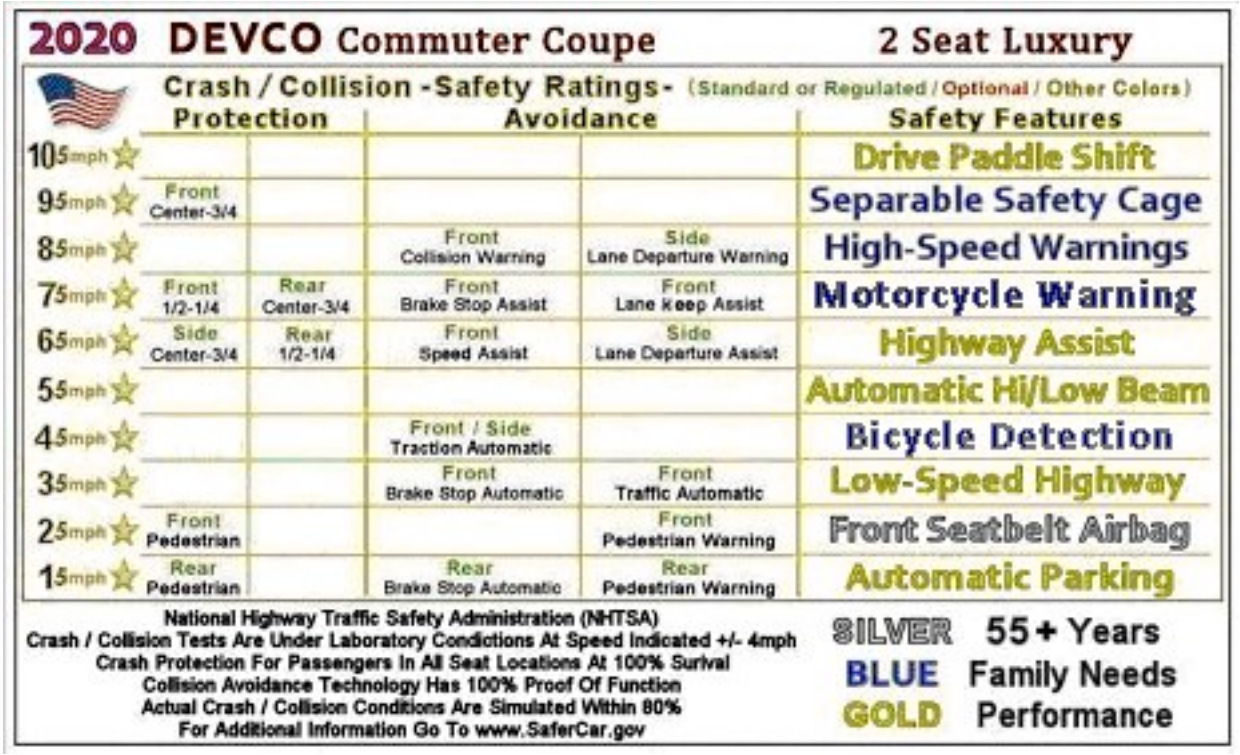
SILVER 55+ Years
BLUE Family Needs
GOLD Performance

Crash Protection / Collision Avoidance / Model Safety Features

Flexible Ability to Clearly Optimize Target Demographics

NCAP Label

EXAMPLE: LUXURY MODEL



2020 DEVCO Commuter Coupe — 2 Seat Luxury

Crash / Collision -Safety Ratings- (Standard or Regulated / Optional / Other Colors)

	Protection		Avoidance		Safety Features
105mph ☆					Drive Paddle Shift
95mph ☆	Front Center-3/4				Separable Safety Cage
85mph ☆			Front Collision Warning	Side Lane Departure Warning	High-Speed Warnings
75mph ☆	Front 1/2-1/4	Rear Center-3/4	Front Brake Stop Assist	Front Lane Keep Assist	Motorcycle Warning
65mph ☆	Side Center-3/4	Rear 1/2-1/4	Front Speed Assist	Side Lane Departure Assist	Highway Assist
55mph ☆					Automatic Hi/Low Beam
45mph ☆			Front / Side Traction Automatic		Bicycle Detection
35mph ☆			Front Brake Stop Automatic	Front Traffic Automatic	Low-Speed Highway
25mph ☆	Front Pedestrian			Front Pedestrian Warning	Front Seatbelt Airbag
15mph ☆	Rear Pedestrian		Rear Brake Stop Automatic	Rear Pedestrian Warning	Automatic Parking

National Highway Traffic Safety Administration (NHTSA)
Crash / Collision Tests Are Under Laboratory Conditions At Speed Indicated +/- 4mph
Crash Protection For Passengers In All Seat Locations At 100% Survival
Collision Avoidance Technology Has 100% Proof Of Function
Actual Crash / Collision Conditions Are Simulated Within 80%
For Additional Information Go To www.SaferCar.gov

SILVER 55+ Years
BLUE Family Needs
GOLD Performance

Clearly Defined Ability At Speed Specified

Competitive Inspiration To Go Faster Safer

Production Vehicle Testing Request Levels

YEAR – MAKE – MODEL (Example)

NHTSA Testing Level	NCAP Testing Speed	Testing Conditions Vehicle Direction of Travel Area Location of Vehicle Impact
L0	91 to 99 mph	Front; Center to 3/4
L0	71 to 79 mph	Front; 1/2 to 1/4 / Rear; Center to 3/4
L0	61 to 69 mph	Side; Center to 3/4 / Rear; 1/2 to 1/4
L0p	21 to 29 mph	Front; Center to 3/4
L0p	11 to 19 mph	Rear; Center to 3/4
L0m	11 to 29 mph	Front / Side; Bicycle / Motorcycle
L1	41 to 89 mph	Front; Collision Warning / Side; Lane Departure Warning
L1p	1 to 29 mph	Front; Pedestrian-Vehicle Warning
L1p	1 to 19 mph	Rear; Pedestrian-Vehicle Warning
L1m	1 to 49 mph	Front / Side; Motorcycle / Bicycle Collision Warning
L2	41 to 79 mph	Front; Brake Stop Assist / Lane Keep Assist
L2	41 to 69 mph	Front; Speed Assist / Side; Lane Departure Assist
L3	1 to 49 mph	Front / Side; Traction Automatic
L3	1 to 39 mph	Front; Brake Stop Automatic
L3	1 to 19 mph	Rear; Brake Stop Automatic
L4	1 to 39 mph	Front; Traffic Automatic / Speed Control / Lane Keep Control
L4	1 to 19 mph	Side; Traffic Automatic / Lane Change Management
L4	1 to 19 mph	All; Parking Automatic

NOTE: NCAP Testing Speed meets or exceeds NHTSA Requirements

Production Vehicle Testing Request Conditions

YEAR – MAKE – MODEL (Example)

Forward / Rearward Brake:
Warning: Audio & Visual & Tactile Alerts; Always Active
Assist: Initial Measure; Selective
Proximity; Front 35 Feet / Rear 15 Feet
Automatic: Applicable with ADS Traffic Automatic

Speed Control:
Warning: Audio & Visual & Tactile Alerts; When Active
Assist: Initial Counter Measure; Selective
Speed Limit Range and or Excessive Speed Control; Selective
Proximity; Front 35 Feet / Rear 15 Feet / Side 5 Feet
Automatic: Applicable with ADS Traffic Automatic

Lane Keep / Lane Departure:
Warning: Audio & Visual & Tactile Alerts; Always Active
Assist: Initial Counter Measure; Selective and/or Activated with Lane Change Signal
Proximity; Front 25 Feet / Rear 15 Feet / Side 5 Feet
Automatic: Applicable with ADS Traffic Automatic

Traffic Automatic:
Warning: Audio & Visual & Tactile Alerts; When Active
Assist: Initial Counter Measure; Selective
Proximity; Front 25 Feet / Rear 15 Feet / Side 5 Feet
ADS: Autonomous; Speed Control / Lane Keep Control; Selective
Lane Departure / Lane Change Steering Control; Selective with Lane Change Signal
Limited Access Roadways; Moderate Weather; Day/Night

Parking Automatic:
Warning: Audio & Visual & Tactile Alerts; When Active
Assist: Initial Counter Measure; Selective
Proximity; Front / Rear / Side, 15 Feet
ADS: Autonomous; Speed Control / Lane Change Control /
Limited Stagnant Space Management; Selective
All Access Roadways and Parking Lots; Parallel / Perpendicular
Moderate Weather; Day/Night / Extreme Weather; Day/Night/Extra Lighting

NCAP Label

EXAMPLE: LUXURY MODEL PROTOTYPE

Clearly Defined Prototype Technology

Sticker Must Be Displayed On All Public Road Test Vehicles Per 49 USC §30114-30115

Production Vehicle Prototype Testing Request Levels

YEAR – MAKE – MODEL (Example)

NHTSA Testing Level	Requested Testing Speed	Testing Conditions Vehicle Direction of Travel Area Location of Vehicle Impact
L4	51 to 79 mph	Front / Side; Automatic Highway
L4	1 to 49mph	All; Automatic City

Production Vehicle Prototype Testing Request Conditions

YEAR – MAKE – MODEL (Example)

Automatic Highway:
Warning: Audio & Visual & Tactile Alerts; When Active
ADS: Autonomous; Speed Control / Lane Keep Control; Selective
Autonomous; Lane Departure / Lane Change Steering Control; Selective
Proximity Front; 100 Feet / Rear; 35 Feet / Side; 15 Feet
Limited Access Roadways; Moderate Weather; Day/Night

Automatic City:
Warning: Audio & Visual & Tactile Alerts; When Active
ADS: Autonomous; Speed Control / Lane Keep Control / Lane Departure Control /
Signal Recognition / Signage Recognition / Cross Traffic Management /
Pedestrian Management / Pedestrian Operated Vehicle Management; Selective
Proximity; Front / Side 75 Feet / Rear 25 Feet
All Access Roadways; Moderate Weather; Day/Night

NCAP Label

EXAMPLE: LUXURY MODEL PROTOTYPE STATE CERTIFIED

State Certified Prototype Testing Conditions

YEAR – MAKE – MODEL (Example)

Automatic Highway:
ADS: Limited Access Roadways, Limited Locations, Limited Times
Controlled Number of Licensed Vehicles
Prototype Technology State Certified Safety Test Driver(s)

Automatic City:
ADS: Full Access Roadways, Limited Locations, Limited Times
Controlled Number of Licensed Vehicles
Prototype Technology State Certified Safety Test Driver(s)

Go To NHTSA AV Test Tracking Tool Web Site
To Look Up Your State, City or Town for Additional Testing Information
https://www.nhtsa.gov/automated-vehicles-safety/av-test-initiative-tracking-tool

NOTE:
State Test Vehicle Number Enables Clear Prototype Test Tracking & Reporting

NCAP Label

EXAMPLE: PROTOTYPE PASSENGER TRANSPORT VEHICLE

Clearly Defined Prototype Technology

Sticker Must Be Displayed On All Public Road Test Vehicles Per 49 USC §30114-30115

Testing Request Prototype Levels

YEAR – MAKE – MODEL (Example)

DOT Testing Level	Requested Testing Speed	Testing Conditions Vehicle Direction of Travel Area Location of Vehicle Impact
L4	1 to 49mph	All; Automatic City

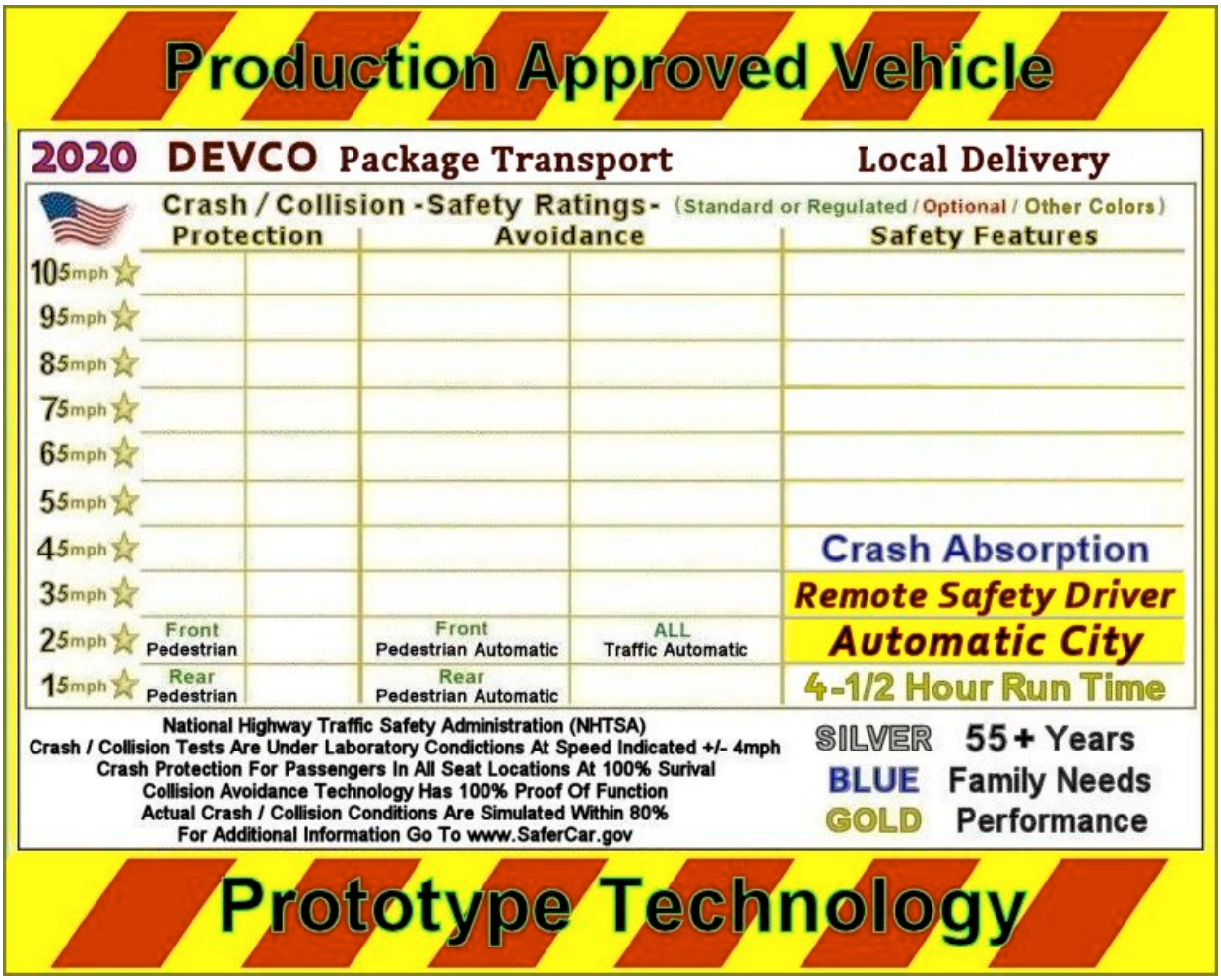
Testing Request Prototype Conditions

YEAR – MAKE – MODEL (Example)

Automatic City:
Warning: Audio & Visual External & Remote
Assist: Remote Safety Driver Overriding Control
ADS: Autonomous; Speed Control / Lane Keep Control / Lane Departure Control / Signal Recognition / Signage Recognition / Cross Traffic Management / Pedestrian Management / Pedestrian Operated Vehicle Management
Proximity; Front / Side 75 Feet / Rear 25 Feet
All Access Roadways; Moderate Weather; Day/Night

NCAP Label

EXAMPLE: PROTOTYPE PACKAGE TRANSPORT DELIVERY VEHICLE



Clearly Defined Prototype Technology

Sticker Must Be Displayed On All Public Road Test Vehicles Per 49 USC §30114-30115

Testing Request Prototype Levels

YEAR – MAKE – MODEL (Example)

DOT Testing Level	Requested Testing Speed	Testing Conditions Vehicle Direction of Travel Area Location of Vehicle Impact
L4	1 to 29mph	All; Automatic City

Testing Request Prototype Conditions

YEAR – MAKE – MODEL (Example)

Automatic City:
Warning: Audio & Visual External & Remote
Assist: Remote Safety Driver Overriding Control
ADS: Autonomous; Speed Control / Lane Keep Control / Lane Departure Control / Signal Recognition / Signage Recognition / Cross Traffic Management / Pedestrian Management / Pedestrian Operated Vehicle Management
Proximity; Front / Side 75 Feet / Rear 25 Feet
All Access Roadways; Moderate Weather; Day/Night

NHTSA NCAP Chart / Crash Protection Web Site Support Page (Example)

2022 DEVCO Commuter Coupe

NHTSA NCAP Regulated / Approved	FRONT / CENTER 3/4 Surface Impact Area	FRONT / OFFSET / RIGHT 1/4 Edge Surface Impact Area	FRONT / OFFSET / LEFT 1/4 Edge Surface Impact Area	SIDE / CENTER 3/4 Occupant Compartment Area	REAR / CENTER 3/4 Surface Impact Area	REAR / OFFSET / RIGHT 1/4 Edge Surface Impact Area	REAR / OFFSET / LEFT 1/4 Edge Surface Impact Area	FRONT / CENTER / PEDESTRIAN 3/4 Surface Impact Area	REAR / CENTER / PEDESTRIAN 3/4 Surface Impact Area	ROOF / STRENGTH 1/4 Edge Surface Impact Area	FRONT / SIDE / FLOOR 3/4 Surface Fire Proofing
★105											
★95											
★85	✓		✓								
★75		✓		✓	✓						
★65						✓	✓				
★55											✓
★45	✓		✓								
★35		✓			✓						
★25				✓		✓	✓			✓	
★15								✓	✓		

Speed +/- 4 mph ✓ Standard or Regulated ✓ PLUS ★

See Vehicle Label For Model Details

NHTSA NCAP Chart / Collision Avoidance Web Site Support Page (Example)

2022 DEVCO Commuter Coupe

NHTSA NCAP Regulated / Approved	LDW Lane Departure Warning	LKS Lane Keep Support	BSW Blind Spot Warning	BSI Blind Spot Intervention	FCW Forward Collision Warning	AEB Automatic Emergency Braking	AHL Automatic Headlight Beams	Pedestrian-Vehicle Warning External Audio-Visual Alerts	Automatic Driving Driver Engagement Control	Automatic Driving Highway Single Lane Control	Automatic City Fully Autonomous Control	Automatic Traffic Highway Stop & Go Control	Assit Parking Warning Fixed Space Maneuvering	Autonomous Parking Cobtrol Fixed Space Maneuvering
★105														
★95														
★85	✓		✓											
★75		✓		✓	✓	✓								
★65									✓	✓				
★55							✓							
★45	✓	✓	✓	✓								✓		
★35					✓	✓					✓			
★25								✓						
★15					✓	✓							✓	✓

Speed +/-4 mph ✓ Standard or Regulated ✓ Optional ✓ Prototype

See Vehicle Label For Model Details

Conclusion

This NHTSA NCAP 10 Star Speed Safety Rating System addresses the following:

1. Simplifies Engineering Measures
2. Simplifies Agency Oversight
3. Simplifies Manufacturer's Assessment of Core Safety
4. Assists NHTSA Engagement without hampering innovation
5. Assures Agency Assessment of Manufacturer's Safety Priority
6. Ensures Core Elements within definition of Crash Protection and Collision Avoidance
7. Uses DOT / NHTSA / NCAP Measurement Levels and Conditions for Testing
8. Effectively moves paths from Prototype Testing to Safety Standards
9. Ensures consistent NHTSA validation of Safety Standards within Legal Obligations
10. Assures Consumer Confidence of NHTSA Assessments of Safety
11. Ensures Continued Performance Evaluations and Agency Control
12. Enables Reliable Demonstrations of Safety Performance Levels
13. Enables Persuasive Demonstrations of Core Safety Function Performance
14. Enables positive cooperation with FMVSS Compliance pathways
15. Generates Industry Competition to continually advance Safety Technology
16. Answers all compliance questions of Rulemaking, Enforcement, Guidance, and Authority under the Vehicle Safety Act and Regulatory Requirements

NOTE: A 10 Star Speed Safety Rating System will simply and clearly display Consumer Information on the Label and Web Site Support and Generate Industry Competition to always Advance Road Vehicle Safety.