# Police Vehicle Evaluation
# Model Year 2022


MICHIGAN STATE POLICE





# STATE OF MICHIGAN

**Department of State Police**
and
**Department of Technology, Management and Budget**

# 2022 Model Year
# Police Vehicle Evaluation Program

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# PREFACE

The Michigan State Police Vehicle Test Team is pleased to announce the results of the 2022 Model Year Police Vehicle Evaluation. This year we tested eleven patrol vehicles and four motorcycles. We appreciate your continued support and encouragement. The vehicles evaluated this year included the following:

## POLICE VEHICLES

Chevrolet Tahoe 5.3L RWD
Chevrolet Tahoe 5.3L 4WD
Dodge Charger 3.6L AWD
Dodge Charger 5.7L RWD
Dodge Durango 3.6L AWD
Dodge Durango 5.7L AWD
Ford Police Interceptor Utility Hybrid AWD
Ford Police Interceptor Utility 3.0L EcoBoost AWD
Ford Police Interceptor Utility 3.3L AWD
Ford F150 Police Responder 3.5L EcoBoost
Ford Mustang Mach-E AWD

## MOTORCYCLES

BMW R 1250 RT-P
Harley-Davidson FLHTP
Harley- Davidson FLHP
Yamaha FJR1300P-AB

# GENERAL INFORMATION

All patrol vehicles were tested with a clean roof (no overhead light or light bar) and without “A” pillar mount spotlights. We believe this is the best way to ensure all the vehicles are tested on an equal basis. Remember that once overhead lights, spotlights, radio antennas, sirens, and other emergency equipment are installed, overall performance may be somewhat lower than we report.

Each vehicle was tested with the tires that are available as original equipment on the production model. Specific tire information for each vehicle is available in the Vehicle Description portion of this report. All vehicles listed in this report were equipped with electronic speed limiters unless otherwise noted.

Motorcycles were tested with equipment installed as provided by their respective manufacturer. Harley-Davidson and Yamaha chose to test their bikes with minimal equipment. BMW chose to test their bikes with most of the equipment installed.

The manufacturers could submit a one-half page highlight of their vehicle. These highlights will be included with the vehicle description and photograph. This information is direct from the manufacturer and is not an opinion or endorsement from the Michigan State Police. It is only an attempt to give the consumer the most information about the vehicle.

**Chelsea Proving Grounds - Acceleration, Top Speed, & Braking Tests**

Acceleration and Top Speed tests were performed at the Chelsea Proving Grounds. This 4.7-mile 140 mph neutral steer banked oval provides ample space to obtain accurate test results in these areas.

The Brake test is also performed at the Chelsea Proving Grounds, utilizing lanes one and two of the straightaway on the eastside of the oval.

We would like to thank Mr. Greg Spicher for the assistance we received from the staff at the Chelsea Proving Grounds.

**Grattan Raceway - Motorcycle Dynamics Test**

Motorcycle Dynamics testing was performed at Grattan Raceway. This two-mile road course provides a taxing environment to test motorcycles in dynamics and continues to produce comprehensive results regarding durability and performance.

We appreciate the support we received from BMW, Harley-Davidson, and Yamaha during testing. This was the fourteenth year of police motorcycle testing, and we continue to get great feedback on this important component to the testing lineup.

**Grattan Raceway - Vehicle Dynamics Test**

Vehicle Dynamics testing was performed at the Grattan Raceway. This two-mile road course provides a realistic environment to test vehicles in dynamics and continues to produce comprehensive results regarding durability and performance.

We appreciate the support we received from Chevrolet, Fiat Chrysler Automobiles (FCA), and Ford Motor Company during testing.

# Vehicle Testing History, Pursuit Ratings, and Purchasing Specifications

The Michigan State Police (MSP) began testing patrol cars in the 1950s. At that time, quotations were requested from manufacturers and only the vehicle with the lowest quotation was tested to see if it met our purchasing requirements. Years later, the quotations received from manufacturers were only four dollars apart. At that point, the MSP decided to test all vehicles to select the best vehicle. The equipment used to measure speed and distance has evolved from tape measure to global positioning systems, providing more accurate measurements, making the MSP vehicle testing an internationally recognized resource for law enforcement agencies.

The term pursuit rated vehicle has recently been called into question as no one fully understands what this term represents. The term pursuit capable is more appropriate as there is no sanctioning body, or specific performance criteria, to determine if the vehicle meets a specialized designation. Each vehicle has been modified from a civilian vehicle to perform better under the rigors of police use. These vehicles are engineered to repetitively stop in a shorter distance, accelerate faster, and handle better than the base platform. Modifications to engines, cooling systems, transmissions and shifting parameters, brakes, tires, stability control programming, and other changes may all be included as part of the manufacturers police package.

The manufacturers provide upcoming model year vehicles to both the MSP and Los Angeles County Sheriff's Department to be tested for suitability in their respective operations. Historically, successful results at both test sites have validated the manufacturers' engineering efforts in building a car capable of handling the stress associated with police pursuits. Neither the MSP, nor the Los Angeles County Sheriff's Department, has the authority or credentials to award the term pursuit rated to any vehicle.

The MSP has performance criteria attached to its purchasing specifications. The criteria historically have been that a vehicle must accelerate from 0 – 60 mph in 9.0 seconds, 0 – 80 mph in 14.9 seconds, and 0 – 100 mph in 24.6 seconds. The vehicle must reach 110 mph in 0.92 mile and 120 mph in 1.70 miles. The vehicle must maintain an average deceleration rate of 25.79 ft./sec$^2$ while performing twenty 60 – 0 mph full anti-lock brake stops. The vehicle must also successfully complete all 32 laps of the Grattan Raceway dynamics testing without major component failure. Meeting the above criteria does not certify a vehicle as being pursuit rated, rather it justifies a vehicle can perform the job function the MSP requires in a police vehicle. When reading the testing results in this book, it is up to each agency to determine if the vehicle is suitable for the mission of their agency.

We recommend you review the information contained in this report and then apply it to the needs of your agency. This report is not an endorsement of products, but a means of learning what is available for your officers so they can do their job effectively and safely. If anything in this report requires further explanation or clarification, please call, or write.

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# ACKNOWLEDGEMENTS

We would like to thank the following contributors. We are grateful for their support and encouragement toward our goal: a safe, successful testing program that benefits the law enforcement community nationwide and beyond.

Col. Joe Gasper, Director, Michigan Department of State Police
Lt. Col. Amy Dehner, Chief Deputy Director, Executive Operations
Lt. Col. Kyle Bowman, Senior Deputy Director, Field Operations Bureau
Lt. Col. Chris Kelenske, Senior Deputy Director, Field Support Bureau
Lt. Col. Michael Krumm, Senior Deputy Director, Professional Development Bureau
Maj. Joseph Brodeur, Senior Management Executive, Field Operations Bureau
Maj. Beth Clark, Senior Management Executive, Field Support Bureau
Maj. Emmitt McGowan, Senior Management Executive, Field Operations Bureau
Capt. James Grady, Commander, Training Division

Personnel from the Michigan Department of Technology, Management and Budget
Vehicle and Travel Services

Mr. Greg Spicher and personnel from Chelsea Proving Grounds
Mr. Sam Faasen and personnel from Grattan Raceway Park

Photographs by Ms. Kim Dowling, Michigan State Police
Vehicle Evaluation book prepared by Ms. Ashly O'Brien, Michigan State Police, Precision Driving Unit

The Michigan State Police Precision Driving Unit would like to extend a very special thank you to Chevrolet, Fiat Chrysler Automobiles, and Ford Motor Company for their hard work in building and preparing the test vehicles. We are grateful for your dedication to law enforcement. Law enforcement officers rely on these vehicles to perform a vast array of duties.

Finally, thank you to all in the United States and Canada who represent law enforcement and purchasing agencies for your constant encouragement and support. We are proud to contribute to the law enforcement community.

Michigan State Police, Vehicle Test Team:

**Team Photo**

**Back Row:** Tpr. Jeff Mercer, Sgt Nick Darlington, Lt. Mike McCarthy, Sgt. Matt Rogers, and Ret. Sgt. David "Doc" Halliday
**Front Row:** Sgt. Pat Agema, Tpr. Eddie Ricklefs, Sgt. John Looney, Ms. Ashly O'Brien, Ms. Ashleigh Miller, Sgt. Tim Thompson, and Tpr. Ryan Davis

# TEST EQUIPMENT

The following test equipment is utilized during the Motorcycle and Vehicle Acceleration, Top Speed, Braking, and Dynamics portions of the evaluation program.

**Racelogic USA** 27240 Haggerty Rd. Suite E17, Farmington Hills, MI 48331

- VBox 3i Data Collection System

**Schuberth Helmets** Stegelitzer Straße 12 39126 Magdeburg Deutschland

- Motorcycle Helmet- C3 Pro

**AMB i.t. US-INC** 1631 Phoenix Blvd. Suite 11, College Park, GA 30349

- Orbits 5.2 Extended Loop Decoder
- AMB TranX260 Transponders

**Alpinestars USA** 2780 W. 237th Street Torrance, CA 90505-5270

- Alpinestars Protective Riding Apparel

**Stilo Helmets USA** 9A Electronics Ave., Danvers, MA 01923

- Test Driver Helmet- ST5 GT Carbon Fiber

**Simpson Race Products** 328 FM 306, New Braunfels, TX 78130

- Hybrid S Head and Neck Restraint

**Motorola Solutions** 1303 East Algonquin Road, Schaumburg, IL 60196

- Mag One BPR 40 Two-Way Radio

# VEHICLE DESCRIPTIONS AND PHOTOGRAPHS

# Chevrolet Tahoe
# 5.3L RWD



| | |
|---|---|
| **MAKE & MODEL** | 2022 Chevrolet Tahoe 2WD |
| **SALES CODE** | 9C1 |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 325 |
| **LITERS** | 5.3 |
| **DRIVE SYSTEM** | Rear Wheel Drive |
| **HORSEPOWER** | 355 HP |
| **TORQUE** | 383 ft./lbs. |
| **ALTERNATOR** | 250 AMP |
| **BATTERY** | 900/760 CCA |
| **TRANSMISSION** | 10 Speed |
| **AXLE RATIO** | 3.23 |
| **TURNING RADIUS** | 19.5 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | 275/55 R-20, |
| **GROUND CLEARANCE, MINIMUM** | 7.1 inches |
| **BRAKE SYSTEM** | eBoost ABS disc/disc |
| **FUEL CAPACITY** | 24 Gallons/90.85 Liters |
| **MANUFACTURER LIMITED TOP SPEED** | 130 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 120.9 inches |
| **LENGTH** | 210.7 inches |
| **CURB WEIGHT** | 5717 lbs. |
| **HEIGHT** | 75.8 inches |
| **INTERIOR VOLUME** | |
| **FRONT** | 64.1 cu. ft. |
| **REAR** | 59.2 cu. ft. |
| **COMBINED** | 123.2 cu. ft. |
| **TRUNK** | 70.3 cu. ft. |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 1600 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | 15 |
| **HIGHWAY** | 19 |
| **COMBINED** | 16 |

**MANUFACTURER VEHICLE HIGHLIGHTS**

The MY22 police Tahoe 2WD and 4WD has the following new enhancements.

- Silver Ice Metallic (Switchblade Silver) exterior color will be available as an SEO Paint (9W5)
- LED Strobe front and rear lamp packages (SEO 6J8, 6J9, 6JE, 6JG) available 22MY interim. Standard Flash Pattern with sync circuits. Compatible with most aftermarket lighting controllers.
- 6J8 White DS/White PS
- 6J9 Red DS/ Red PS
- 6JE Blue DS/Blue PS
- 6JG Red DS /Blue PS

# Chevrolet Tahoe
# 5.3L 4WD



| | |
|---|---|
| **MAKE & MODEL** | 2022 Chevrolet Tahoe 4WD |
| **SALES CODE** | 9C1 |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 325 |
| **LITERS** | 5.3 |
| **DRIVE SYSTEM** | Four Wheel Drive |
| **HORSEPOWER** | 355 HP |
| **TORQUE** | 383 ft./lbs. |
| **ALTERNATOR** | 250 AMP |
| **BATTERY** | 900/760 CCA |
| **TRANSMISSION** | 10 Speed |
| **AXLE RATIO** | 3.23 |
| **TURNING RADIUS** | 19.5 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | 275/55 R-20, |
| **GROUND CLEARANCE, MINIMUM** | 7.1 inches |
| **BRAKE SYSTEM** | eBoost ABS disc/disc |
| **FUEL CAPACITY** | 24 Gallons/90.85 Liters |
| **MANUFACTURER LIMITED TOP SPEED** | 124 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 120.9 inches |
| **LENGTH** | 210.7 inches |
| **CURB WEIGHT** | 5730 lbs. |
| **HEIGHT** | 75.9 inches |
| **INTERIOR VOLUME** | |
| **FRONT** | 64.1 cu. ft. |
| **REAR** | 59.2 cu. ft. |
| **COMBINED** | 123.2 cu. ft. |
| **TRUNK** | 70.3 cu. ft. |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 1600 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | 14 |
| **HIGHWAY** | 18 |
| **COMBINED** | 16 |

**MANUFACTURER VEHICLE HIGHLIGHTS**

The MY22 police Tahoe 2WD and 4WD has the following new enhancements.
Silver Ice Metallic (Switchblade Silver) exterior color will be available as an SEO Paint (9W5)
LED Strobe front and rear lamp packages (SEO 6J8, 6J9, 6JE, 6JG) available 22MY interim. Standard Flash Pattern with sync circuits. Compatible with most aftermarket lighting controllers.
6J8 White DS/White PS
6J9 Red DS/ Red PS
6JE Blue DS/Blue PS
6JG Red DS /Blue PS

# Dodge Charger
# 3.6L AWD


| | |
|---|---|
| **MAKE & MODEL** | 2022 Dodge Charger 3.6L AWD |
| **SALES CODE** | 28A |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 220 |
| **LITERS** | 3.6L |
| **DRIVE SYSTEM** | All Wheel Drive |
| **HORSEPOWER** | 300 HP |
| **TORQUE** | 260 ft./lbs. |
| **ALTERNATOR** | 220 AMP |
| **BATTERY** | 800 CCA |
| **TRANSMISSION** | TorqueFlite Automatic, 8-Speed Overdrive 850RE |
| **AXLE RATIO** | 3.08 |
| **TURNING RADIUS** | 38.7 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | P225/60/R18, 99W, Goodyear Eagle RSA |
| **GROUND CLEARANCE, MINIMUM** | 5.1 inches |
| **BRAKE SYSTEM** | Power, Dual Piston Front/Single Piston Rear, 4 Channel Anti-Lock |
| **FUEL CAPACITY** | 18.5 Gallons/70.0 Liters |
| **MANUFACTURER LIMITED TOP SPEED** | 140 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 120.2 inches |
| **LENGTH** | 198.4 inches |
| **CURB WEIGHT** | 4217 lbs. |
| **HEIGHT** | 58.4 inches |
| **INTERIOR VOLUME** | |
| **FRONT** | 55.6 cu. ft. |
| **REAR** | 49.2 cu. ft. |
| **COMBINED** | 104.7 cu. ft. |
| **TRUNK** | 16.5 cu. ft. |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 1280 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | 18 |
| **HIGHWAY** | 26 |
| **COMBINED** | 21 |

**MANUFACTURER VEHICLE HIGHLIGHTS**

For the 2022 model year, the Dodge Charger Pursuit is offered in a V-6 all-wheel-drive (AWD) configuration that delivers 300 horsepower and 264 lb.-ft. of torque. This equates to maximum tactical performance, all-weather traction, and fuel-efficiency. It is powered by the award-winning 3.6-liter Pentastar® V-6 and mated to the standard TorqueFlite eight-speed automatic transmission.

The 2022 Dodge Charger Pursuit advanced all-wheel-drive (AWD) system transitions seamlessly from RWD to AWD. This segment exclusive active transfer case and front-axle disconnect system monitor and adapt to environmental/road conditions, vehicle mode and driver habits. This system improves traction, acceleration, and cornering balance.

Additional standard features include a GVWR of 5,500 lbs. which delivers up to 1,280 lbs. payload, as well as standard Apple CarPlay and Android Auto to facilitate driver handsfree communication. A 7” touchscreen is standard which provides maximum rear camera visibility.

# Dodge Charger
# 5.7L RWD


| | |
|---|---|
| **MAKE & MODEL** | 2022 Dodge Charger 5.7L RWD |
| **SALES CODE** | 26A |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 345 |
| **LITERS** | 5.7L |
| **DRIVE SYSTEM** | Rear Wheel Drive |
| **HORSEPOWER** | 370 HP |
| **TORQUE** | 395 ft./lbs. |
| **ALTERNATOR** | 220 AMP |
| **BATTERY** | 800 CCA |
| **TRANSMISSION** | TorqueFlite Automatic, 8-Speed Overdrive 8HP70 |
| **AXLE RATIO** | 2.62 |
| **TURNING RADIUS** | 37.7 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | P245/55/R18, 103V, Goodyear Eagle RSA |
| **GROUND CLEARANCE, MINIMUM** | 5.1 inches |
| **BRAKE SYSTEM** | Power, Dual Piston Front/Single Piston Rear, 4 Channel Anti-Lock |
| **FUEL CAPACITY** | 18.5 Gallons/70.0 Liters |
| **MANUFACTURER LIMITED TOP SPEED** | 140 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 120.2 inches |
| **LENGTH** | 198.4 inches |
| **CURB WEIGHT** | 4292 lbs. |
| **HEIGHT** | 58.4 inches |
| **INTERIOR VOLUME** | |
| **FRONT** | 55.6 cu. ft. |
| **REAR** | 49.2 cu. ft. |
| **COMBINED** | 104.7 cu. ft. |
| **TRUNK** | 16.5 cu. ft. |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 1180 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | 16 |
| **HIGHWAY** | 25 |
| **COMBINED** | 19 |

**MANUFACTURER VEHICLE HIGHLIGHTS**

The 2022 Dodge Charger Pursuit rear-wheel-drive (RWD) comes standard with the legendary 5.7L HEMI® V-8 engine and the TorqueFlite eight-speed automatic transmission delivering 370 horsepower and an astonishing 395 lb.-ft of torque. The 5.7L HEMI® V-8 engine features Variable Valve Timing (VVT), which increases power output without sacrificing fuel economy through continuous adjusting of the camshaft tuning based on the level of performance required.

Additional standard features include a GVWR of 5,500 lbs. which delivers up to 1,180 lbs. payload, as well as standard Apple CarPlay and Android Auto to facilitate driver handsfree communication. A 7” touchscreen is standard which provides maximum rear camera visibility.

# Dodge Durango
# 3.6L AWD


| | |
|---|---|
| **MAKE & MODEL** | 2022 Dodge Durango 3.6L AWD |
| **SALES CODE** | 2BZ |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 220 |
| **LITERS** | 3.6L |
| **DRIVE SYSTEM** | All Wheel Drive |
| **HORSEPOWER** | 293 HP |
| **TORQUE** | 260 ft./lbs. |
| **ALTERNATOR** | 220 AMP |
| **BATTERY** | 650 CCA |
| **TRANSMISSION** | TorqueFlite Automatic, 8-Speed Overdrive 850RE |
| **AXLE RATIO** | 3.45 |
| **TURNING RADIUS** | 41.0 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | 255/60R18 108V Firestone Firehawk Pursuit |
| **GROUND CLEARANCE, MINIMUM** | 8.1 inches |
| **BRAKE SYSTEM** | Power, Dual Piston Front/Single Piston Rear, Anti-Lock |
| **FUEL CAPACITY** | 24.6 Gallons/93.1 Liters |
| **MANURACTURER LIMITED TOP SPEED** | 130 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 119.8 inches |
| **LENGTH** | 201.2 inches |
| **CURB WEIGHT** | 4929 lbs. |
| **HEIGHT** | 70.9 inches |
| **INTERIOR VOLUME** | |
| **FRONT** | 54.4 cu. ft. |
| **REAR** | 51.2 cu. ft. |
| **COMBINED** | 105.6 cu. ft. |
| **TRUNK** | 43.3 cu. ft. |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 1550 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | 18 |
| **HIGHWAY** | 25 |
| **COMBINED** | 21 |

**MANUFACTURER VEHICLE HIGHLIGHTS**

The 2022 Dodge Durango Pursuit comes equipped with the award winning 3.6-liter Pentastar V6 engine paired to the fuel-friendly 8-speed transmission. It comes with a full list of standard features such as an IP mounted shifter, black steel wheels with chrome center cap, vinyl flooring, police specific front seats, and the invaluable automatic tri-zone temperature control to keep K9 units comfortable. An 8.4" touchscreen is standard which provides maximum rear camera visibility.

The demands of police work require a vehicle with exceptional maneuverability, power and fuel economy, and Dodge Durango Pursuit is ready for duty. This SUV was built to carry with 84 cu.-ft. of cargo volume and a towing capacity up to 6,200 lbs. It all adds up to complete capability for the toughest assignments — the foundation of Durango Pursuit.

# Dodge Durango
# 5.7L AWD


| | |
|---|---|
| **MAKE & MODEL** | 2022 Dodge Durango 5.7L AWD |
| **SALES CODE** | 22Z |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 345 |
| **LITERS** | 5.7L |
| **DRIVE SYSTEM** | All Wheel Drive |
| **HORSEPOWER** | 360 HP |
| **TORQUE** | 390 ft./lbs. |
| **ALTERNATOR** | 220 AMP |
| **BATTERY** | 800 CCA |
| **TRANSMISSION** | TorqueFlite Automatic, 8-Speed Overdrive 8HP70 |
| **AXLE RATIO** | 3.09 |
| **TURNING RADIUS** | 41.0 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | 255/60R18 108V Firestone Firehawk Pursuit |
| **GROUND CLEARANCE, MINIMUM** | 8.1 inches |
| **BRAKE SYSTEM** | Power, Dual Piston Front/Single Piston Rear, Anti-Lock |
| **FUEL CAPACITY** | 24.6 Gallons/93.1 Liters |
| **MANUFACTURER LIMITED TOP SPEED** | 130 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 119.8 inches |
| **LENGTH** | 201.2 inches |
| **CURB WEIGHT** | 5214 lbs. |
| **HEIGHT** | 70.9 inches |
| **INTERIOR VOLUME** | |
| **FRONT** | 54.4 cu. ft. |
| **REAR** | 51.2 cu. ft. |
| **COMBINED** | 105.6 cu. ft. |
| **TRUNK** | 43.3 cu. ft. |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 1700 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | 14 |
| **HIGHWAY** | 22 |
| **COMBINED** | 17 |

| **MANUFACTURER VEHICLE HIGHLIGHTS** |
|---|
| The 2022 Dodge Durango Pursuit comes equipped with the legendary 5.7-liter HEMI® V8 engine paired to the fuel-friendly 8-speed transmission. It comes with a full list of standard features such as an IP mounted shifter, black steel wheels with chrome center cap, vinyl flooring, police specific front seats, and the invaluable automatic tri-zone temperature control to keep K9 units comfortable. An 8.4" touchscreen is standard which provides maximum rear camera visibility.<br><br>The demands of police work require a vehicle with exceptional maneuverability, power and fuel economy, and Dodge Durango Pursuit is ready for duty. This SUV was built to carry with 84 cu.-ft. of cargo volume and a towing capacity up to 7,200 lbs. It all adds up to complete capability for the toughest assignments — the foundation of Durango Pursuit. |

# Ford Police Interceptor
# Utility Hybrid AWD




| | |
|---|---|
| **MAKE & MODEL** | 2022 Police Interceptor Utility Hybrid AWD |
| **SALES CODE** | K8A, 99W |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 201 CI |
| **LITERS** | 3.3L Hybrid |
| **DRIVE SYSTEM** | All Wheel Drive |
| **HORSEPOWER** | 318 combined HP |
| **TORQUE** | 322 combined ft./lbs. |
| **ALTERNATOR** | DC/DC Converter: 220 AMP |
| **BATTERY** | 800 CCA |
| **TRANSMISSION** | 10 Speed |
| **AXLE RATIO** | 3.73:1 |
| **TURNING RADIUS** | 40.4 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | 255/60R18 108V |
| **GROUND CLEARANCE, MINIMUM** | 7.4 inches |
| **BRAKE SYSTEM** | Power- dual piston calipers front, single piston calipers rear, 4 circuit ABS |
| **FUEL CAPACITY** | 19.0 Gallons/72.0 Liters |
| **MANUFACTURER LIMITED TOP SPEED** | 136 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 119.1 inches |
| **LENGTH** | 198.8 inches |
| **CURB WEIGHT** | 5303 lbs. |
| **HEIGHT** | 69.2 inches |
| **INTERIOR VOLUME** | |
| **FRONT** | 59.7 cu. ft. |
| **REAR** | 58.4 cu. ft. |
| **COMBINED** | 118.0 cu. ft. |
| **TRUNK** | 52 cu. ft. |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 1670 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | 23 |
| **HIGHWAY** | 24 |
| **COMBINED** | 24 |

## MANUFACTURER VEHICLE HIGHLIGHTS

**NEW FEATURES & CHANGES:**

- All-new for 2020 Model Year, the Ford Police Interceptor® Utility comes with standard Hybrid AWD and Ford Telematics
- Hybrid and AWD are ideal for law enforcement, due to optimal performance and significant potential fuel savings
- Potential fuel savings of over $3,400 per year, per vehicle, at $2.75/gallon; see www.fordpoliceinterceptor.com for details

**SAFETY:**

- Heated Sanitization Solution. This innovative solution temporarily raises internal vehicle temperatures over 133 degrees Fahrenheit for at least 15 minutes – long enough to help disinfect touchpoints to reduce viral concentration (including COVID-19) inside by greater than 99% on interior surfaces – a way to protect officers working in frontline conditions[1]
- Ford Police Interceptors are the only vehicles in the world designed and engineered for the 75-mph rear-impact crash test
- Optional factory-installed Police Perimeter Alert monitors approximately 270° and secures vehicle if threatening motion detected
- Optional Automatic Emergency Braking features unique temporary disable switch for Law Enforcement
- Optional Level III+ & IV+ NIJ Ballistic Panels – includes additional LAPD special threat rounds
- Optional factory-installed 12.1" Integrated Computer Screen allows laptops to be stored of the way, reducing cabin clutter

**DURABILITY:**

- Enhanced police durability-cycle tested, proven real-world durability results

**PERFORMANCE:**

- New standard Hybrid powertrain provides increased horsepower, torque, acceleration, and top speed vs. 3.7L AWD, and had the fastest 0-60mph, 0-80mph, lap, average lap and highest top speed of utility vehicles tested by MSP in 2020CY[2]
- Standard AWD provides optimum handling in various road conditions – dry, ice/snow, wet/rain, gravel, etc.

1. Ambient temperature, installation of partitions or other upfit equipment may impede temperatures from reaching the recommended threshold
2. Excludes Ford Police Interceptor Utility 3.0L EcoBoost

# Ford Police Interceptor Utility 3.0L EcoBoost AWD




| | |
|---|---|
| **MAKE & MODEL** | 2022 Police Interceptor Utility 3.0L EcoBoost AWD |
| **SALES CODE** | K8A, 99C |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 183 CI |
| **LITERS** | 3.0L |
| **DRIVE SYSTEM** | All Wheel Drive |
| **HORSEPOWER** | 400 HP |
| **TORQUE** | 415 ft./lbs. |
| **ALTERNATOR** | 250 AMP |
| **BATTERY** | 730 CCA |
| **TRANSMISSION** | 10 Speed |
| **AXLE RATIO** | 3.31:1 |
| **TURNING RADIUS** | 40.4 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | 255/60R18 108V |
| **GROUND CLEARANCE, MINIMUM** | 7.2 inches |
| **BRAKE SYSTEM** | Power- dual piston calipers front, single piston calipers rear, 4 circuit ABS |
| **FUEL CAPACITY** | 21.4 Gallons/81.0 Liters |
| **MANUFACTURER LIMITED TOP SPEED** | 148 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 119.1 inches |
| **LENGTH** | 198.8 inches |
| **CURB WEIGHT** | 4848 lbs. |
| **HEIGHT** | 69.0 inches |
| **INTERIOR VOLUME** | |
| **FRONT** | 59.7 cu. ft. |
| **REAR** | 58.4 cu. ft. |
| **COMBINED** | 118.0 cu. ft. |
| **TRUNK** | 52 cu. ft. |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 1670 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | 17 |
| **HIGHWAY** | 22 |
| **COMBINED** | 19 |

## MANUFACTURER VEHICLE HIGHLIGHTS

**NEW FEATURES & CHANGES:**

- All-new for 2020 Model Year, the Ford Police Interceptor® Utility comes with standard Hybrid AWD and Ford Telematics
- Hybrid and AWD are ideal for law enforcement, due to optimal performance and significant potential fuel savings
- Optional 3.3L Flex Fuel AWD and 3.0L EcoBoost AWD also available

**SAFETY:**

- Heated Sanitization Solution. This innovative solution temporarily raises internal vehicle temperatures over 133 degrees Fahrenheit for at least 15 minutes – long enough to help disinfect touchpoints to reduce viral concentration (including COVID-19) inside by greater than 99% on interior surfaces – a way to protect officers working in frontline conditions.[2]
- Ford Police Interceptors are the only vehicles in the world designed and engineered for the 75-mph rear-impact crash test
- Optional factory-installed Police Perimeter Alert monitors approximately 270° and secures vehicle if threatening motion detected
- Optional Automatic Emergency Braking features unique temporary disable switch for Law Enforcement
- Optional Level III+ & IV+ NIJ Ballistic Panels – includes additional LAPD special threat rounds
- Optional factory-installed 12.1" Integrated Computer Screen allows laptops to be stored out of the way, reducing cabin clutter

**DURABILITY:**

- Enhanced police durability-cycle tested, proven real-world durability results

**PERFORMANCE:**

- New 3.0L EcoBoost AWD provides increased horsepower, torque, acceleration, and top speed vs. 3.5L EcoBoost AWD, and had the fastest 0-60 and 0-100 acceleration times of all sedan and utility vehicles tested by MSP in 2020CY
- Standard AWD provides optimum handling in various road conditions – dry, ice/snow, wet/rain, gravel, etc.

1. Ambient temperature, installation of partitions or other upfit equipment may impede temperatures from reaching the recommended threshold.

# Ford Police Interceptor Utility 3.3L AWD


| | |
|---|---|
| **MAKE & MODEL** | 2022 Police Interceptor Utility 3.3L AWD |
| **SALES CODE** | K8A, 99B |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 201 CI |
| **LITERS** | 3.3L |
| **DRIVE SYSTEM** | All Wheel Drive |
| **HORSEPOWER** | 285 HP |
| **TORQUE** | 260 ft./lbs. |
| **ALTERNATOR** | 250 AMP |
| **BATTERY** | 730 CCA |
| **TRANSMISSION** | 10 Speed |
| **AXLE RATIO** | 3.73:1 |
| **TURNING RADIUS** | 40.4 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | 255/60R18 108V |
| **GROUND CLEARANCE, MINIMUM** | 7.6 inches |
| **BRAKE SYSTEM** | Power- dual piston calipers front, single piston calipers rear, 4 circuit ABS |
| **FUEL CAPACITY** | 21.4 Gallons/81.0 Liters |
| **MANUFACTURER LIMITED TOP SPEED** | 136 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 119.1 inches |
| **LENGTH** | 198.8 inches |
| **CURB WEIGHT** | 4755 lbs. |
| **HEIGHT** | 69.3 inches |
| **INTERIOR VOLUME** | |
| **FRONT** | 59.7 cu. ft. |
| **REAR** | 58.4 cu. ft. |
| **COMBINED** | 118.0 cu. ft. |
| **TRUNK** | 52.0 cu. ft. |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 1670 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | 17 |
| **HIGHWAY** | 23 |
| **COMBINED** | 19 |

## MANUFACTURER VEHICLE HIGHLIGHTS

**NEW FEATURES & CHANGES:**

- All-new for 2020 Model Year, the Ford Police Interceptor® Utility comes with standard Hybrid AWD and Ford Telematics
- Hybrid and AWD are ideal for law enforcement, due to optimal performance and significant potential fuel savings
- Optional 3.3L Flex Fuel AWD and 3.0L EcoBoost AWD also available

**SAFETY:**

- Heated Sanitization Solution. This innovative solution temporarily raises internal vehicle temperatures over 133 degrees Fahrenheit for at least 15 minutes – long enough to help disinfect touchpoints to reduce viral concentration (including COVID-19) inside by greater than 99% on interior surfaces – a way to protect officers working in frontline conditions. [1]
- Ford Police Interceptors are the only vehicles in the world designed and engineered for the 75-mph rear-impact crash test
- Optional factory-installed Police Perimeter Alert monitors approximately 270° and secures vehicle if threatening motion detected
- Optional Automatic Emergency Braking features unique temporary disable switch for Law Enforcement
- Optional Level III+ & IV+ NIJ Ballistic Panels – includes additional LAPD special threat rounds
- Optional factory-installed 12.1" Integrated Computer Screen allows laptops to be stored out of the way, reducing cabin clutter

**DURABILITY:**

- Enhanced police durability-cycle tested, proven real-world durability results

**PERFORMANCE:**

- New standard Hybrid powertrain provides increased horsepower, torque, acceleration, and top speed vs. 3.7L AWD
- Standard AWD provides optimum handling in various road conditions – dry, ice/snow, wet/rain, gravel, etc.

1. Ambient temperature, installation of partitions or other upfit equipment may impede temperatures from reaching the recommended threshold.

# Ford F150 Police Responder
# 3.5L EcoBoost



| | |
|---|---|
| **MAKE & MODEL** | 2022 F-150 Police Responder 3.5L EcoBoost |
| **SALES CODE** | W1P |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 213 |
| **LITERS** | 3.5L |
| **DRIVE SYSTEM** | Front Wheel Drive |
| **HORSEPOWER** | 400 HP |
| **TORQUE** | 500 ft./lbs. |
| **ALTERNATOR** | 240 AMP |
| **BATTERY** | 800 CCA |
| **TRANSMISSION** | 10-Speed SelectShift Automatic |
| **AXLE RATIO** | 3.31 |
| **TURNING RADIUS** | 47.8 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | LT265/70R18 113H |
| **GROUND CLEARANCE, MINIMUM** | 9.4 inches |
| **BRAKE SYSTEM** | 4-wheel vented disc ABS with electronically controlled brake boost |
| **FUEL CAPACITY** | 26 Gallons/98 Liters |
| **MANUFACTURER LIMITED TOP SPEED** | 120 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 145.4 inches |
| **LENGTH** | 231.7 inches |
| **CURB WEIGHT** | 5016 lbs. |
| **HEIGHT** | 77.2 inches |
| **INTERIOR VOLUME** | |
| **FRONT** | 79.9 cu. ft. |
| **REAR** | 52.0 cu. ft. |
| **COMBINED** | 131.9 cu. ft. |
| **TRUNK** | 52.8 cu. ft. |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 2030 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | 16 |
| **HIGHWAY** | 20 |
| **COMBINED** | 18 |

## MANUFACTURER VEHICLE HIGHLIGHTS

**NEW FEATURES:**

The new 2022 Ford F-150 Police Responder® continues to be the only pursuit-rated pickup truck on the market and combines on-road pursuit performance with Built Ford Tough off-road capability. The F-150 Police Responder increases top speed to 120mph and offers a new torque-on-demand 4x4 transfer case with a new "4-auto" mode that features "set it and forget it" capability. Optional Police Engine Idle feature permits officers to quickly remove the key from the ignition and exit the vehicle, while allowing the vehicle to remain securely idling to support lights, sirens, and other on-board equipment.

**SAFETY:**

- Standard built-in steel intrusion plates in front seat backs
- Rear View Camera with Dynamic Hitch Assist
- Available Pre-Collision Assist with Automatic Emergency Braking (includes Law Enforcement temporary disable switch)
- Available BLIS (Blind Spot Information System) with Cross-traffic Alert

**DURABILITY:**

- Standard FX4 Off-Road package featuring off-road tuned shocks, underbody skid plates and electronic locking rear axle
- Severe duty brake pads and brake calipers
- Police-grade heavy-duty cloth front seats

**PERFORMANCE:**

- Standard 3.5L EcoBoost® engine generating 400 horsepower and 500 lb.-ft of torque
- Improved 120mph top speed
- Most payload (2,030 lbs.), standard towing (7,000 lbs.) and optional towing (11,200 lbs.) of any pursuit-rated police vehicle

# Ford Mustang Mach-E AWD



| | |
|---|---|
| **MAKE & MODEL** | 2021 Ford Mustang Mach-E AWD |
| **SALES CODE** | K4S |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | N/A |
| **LITERS** | N/A |
| **DRIVE SYSTEM** | All Wheel Drive |
| **HORSEPOWER** | 480 HP |
| **TORQUE** | 600 ft./lbs. |
| **ALTERNATOR** | 220 AMP |
| **BATTERY** | 380 CCA |
| **TRANSMISSION** | Single Speed Direct Drive |
| **AXLE RATIO** | 9.05 |
| **TURNING RADIUS** | 39.7 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | 245/45R20 103H |
| **GROUND CLEARANCE, MINIMUM** | 5.2 inches |
| **BRAKE SYSTEM** | Power, 4 piston monoblock front, 1 piston rear, 4 circuit ABS |
| **FUEL CAPACITY** | N/A Gallons/ N/A Liters |
| **MANUFACTURER LIMITED TOP SPEED** | 124 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 117 inches |
| **LENGTH** | 186 inches |
| **CURB WEIGHT** | 4984 lbs. |
| **HEIGHT** | 63 inches |
| **INTERIOR VOLUME** | |
| **FRONT** | 54.0 cu. ft. |
| **REAR** | 47.0 cu. ft. |
| **COMBINED** | 101.1 cu. ft. |
| **TRUNK** | 29.7 cu. ft. |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 940 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY**<br>**HIGHWAY** | Total range 270 miles (40 kWh/100 mi) |
| **COMBINED** | 84 MPGe |

| **MANUFACTURER VEHICLE HIGHLIGHTS** |
|---|
| - 270 EPA-estimated Miles of Range<br>- eAWD (electric all-wheel drive)<br>- 88kWh Usable Capacity Extended Range High-Voltage Battery<br>- Sport-Style Front Seats with ActiveXTM Seating Material<br>- Ford Co-Pilot360 2.0<br>- Auto High-Beam Headlamps<br>- BLIS® (Blind Spot Information System) with Cross-Traffic Alert<br>- Lane-Keeping System<br>- Pre-Collision Assist with Automatic Emergency Braking (AEB)<br>- Post-Collision Braking<br>- Rear View Camera<br>- Reverse Brake Assist<br>- Reverse Sensing System<br>- Front Trunk Volume 4.7 cu. ft. |

# VEHICLE DYNAMICS TESTING

## TESTING OBJECTIVE:

To determine each vehicle's high-speed pursuit or emergency response handling characteristics and performance in comparison to the other vehicles in the test group. The course used is a two-mile road racing type configuration, containing hills, curves, and corners. The course simulates actual conditions encountered in pursuit or emergency driving situations in the field, except for other traffic. The evaluation is a true test of the success or failure of the vehicle manufacturers to offer vehicles that provide the optimum balance between handling (suspension components), acceleration (usable horsepower), and braking characteristics.

## TESTING METHODOLOGY:

Each vehicle is driven a total of 32 timed laps, using four separate drivers, each driving an eight-lap series. The final score for the vehicle is the combined average (from the four drivers) of the five fastest laps for each diver during the eight-lap series.


Grattan Raceway, 7201 Lessiter Road, Belding, MI 48809

## GRATTAN RACEWAY
## 2022 MODEL YEAR VEHICLE DYNAMICS RAIN SCHEDULE
## SEPTEMBER 20, 2021

| | MERCER | AGEMA | DARLINGTON | LOONEY | ROGERS | MCCARTHY |
|---|---|---|---|---|---|---|
| **9 a.m.** | Ford F-150 Police Responder 3.5L EcoBoost | Chevrolet Tahoe 5.3L RWD | Ford PI Utility 3.3L AWD | Ford PI Utility Hybrid AWD | Dodge Durango 5.7L AWD | Ford Mustang Mach-E AWD |
| **9:20 a.m.** | Ford PI Utility 3.0L EcoBoost AWD | Dodge Charger 5.7L RWD | Dodge Charger 3.6L AWD | Chevrolet Tahoe 5.3L 4WD | Dodge Durango 3.6L AWD | Pass |
| **9:40 a.m.** | Dodge Durango 5.7L AWD | Ford F-150 Police Responder 3.5L EcoBoost | Chevrolet Tahoe 5.3L RWD | Ford PI Utility 3.3L AWD | Ford PI Utility Hybrid AWD | Pass |
| **10 a.m.** | Dodge Durango 3.6L AWD | Ford PI Utility 3.0L EcoBoost AWD | Dodge Charger 5.7L RWD | Dodge Charger 3.6L AWD | Chevrolet Tahoe 5.3L 4WD | Ford Mustang Mach-E AWD |
| **10:20 a.m.** | Ford PI Utility Hybrid AWD | Dodge Durango 5.7L AWD | Ford F-150 Police Responder 3.5L EcoBoost | Chevrolet Tahoe 5.3L RWD | Ford PI Utility 3.3L AWD | Pass |
| **10:40 a.m.** | Chevrolet Tahoe 5.3L 4WD | Dodge Durango 3.6L AWD | Ford PI Utility 3.0L EcoBoost AWD | Dodge Charger 5.7L RWD | Dodge Charger 3.6L AWD | Pass |
| **11 a.m.** | Ford PI Utility 3.3L AWD | Ford PI Utility Hybrid AWD | Dodge Durango 5.7L AWD | Ford F-150 Police Responder 3.5L EcoBoost | Chevrolet Tahoe 5.3L RWD | Ford Mustang Mach-E AWD |
| **11:20 a.m.** | Dodge Charger 3.6L AWD | Chevrolet Tahoe 5.3L 4WD | Dodge Durango 3.6L AWD | Ford PI Utility 3.0L EcoBoost AWD | Dodge Charger 5.7L RWD | Pass |
| **11:40 a.m.** | Pass | Pass | Pass | Pass | Pass | Pass |
| **12 p.m.** | Pass | Pass | Pass | Pass | Pass | Ford Mustang Mach-E AWD |

# VEHICLE DYNAMICS TESTING- SEPTEMBER 20, 2021

| Vehicles | Drivers | Lap 1 | Lap 2 | Lap 3 | Lap 4 | Lap 5 | Average |
|---|---|---|---|---|---|---|---|
| **Chevrolet Tahoe 5.3L RWD** | AGEMA | 01:39.66 | 01:39.34 | 01:39.24 | 01:38.83 | 01:39.08 | 01:39.23 |
| | DARLINGTON | 01:38.21 | 01:37.92 | 01:37.85 | 01:37.58 | 01:37.81 | 01:37.87 |
| | LOONEY | 01:38.06 | 01:38.06 | 01:38.06 | 01:37.87 | 01:38.23 | 01:38.06 |
| | ROGERS | 01:37.90 | 01:37.68 | 01:38.04 | 01:38.01 | 01:38.23 | 01:37.97 |
| **OVERALL AVERAGE** | | | | | | | **01:38.28** |
| **Chevrolet Tahoe 5.3L 4WD** | LOONEY | 01:38.98 | 01:39.17 | 01:39.30 | 01:39.28 | 01:39.30 | 01:39.21 |
| | ROGERS | 01:38.98 | 01:38.68 | 01:38.74 | 01:38.76 | 01:38.70 | 01:38.77 |
| | MERCER | 01:38.01 | 01:38.29 | 01:38.06 | 01:37.66 | 01:38.33 | 01:38.07 |
| | AGEMA | 01:39.90 | 01:39.92 | 01:40.34 | 01:40.30 | 01:40.59 | 01:40.21 |
| **OVERALL AVERAGE** | | | | | | | **01:39.07** |
| **Dodge Charger 3.6L AWD** | DARLINGTON | 01:37.95 | 01:38.04 | 01:37.52 | 01:37.65 | 01:37.55 | 01:37.74 |
| | LOONEY | 01:38.12 | 01:38.63 | 01:38.25 | 01:38.26 | 01:38.70 | 01:38.39 |
| | ROGERS | 01:37.28 | 01:37.04 | 01:37.23 | 01:37.27 | 01:37.36 | 01:37.24 |
| | MERCER | 01:37.39 | 01:37.64 | 01:37.77 | 01:37.47 | 01:37.34 | 01:37.52 |
| **OVERALL AVERAGE** | | | | | | | **01:37.72** |
| **Dodge Charger 5.7L RWD** | AGEMA | 01:36.98 | 01:36.64 | 01:36.65 | 01:36.54 | 01:36.85 | 01:36.73 |
| | DARLINGTON | 01:36.56 | 01:36.05 | 01:36.01 | 01:36.27 | 01:36.35 | 01:36.25 |
| | LOONEY | 01:36.84 | 01:36.65 | 01:36.74 | 01:36.63 | 01:36.86 | 01:36.74 |
| | ROGERS | 01:36.08 | 01:35.84 | 01:35.97 | 01:36.02 | 01:36.11 | 01:36.00 |
| **OVERALL AVERAGE** | | | | | | | **01:36.43** |
| **Dodge Durango 3.6L AWD** | ROGERS | 01:40.65 | 01:40.45 | 01:40.61 | 01:40.52 | 01:40.48 | 01:40.54 |
| | MERCER | 01:41.45 | 01:41.04 | 01:41.01 | 01:41.74 | 01:41.88 | 01:41.42 |
| | AGEMA | 01:42.03 | 01:41.89 | 01:42.01 | 01:41.60 | 01:41.79 | 01:41.86 |
| | DARLINGTON | 01:41.27 | 01:41.56 | 01:41.52 | 01:41.80 | 01:41.15 | 01:41.46 |
| **OVERALL AVERAGE** | | | | | | | **01:41.32** |
| **Dodge Durango 5.7L AWD** | ROGERS | 01:38.57 | 01:38.54 | 01:38.25 | 01:38.55 | 01:38.42 | 01:38.47 |
| | MERCER | 01:38.19 | 01:37.98 | 01:38.02 | 01:38.13 | 01:38.02 | 01:38.07 |
| | AGEMA | 01:40.26 | 01:39.70 | 01:39.92 | 01:40.24 | 01:40.26 | 01:40.08 |
| | DARLINGTON | 01:38.91 | 01:38.71 | 01:38.59 | 01:38.87 | 01:38.94 | 01:38.81 |
| **OVERALL AVERAGE** | | | | | | | **01:38.85** |

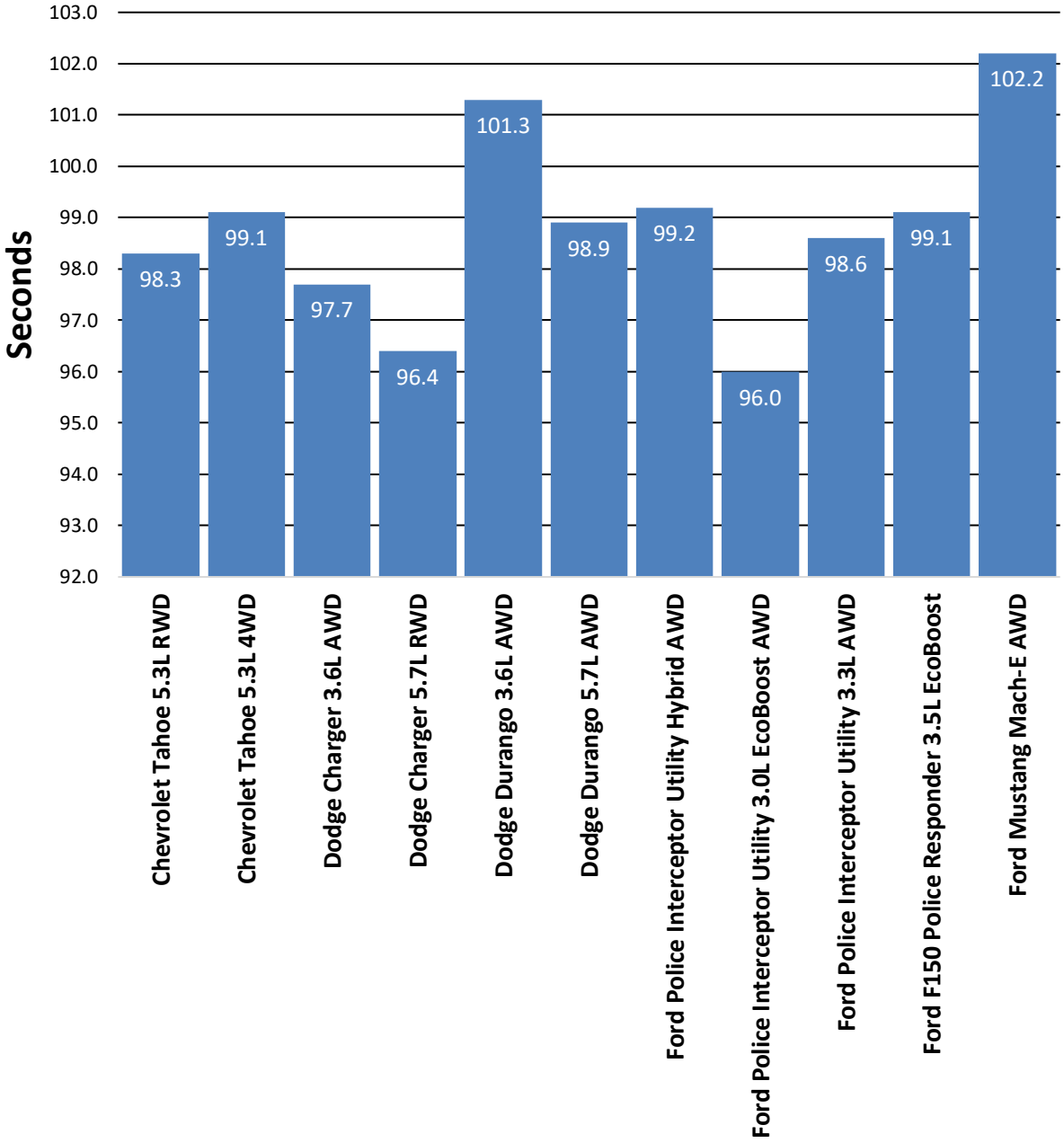
# VEHICLE DYNAMICS TESTING- SEPTEMBER 20, 2021

| Vehicles | Drivers | Lap 1 | Lap 2 | Lap 3 | Lap 4 | Lap 5 | Average |
|---|---|---|---|---|---|---|---|
| **Ford Police Interceptor Utility Hybrid AWD** | LOONEY | 01:39.60 | 01:39.75 | 01:40.14 | 01:39.78 | 01:39.66 | 01:39.78 |
| | ROGERS | 01:38.69 | 01:38.72 | 01:38.92 | 01:38.95 | 01:38.90 | 01:38.84 |
| | MERCER | 01:38.36 | 01:38.48 | 01:38.56 | 01:38.56 | 01:38.64 | 01:38.52 |
| | AGEMA | 01:39.32 | 01:39.69 | 01:39.77 | 01:39.20 | 01:39.38 | 01:39.47 |
| **OVERALL AVERAGE** | | | | | | | **01:39.15** |
| **Ford Police Interceptor Utility 3.0L EcoBoost AWD** | MERCER | 01:35.69 | 01:35.76 | 01:35.06 | 01:35.54 | 01:35.57 | 01:35.53 |
| | AGEMA | 01:36.89 | 01:36.95 | 01:36.22 | 01:36.40 | 01:36.85 | 01:36.66 |
| | DARLINGTON | 01:35.66 | 01:35.79 | 01:35.40 | 01:35.21 | 01:35.82 | 01:35.58 |
| | LOONEY | 01:36.35 | 01:36.64 | 01:36.13 | 01:36.02 | 01:36.21 | 01:36.27 |
| **OVERALL AVERAGE** | | | | | | | **01:36.01** |
| **Ford Police Interceptor Utility 3.3L AWD** | DARLINGTON | 01:38.65 | 01:38.43 | 01:38.50 | 01:38.45 | 01:37.72 | 01:38.35 |
| | LOONEY | 01:39.47 | 01:39.29 | 01:39.07 | 01:39.59 | 01:39.48 | 01:39.38 |
| | ROGERS | 01:38.31 | 01:38.70 | 01:38.68 | 01:38.50 | 01:38.29 | 01:38.49 |
| | MERCER | 01:37.99 | 01:37.81 | 01:38.27 | 01:38.45 | 01:38.29 | 01:38.16 |
| **OVERALL AVERAGE** | | | | | | | **01:38.60** |
| **Ford F-150 Police Responder 3.5L EcoBoost** | MERCER | 01:39.04 | 01:38.80 | 01:38.92 | 01:38.79 | 01:39.09 | 01:38.93 |
| | AGEMA | 01:39.06 | 01:38.99 | 01:39.08 | 01:39.14 | 01:39.00 | 01:39.05 |
| | DARLINGTON | 01:38.89 | 01:38.18 | 01:39.01 | 01:39.11 | 01:38.83 | 01:38.81 |
| | LOONEY | 01:39.75 | 01:39.56 | 01:39.39 | 01:39.63 | 01:39.06 | 01:39.48 |
| **OVERALL AVERAGE** | | | | | | | **01:39.07** |

| Vehicle | Driver | Time of Run | Begin Battery State of Charge | Lap 1 | Lap 2 | Lap 3 | Lap 4 | Lap 5 | End Battery State of Charge | Average |
|---|---|---|---|---|---|---|---|---|---|---|
| **Ford Mustang Mach-E AWD** | MCCARTHY | 9:12 | 99% | 01:40.84 | 01:42.50 | 01:42.10 | 01:42.08 | 01:42.17 | 70% | 01:41.94 |
| | MCCARTHY | 10:23 | 80% | 01:40.67 | 01:41.98 | 01:42.79 | 01:42.67 | 01:42.93 | 51% | 01:42.21 |
| | MCCARTHY | 12:42 | 87% | 01:41.08 | 01:41.89 | 01:42.71 | 01:42.88 | 01:43.72 | 57% | 01:42.46 |
| | MCCARTHY | 14:38 | 75% | 01:40.14 | 01:42.35 | 01:42.58 | 01:42.84 | 01:42.96 | 48% | 01:42.17 |
| **OVERALL AVERAGE** | | | | | | | | | | **01:42.19** |

The MSP Precision Driving Unit and vehicle manufacturers have been in discussions regarding the testing of Battery Electric Vehicles for the past two years. All three manufacturers agreed that a charge time of 40 minutes on a level three charger between runs would show case the vehicle's capabilities in a best-case scenario. The above chart shows the beginning battery state of charge, the fastest five lap times out of the eight timed laps, and the battery ending state of charge. A 47 Kw charger was used to refresh the vehicle's state of charge between runs. It should be noted that these five fastest laps were completed in the order shown above and that performance continued to degrade as the state of charge declined and battery temperatures increased.

# 2022 Model Year
# Vehicle Dynamics




PURSUIT
POLICE
GRATTAN RACEWAY
PURSUIT
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RACEWAY
POLICE
POLICE

# ACCELERATION AND TOP SPEED TESTING

## ACCELERATION TESTING OBJECTIVE:

To determine the ability of each test vehicle to accelerate from a standing start to 60 mph, 80 mph, 100 mph, and determine the distance to reach 100 mph and 120 mph.

## ACCELERATION TESTING METHODOLOGY:

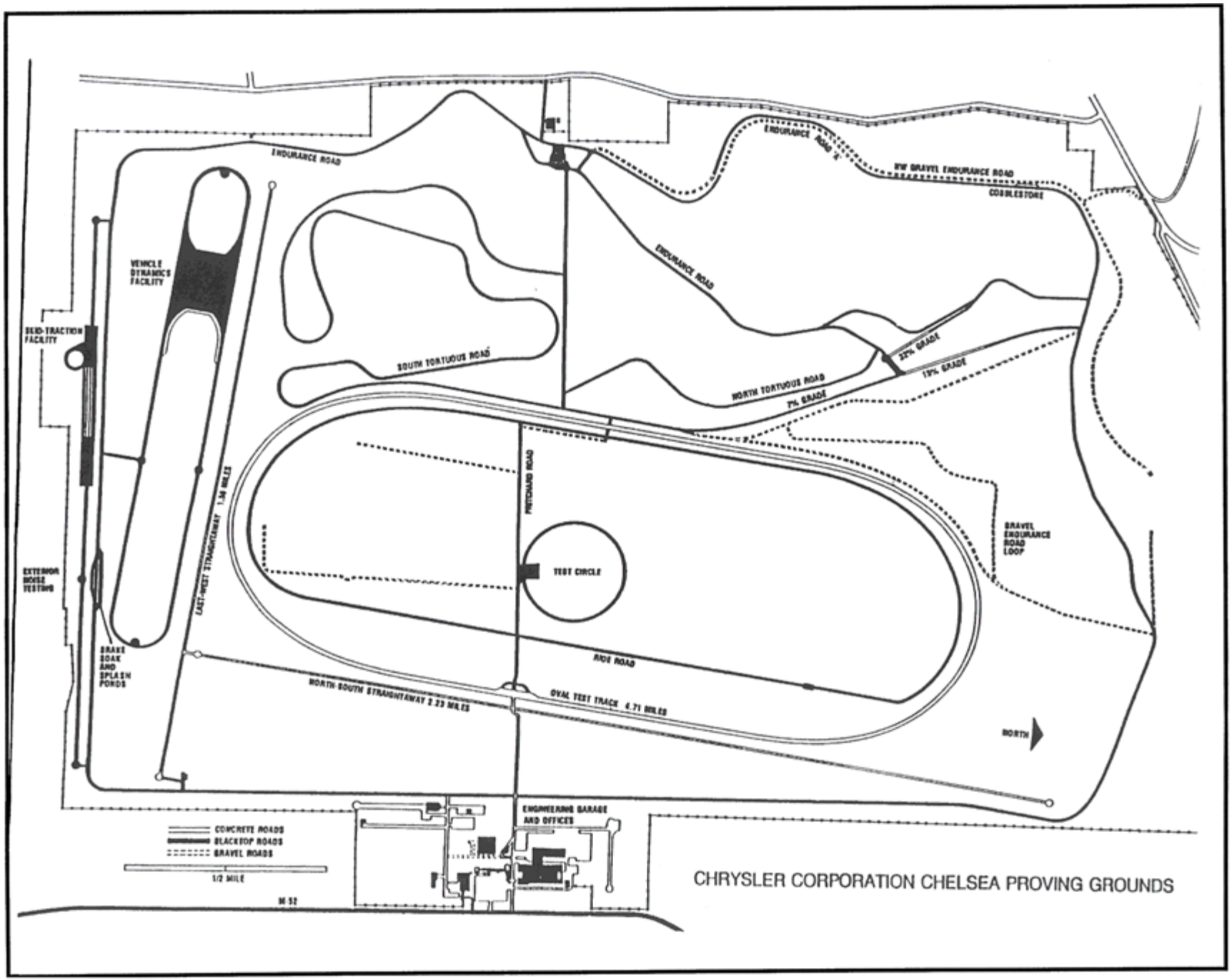
Using a Racelogic Vbox 3i GPS based data collection unit, each vehicle is driven through four acceleration sequences, two northbound and two southbound, to allow for wind direction. The four resulting times for each target speed are averaged and the average times are used to derive scores for acceleration.

## TOP SPEED TESTING OBJECTIVE:

To verify the electronically limited top speed reported by the manufacturer attainable by each test vehicle within 14 miles from a standing start.

## TOP SPEED TESTING METHODOLOGY:

Following the fourth acceleration run, each test vehicle continues to accelerate until it reaches the manufacturer electronically limited top speed. The distance to reach the electronically limited top speed must be reached within 14 miles.


ENDURANCE ROAD
ENDURANCE ROAD
NW GRAVEL ENDURANCE ROAD
COBBLESTONE
ENDURANCE ROAD
VEHICLE DYNAMICS FACILITY
SKID-TRACTION FACILITY
SOUTH TORTUOUS ROAD
NORTH TORTUOUS ROAD
32% GRADE
19% GRADE
7% GRADE
PRITCHARD ROAD
EAST-WEST STRAIGHTAWAY 1.30 MILES
TEST CIRCLE
BRAVEL ENDURANCE ROAD LOOP
EXTERIOR NOISE TESTING
BRAKE SOAK AND SPLASH PONDS
RIDE ROAD
NORTH-SOUTH STRAIGHTAWAY 2.23 MILES
OVAL TEST TRACK 4.71 MILES
NORTH
ENGINEERING GARAGE AND OFFICES
CONCRETE ROADS
BLACKTOP ROADS
GRAVEL ROADS
1/2 MILE
M 52
CHRYSLER CORPORATION CHELSEA PROVING GROUNDS

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021

## Chevrolet Tahoe 5.3L RWD

**BEGINNING TIME:** 9:40 a.m. **TEMPERATURE:** 62.6° F
**WIND VELOCITY:** 3.3 mph **WIND DIRECTION:** 73°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 7.72 | 7.58 | 7.69 | 7.61 | 7.65 |
| **0-80** | 12.22 | 12.20 | 12.13 | 12.15 | 12.18 |
| **0-100** | 18.76 | 19.07 | 18.49 | 18.90 | 18.81 |

**DISTANCE TO REACH 100 MPH:** 0.33 mile **DISTANCE TO REACH 120 MPH:** 0.73 mile

**TOP SPEED ATTAINED:** 130 mph

**DISTANCE TO REACH TOP SPEED:** 1.58 miles **TIME TO REACH TOP SPEED:** 56.19 seconds

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## Chevrolet Tahoe 5.3L 4WD

**BEGINNING TIME:** 12:00 p.m. **TEMPERATURE:** 68.9° F
**WIND VELOCITY:** 2.4 mph **WIND DIRECTION:** 80°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 7.95 | 8.00 | 7.91 | 7.93 | 7.95 |
| **0-80** | 12.75 | 12.82 | 12.64 | 12.85 | 12.77 |
| **0-100** | 19.67 | 20.32 | 19.51 | 20.42 | 19.98 |

**DISTANCE TO REACH 100 MPH:** 0.35 mile **DISTANCE TO REACH 120 MPH:** 0.82 mile

**TOP SPEED ATTAINED:** 124 mph

**DISTANCE TO REACH TOP SPEED:** 0.98 mile **TIME TO REACH TOP SPEED:** 40.05 seconds

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021

## Dodge Charger 3.6L AWD

**BEGINNING TIME:** 12:16 p.m. **TEMPERATURE:** 70.8° F
**WIND VELOCITY:** 4.2 mph **WIND DIRECTION:** 93°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 7.14 | 7.07 | 7.02 | 7.46 | 7.17 |
| **0-80** | 11.44 | 11.47 | 11.32 | 12.03 | 11.57 |
| **0-100** | 17.71 | 17.81 | 17.44 | 18.66 | 17.91 |

**DISTANCE TO REACH 100 MPH:** 0.31 mile **DISTANCE TO REACH 120 MPH:** 0.71 mile

**TOP SPEED ATTAINED:** 139* mph

**DISTANCE TO REACH TOP SPEED:** 2.62 miles **TIME TO REACH TOP SPEED:** 82.45 seconds

---

## Dodge Charger 5.7L RWD

**BEGINNING TIME:** 10:13 a.m. **TEMPERATURE:** 63.4° F
**WIND VELOCITY:** 6.3 mph **WIND DIRECTION:** 55°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 6.59 | 5.93 | 6.13 | 5.93 | 6.15 |
| **0-80** | 9.98 | 9.19 | 9.38 | 9.22 | 9.44 |
| **0-100** | 14.55 | 13.91 | 13.90 | 13.88 | 14.06 |

**DISTANCE TO REACH 100 MPH:** 0.24 mile **DISTANCE TO REACH 120 MPH:** 0.46 mile

**TOP SPEED ATTAINED:** 139* mph

**DISTANCE TO REACH TOP SPEED:** 0.93 mile **TIME TO REACH TOP SPEED:** 33.97 seconds

**This is the practical top speed of the vehicle. Practical top speed is defined as when the electronic speed limiter reduces engine power and limits acceleration gains prior to reaching 140 mph nominal top speed.*

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021

## Dodge Durango 3.6L AWD

**BEGINNING TIME:** 1:24 p.m. **TEMPERATURE:** 72.9° F
**WIND VELOCITY:** 5.8 mph **WIND DIRECTION:** 46°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 8.34 | 8.16 | 8.09 | 8.03 | 8.16 |
| **0-80** | 13.95 | 13.96 | 13.72 | 13.75 | 13.85 |
| **0-100** | 22.74 | 23.13 | 22.32 | 23.02 | 22.80 |

**DISTANCE TO REACH 100 MPH:** 0.42 mile **DISTANCE TO REACH 120 MPH:** 1.14 miles

**TOP SPEED ATTAINED:** 127 mph

**DISTANCE TO REACH TOP SPEED:** 2.87 miles **TIME TO REACH TOP SPEED:** 95.75 seconds

---

## Dodge Durango 5.7L AWD

**BEGINNING TIME:** 11:23 a.m. **TEMPERATURE:** 67.8° F
**WIND VELOCITY:** 1.7 mph **WIND DIRECTION:** 47°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 6.78 | 6.80 | 6.78 | 6.80 | 6.79 |
| **0-80** | 11.28 | 11.26 | 11.11 | 11.33 | 11.25 |
| **0-100** | 17.97 | 18.26 | 17.78 | 18.37 | 18.10 |

**DISTANCE TO REACH 100 MPH:** 0.33 mile **DISTANCE TO REACH 120 MPH:** 0.72 mile

**TOP SPEED ATTAINED:** 130 mph

**DISTANCE TO REACH TOP SPEED:** 1.28 miles **TIME TO REACH TOP SPEED:** 46.84 seconds

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021

## Ford Police Interceptor Utility Hybrid AWD

**BEGINNING TIME:** 12:34 p.m. **TEMPERATURE:** 72.2° F
**WIND VELOCITY:** 2.1 mph **WIND DIRECTION:** 46°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 7.36 | 7.29 | 7.23 | 7.10 | 7.25 |
| **0-80** | 11.62 | 11.48 | 11.42 | 11.28 | 11.45 |
| **0-100** | 17.61 | 17.44 | 17.21 | 17.35 | 17.40 |

**DISTANCE TO REACH 100 MPH:** 0.30 mile **DISTANCE TO REACH 120 MPH:** 0.61 mile

**TOP SPEED ATTAINED:** 136 mph

**DISTANCE TO REACH TOP SPEED:** 1.25 miles **TIME TO REACH TOP SPEED:** 45.26 seconds

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## Ford Police Interceptor Utility 3.0L EcoBoost AWD

**BEGINNING TIME:** 10:35 a.m. **TEMPERATURE:** 66° F
**WIND VELOCITY:** 5.3 mph **WIND DIRECTION:** 76°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 5.55 | 5.40 | 5.50 | 5.35 | 5.45 |
| **0-80** | 8.88 | 8.70 | 8.83 | 8.70 | 8.78 |
| **0-100** | 13.48 | 13.49 | 13.44 | 13.46 | 13.47 |

**DISTANCE TO REACH 100 MPH:** 0.23 mile **DISTANCE TO REACH 120 MPH:** 0.46 mile

**TOP SPEED ATTAINED:** 148 mph

**DISTANCE TO REACH TOP SPEED:** 1.55 miles **TIME TO REACH TOP SPEED:** 49.16 seconds

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021

## Ford Police Interceptor Utility 3.3L AWD

**BEGINNING TIME:** 1:41 p.m. **TEMPERATURE:** 72.8° F
**WIND VELOCITY:** 3.9 mph **WIND DIRECTION:** 37°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 7.72 | 7.85 | 7.96 | 7.64 | 7.79 |
| **0-80** | 12.26 | 12.55 | 12.59 | 12.26 | 12.42 |
| **0-100** | 19.15 | 19.54 | 19.33 | 19.26 | 19.32 |

**DISTANCE TO REACH 100 MPH:** 0.34 mile **DISTANCE TO REACH 120 MPH:** 0.75 mile

**TOP SPEED ATTAINED:** 136 mph

**DISTANCE TO REACH TOP SPEED:** 1.83 miles **TIME TO REACH TOP SPEED:** 62.52 seconds

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## Ford F150 Police Responder 3.5L EcoBoost

**BEGINNING TIME:** 11:25 a.m. **TEMPERATURE:** 67.8° F
**WIND VELOCITY:** 1.7 mph **WIND DIRECTION:** 47°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 5.76 | 5.77 | 5.72 | 5.92 | 5.79 |
| **0-80** | 9.05 | 9.23 | 9.07 | 9.32 | 9.17 |
| **0-100** | 14.00 | 14.80 | 14.10 | 14.46 | 14.34 |

**DISTANCE TO REACH 100 MPH:** 0.25 mile **DISTANCE TO REACH 120 MPH:** 0.55 mile

**TOP SPEED ATTAINED:** 120 mph

**DISTANCE TO REACH TOP SPEED:** 0.55 mile **TIME TO REACH TOP SPEED:** 24.2 seconds

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021

# Ford Mustang Mach-E AWD

**BEGINNING TIME:** 9:16 a.m. **TEMPERATURE:** 61.5° F
**WIND VELOCITY:** 1.7 mph **WIND DIRECTION:** 285°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 4.15 | 4.13 | 3.92 | 3.90 | 4.03 |
| **0-80** | 6.56 | 6.59 | 6.32 | 6.36 | 6.46 |
| **0-100** | 11.86 | 12.18 | 11.73 | 11.99 | 11.94 |

**DISTANCE TO REACH 100 MPH:** 0.22 mile **DISTANCE TO REACH 120 MPH:** 0.68 mile

**TOP SPEED ATTAINED:** 124 mph

**DISTANCE TO REACH TOP SPEED:** 2.10 miles **TIME TO REACH TOP SPEED:** 68.24 seconds

# SUMMARY OF ACCELERATION AND TOP SPEED

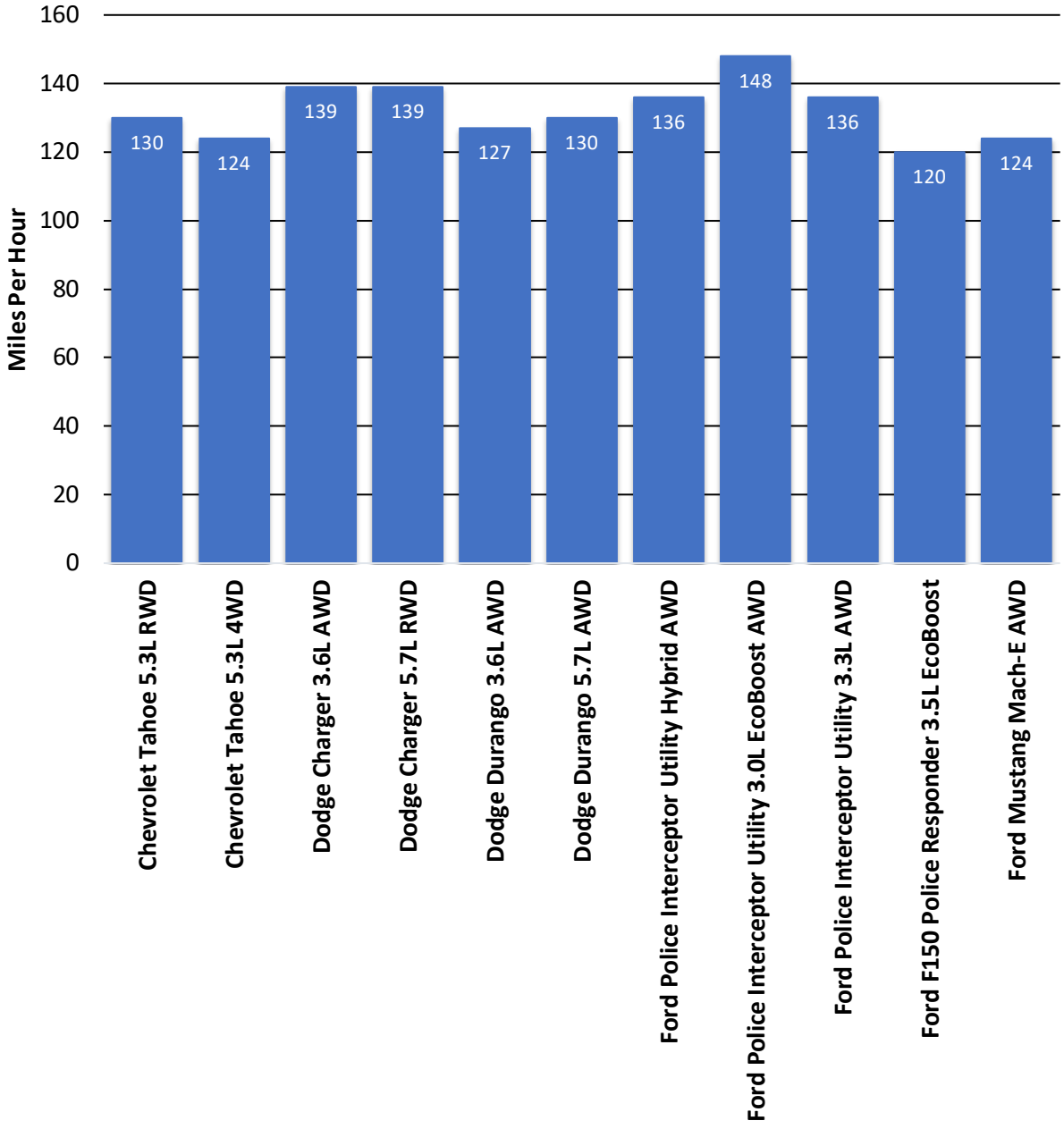
| | Chevrolet Tahoe 5.3L RWD | Chevrolet Tahoe 5.3L 4WD | Dodge Charger 3.6L AWD | Dodge Charger 5.7L RWD |
|---|---|---|---|---|
| **ACCELERATION (seconds)** | | | | |
| 0-20 mph | 2.09 | 2.09 | 1.76 | 1.84 |
| 0-30 mph | 3.07 | 3.14 | 2.72 | 2.63 |
| 0-40 mph | 4.42 | 4.57 | 3.89 | 3.59 |
| 0-50 mph | 5.84 | 6.07 | 5.35 | 4.67 |
| 0-60 mph | 7.65 | 7.95 | 7.17 | 6.15 |
| 0-70 mph | 9.64 | 10.08 | 9.33 | 7.73 |
| 0-80 mph | 12.18 | 12.77 | 11.57 | 9.44 |
| 0-90 mph | 15.12 | 16.01 | 14.60 | 11.70 |
| 0-100 mph | 18.81 | 19.98 | 17.91 | 14.06 |
| TOP SPEED (mph) | 130 | 124 | 139 | 139 |
| **DISTANCE TO REACH (miles)** | | | | |
| 100 mph | 0.33 | 0.35 | 0.31 | 0.24 |
| 120 mph | 0.73 | 0.82 | 0.71 | 0.46 |
| Top Speed | 1.58 | 0.98 | 2.62 | 0.93 |

# SUMMARY OF ACCELERATION AND TOP SPEED

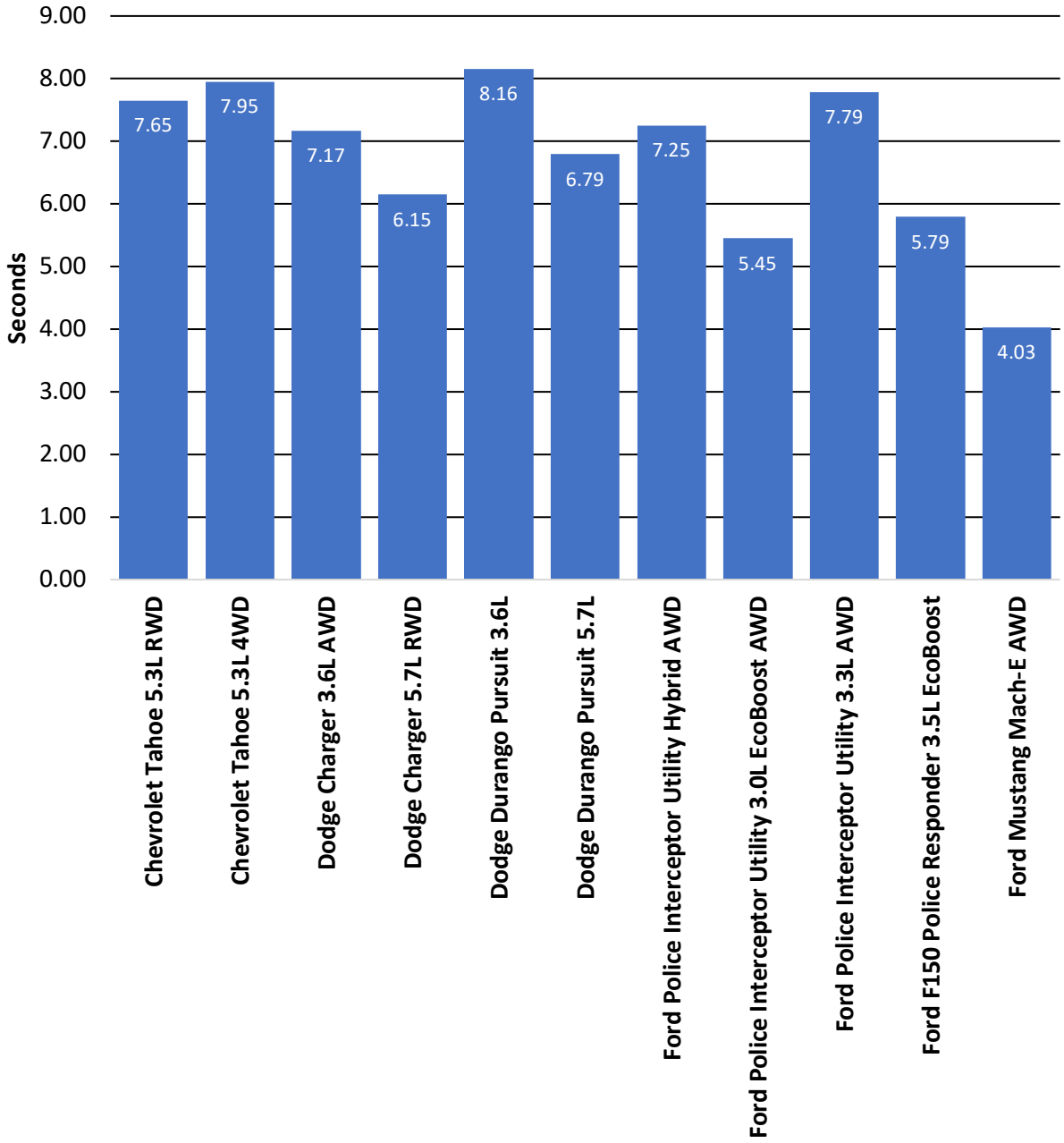
| | Dodge Durango 3.6L AWD | Dodge Durango 5.7L AWD | Ford Police Interceptor Utility Hybrid AWD | Ford Police Interceptor Utility 3.0L EcoBoost AWD |
|---|---|---|---|---|
| **ACCELERATION (seconds)** | | | | |
| 0-20 mph | 1.84 | 1.54 | 1.76 | 1.49 |
| 0-30 mph | 2.92 | 2.42 | 2.94 | 2.19 |
| 0-40 mph | 4.28 | 3.61 | 4.22 | 3.11 |
| 0-50 mph | 5.89 | 5.03 | 5.65 | 4.15 |
| 0-60 mph | 8.16 | 6.79 | 7.25 | 5.45 |
| 0-70 mph | 10.67 | 8.74 | 9.19 | 6.88 |
| 0-80 mph | 13.85 | 11.25 | 11.45 | 8.78 |
| 0-90 mph | 17.77 | 14.17 | 14.18 | 10.92 |
| 0-100 mph | 22.80 | 18.10 | 17.40 | 13.47 |
| TOP SPEED (mph) | 127 | 130 | 136 | 148 |
| **DISTANCE TO REACH (miles)** | | | | |
| 100 mph | 0.42 | 0.33 | 0.30 | 0.23 |
| 120 mph | 1.14 | 0.72 | 0.61 | 0.46 |
| Top Speed | 2.87 | 1.28 | 1.25 | 1.55 |

| SUMMARY OF ACCELERATION AND TOP SPEED | | | |
|---|---|---|---|
| | **Ford Police Interceptor Utility 3.3L AWD** | **Ford F150 Police Responder 3.5L EcoBoost** | **Ford Mustang Mach-E AWD** |
| **ACCELERATION (seconds)** | | | |
| 0-20 mph | 2.09 | 1.63 | 1.28 |
| 0-30 mph | 3.21 | 2.35 | 1.87 |
| 0-40 mph | 4.55 | 3.36 | 2.45 |
| 0-50 mph | 6.09 | 4.42 | 3.16 |
| 0-60 mph | 7.79 | 5.79 | 4.03 |
| 0-70 mph | 9.86 | 7.28 | 5.08 |
| 0-80 mph | 12.42 | 9.17 | 6.46 |
| 0-90 mph | 15.46 | 11.30 | 8.58 |
| 0-100 mph | 19.32 | 14.34 | 11.94 |
| TOP SPEED (mph) | 136 | 120 | 124 |
| **DISTANCE TO REACH (miles)** | | | |
| 100 mph | 0.34 | 0.25 | 0.22 |
| 120 mph | 0.75 | 0.55 | 0.68 |
| Top Speed | 1.83 | 0.55 | 2.10 |

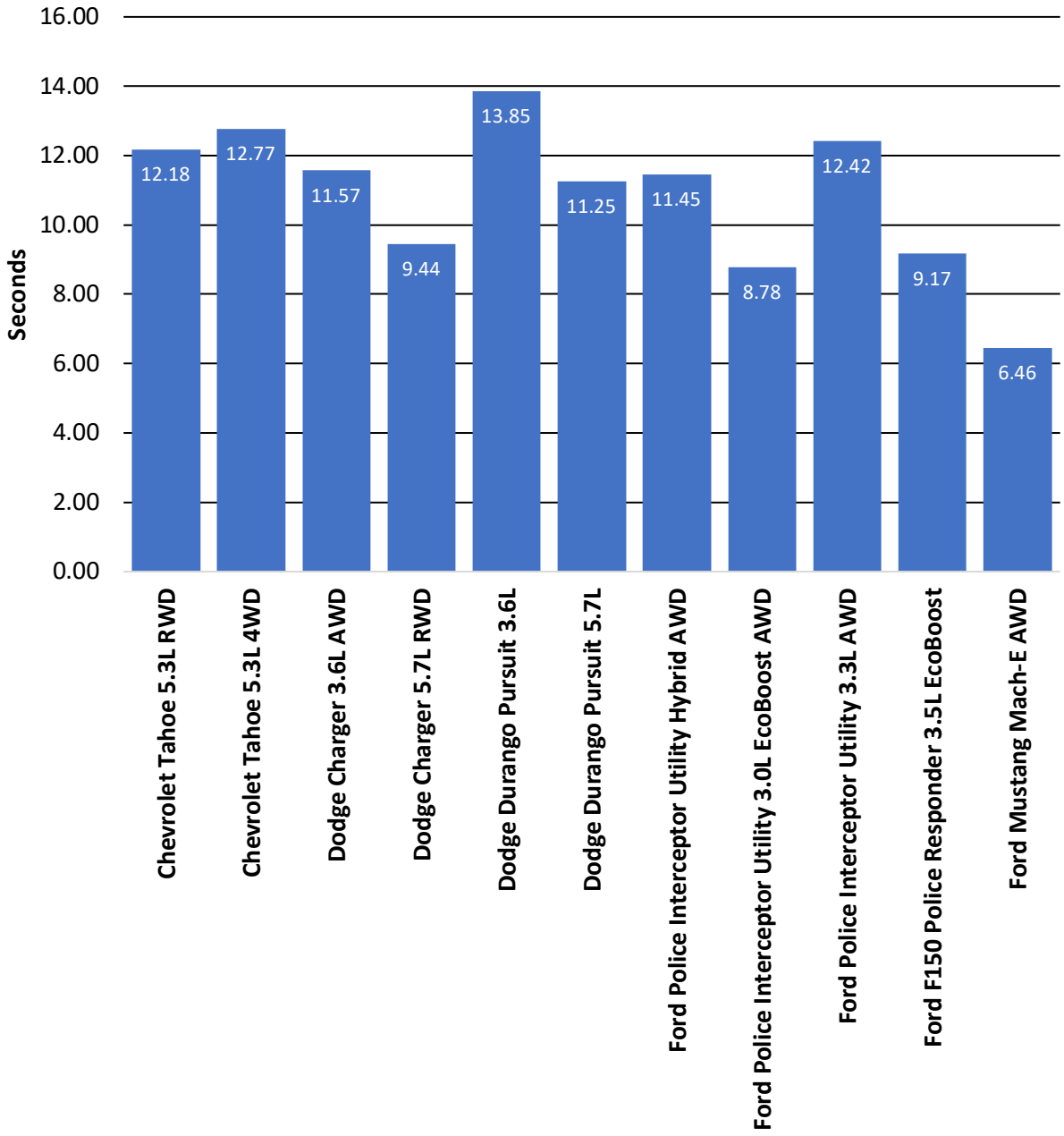

# 2022 Model Year
# Top Speed Comparison
## Top Speed Attained



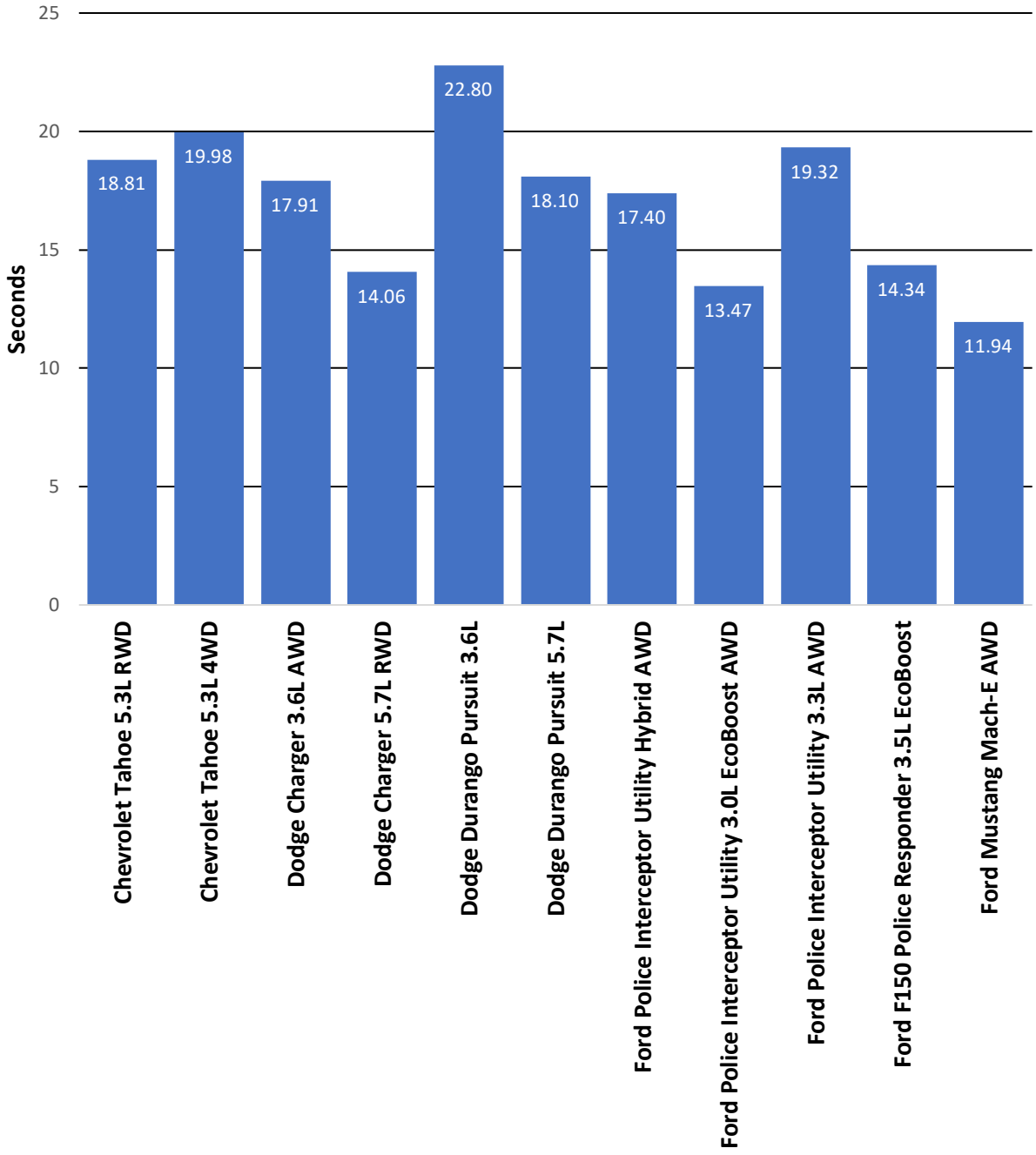
# 2022 Model Year
# Acceleration Comparison
## Acceleration Times
## 0-60 mph



# 2022 Model Year
# Acceleration Comparison
## Acceleration Times
## 0-80 mph



# 2022 Model Year
# Acceleration Comparison
## Acceleration Times
## 0-100 mph




POLICE

# BRAKE TESTING

## BRAKE TESTING OBJECTIVE:

To determine the deceleration rate attained by each test vehicle on twenty 60-0 mph full Anti-lock brake stops. Each vehicle is scored on the average deceleration rate it achieves.

## BRAKE TESTING METHODOLOGY:

Each vehicle is driven to the north end of the straightaway on the east side of the oval. The vehicle then begins its sequence of stops heading in a southerly direction. The vehicle is stopped five times at pre-determined points on the roadway. The vehicle is then turned around and stops an additional five times again at pre-determined points on the roadway in a northerly direction. After the ten stops, the vehicle drives one lap around the oval at 45 mph. This is done to cool the brakes before the second sequence. After the cool down lap, the ten stops are repeated.

The data resulting from the twenty stops is used to calculate the average deceleration rate which is the vehicle's score for the test.

## DECELRATION RATE FORMULA:

$$\text{Deceleration Rate (DR)} = \frac{\text{Initial Velocity* (IV) squared}}{\text{Two times Stopping Distance (SD)}} = \frac{(IV)^2}{2\,(SD)}$$

**EXAMPLE:**

Initial Velocity **=** 89.175 ft/s (60.8 mph x 1.4667*)
Stopping Distance **=** 171.4 ft.

$$DR = \frac{(IV)^2}{2(SD)} = \frac{(89.175)^2}{2(171.4)} = \frac{7952.24}{342.8} = 23.198 \text{ ft/s}^2$$

Once a vehicle's average deceleration rate has been determined, it is possible to calculate the approximate stopping distance from any given speed by utilizing the following formula:

Select a speed; translate that speed into feet per second; square the feet per second figure by multiplying it by itself; divide the resultant figure by 2; divide the remaining figure by the average deceleration rate of the vehicle in question.

**EXAMPLE:**

60 mph = 88.002 ft/s x 88.002 = 7744.352 / 2 = 3872.176 / 23.198 ft/s$^2$ = 166.9 ft.

* Initial velocity must be expressed in terms of feet per second, with 1 mile per hour being equal to 1.4667 feet per second.

# BRAKE TESTING

## Chevrolet Tahoe 5.3L RWD

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021
**BEGINNING TIME:** 9:54 a.m. **TEMPERATURE:** 63.4° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.10 | 128.30 | 30.28 |
| **2** | 60.10 | 131.60 | 29.52 |
| **3** | 60.00 | 131.70 | 29.40 |
| **4** | 60.30 | 131.70 | 29.70 |
| **5** | 60.00 | 131.80 | 29.38 |
| **6** | 59.70 | 128.40 | 29.86 |
| **7** | 60.20 | 129.90 | 30.01 |
| **8** | 59.70 | 129.20 | 29.67 |
| **9** | 59.60 | 130.90 | 29.19 |
| **10** | 59.90 | 130.70 | 29.53 |
| **AVERAGE DECELERATION RATE:** | | | **29.65 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 59.70 | 127.00 | 30.19 |
| **2** | 59.50 | 125.40 | 30.37 |
| **3** | 59.60 | 126.50 | 30.20 |
| **4** | 60.10 | 128.10 | 30.33 |
| **5** | 59.80 | 128.40 | 29.96 |
| **6** | 59.70 | 127.30 | 30.11 |
| **7** | 59.50 | 122.50 | 31.08 |
| **8** | 59.90 | 127.60 | 30.25 |
| **9** | 60.00 | 127.20 | 30.44 |
| **10** | 59.80 | 126.60 | 30.38 |
| **AVERAGE DECELERATION RATE:** | | | **30.33 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **29.99 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **129.1 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Vehicle stopped in straight line? | Yes |
| Vehicle stopped within correct lane? | Yes |

*All vehicles tested are equipped with Anti-lock brakes (ABS)

# BRAKE TESTING

## Chevrolet Tahoe 5.3L 4WD

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021
**BEGINNING TIME:** 12:10 p.m. **TEMPERATURE:** 68.9° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 59.60 | 129.30 | 29.55 |
| **2** | 59.30 | 129.00 | 29.32 |
| **3** | 59.80 | 131.80 | 29.18 |
| **4** | 60.20 | 132.10 | 29.51 |
| **5** | 59.70 | 133.30 | 28.76 |
| **6** | 59.90 | 134.50 | 28.69 |
| **7** | 59.50 | 131.30 | 29.00 |
| **8** | 59.70 | 134.00 | 28.61 |
| **9** | 59.60 | 134.70 | 28.36 |
| **10** | 59.80 | 132.80 | 28.96 |
| **AVERAGE DECELERATION RATE:** | | | **29.00 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 59.60 | 129.80 | 29.44 |
| **2** | 59.90 | 131.10 | 29.44 |
| **3** | 60.20 | 129.20 | 30.17 |
| **4** | 59.90 | 129.90 | 29.71 |
| **5** | 59.70 | 128.20 | 29.90 |
| **6** | 60.10 | 130.50 | 29.77 |
| **7** | 59.10 | 124.60 | 30.15 |
| **8** | 60.40 | 131.50 | 29.84 |
| **9** | 60.00 | 127.80 | 30.30 |
| **10** | 59.90 | 126.70 | 30.46 |
| **AVERAGE DECELERATION RATE:** | | | **29.92 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **29.46 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **131.5 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Vehicle stopped in straight line? | Yes |
| Vehicle stopped within correct lane? | Yes |

*All vehicles tested are equipped with Anti-lock brakes (ABS)

# BRAKE TESTING

## Dodge Charger 3.6L AWD

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021
**BEGINNING TIME:** 12:31 p.m. **TEMPERATURE:** 72.2° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.30 | 132.30 | 29.56 |
| **2** | 59.80 | 131.00 | 29.36 |
| **3** | 59.90 | 129.80 | 29.73 |
| **4** | 60.10 | 128.50 | 30.23 |
| **5** | 60.10 | 129.80 | 29.93 |
| **6** | 60.20 | 131.80 | 29.58 |
| **7** | 60.10 | 129.90 | 29.91 |
| **8** | 60.10 | 128.80 | 30.16 |
| **9** | 60.10 | 130.70 | 29.73 |
| **10** | 60.00 | 129.00 | 30.02 |
| **AVERAGE DECELERATION RATE:** | | | **29.82 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.10 | 129.50 | 30.00 |
| **2** | 60.00 | 133.20 | 29.07 |
| **3** | 60.10 | 129.60 | 29.98 |
| **4** | 60.30 | 131.60 | 29.72 |
| **5** | 59.90 | 130.20 | 29.64 |
| **6** | 60.10 | 128.60 | 30.21 |
| **7** | 60.10 | 128.80 | 30.16 |
| **8** | 60.30 | 132.40 | 29.54 |
| **9** | 59.90 | 127.20 | 30.34 |
| **10** | 59.90 | 127.70 | 30.22 |
| **AVERAGE DECELERATION RATE:** | | | **29.89 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **29.85 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **129.7 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Vehicle stopped in straight line? | Yes |
| Vehicle stopped within correct lane? | Yes |

*All vehicles tested are equipped with Anti-lock brakes (ABS)

# BRAKE TESTING

## Dodge Charger 5.7L RWD

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021
**BEGINNING TIME:** 10:26 a.m. **TEMPERATURE:** 64.8° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 59.80 | 133.4 | 28.83 |
| **2** | 59.60 | 132.5 | 28.84 |
| **3** | 59.70 | 130.6 | 29.35 |
| **4** | 59.80 | 136.7 | 28.14 |
| **5** | 59.80 | 130.9 | 29.38 |
| **6** | 59.70 | 126.9 | 30.21 |
| **7** | 59.60 | 127.0 | 30.08 |
| **8** | 59.90 | 131.1 | 29.44 |
| **9** | 59.50 | 130.7 | 29.13 |
| **10** | 59.70 | 130.4 | 29.40 |
| **AVERAGE DECELERATION RATE:** | | | **29.28 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 59.80 | 131.90 | 29.16 |
| **2** | 59.60 | 127.60 | 29.94 |
| **3** | 59.40 | 127.60 | 29.74 |
| **4** | 59.60 | 127.60 | 29.94 |
| **5** | 59.60 | 128.90 | 29.64 |
| **6** | 60.00 | 132.20 | 29.29 |
| **7** | 59.50 | 129.20 | 29.47 |
| **8** | 59.70 | 128.10 | 29.93 |
| **9** | 59.80 | 134.40 | 28.62 |
| **10** | N/A | N/A | N/A |
| **AVERAGE DECELERATION RATE:** | | | **29.53 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **29.40 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **131.7 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Vehicle stopped in straight line? | Yes |
| Vehicle stopped within correct lane? | Yes |

*All vehicles tested are equipped with Anti-lock brakes (ABS)

# BRAKE TESTING

## Dodge Durango 3.6L AWD

**TEST LOCATION:** Chelsea Proving Grounds
**BEGINNING TIME:** 1:38 p.m.
**DATE:** September 18, 2021
**TEMPERATURE:** 72.8° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 59.80 | 134.30 | 28.64 |
| **2** | 60.30 | 136.50 | 28.65 |
| **3** | 60.10 | 137.10 | 28.34 |
| **4** | 60.10 | 135.30 | 28.71 |
| **5** | 60.20 | 134.40 | 29.00 |
| **6** | 59.80 | 130.10 | 29.56 |
| **7** | 60.00 | 134.60 | 28.77 |
| **8** | 59.80 | 134.90 | 28.51 |
| **9** | 60.00 | 135.30 | 28.62 |
| **10** | 59.80 | 133.80 | 28.75 |
| **AVERAGE DECELERATION RATE:** | | | **28.76 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.10 | 136.50 | 28.46 |
| **2** | 59.80 | 134.00 | 28.70 |
| **3** | 59.80 | 124.10 | 30.99 |
| **4** | 59.90 | 132.00 | 29.24 |
| **5** | 59.20 | 130.90 | 28.80 |
| **6** | 59.90 | 131.20 | 29.42 |
| **7** | 60.00 | 133.70 | 28.96 |
| **8** | 60.10 | 135.60 | 28.65 |
| **9** | 60.70 | 136.10 | 29.12 |
| **10** | 60.20 | 134.60 | 28.96 |
| **AVERAGE DECELERATION RATE:** | | | **29.13 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **28.94 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **133.8 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Vehicle stopped in straight line? | Yes |
| Vehicle stopped within correct lane? | Yes |

*All vehicles tested are equipped with Anti-lock brakes (ABS)

# BRAKE TESTING

## Dodge Durango 5.7L AWD

**TEST LOCATION:** Chelsea Proving Grounds
**DATE:** September 18, 2021
**BEGINNING TIME:** 11:23 a.m.
**TEMPERATURE:** 67.8° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 59.30 | 131.00 | 28.87 |
| **2** | 59.20 | 129.20 | 29.18 |
| **3** | 60.10 | 135.00 | 28.78 |
| **4** | 59.00 | 130.30 | 28.74 |
| **5** | 60.20 | 134.70 | 28.94 |
| **6** | 59.30 | 131.90 | 28.68 |
| **7** | 60.00 | 133.70 | 28.96 |
| **8** | 60.00 | 136.10 | 28.45 |
| **9** | 59.90 | 139.00 | 27.76 |
| **10** | 59.80 | 137.80 | 27.91 |
| **AVERAGE DECELERATION RATE:** | | | **28.63 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.10 | 139.30 | 27.89 |
| **2** | 59.70 | 135.00 | 28.40 |
| **3** | 59.50 | 134.50 | 28.31 |
| **4** | 59.40 | 134.40 | 28.24 |
| **5** | 60.10 | 139.30 | 27.89 |
| **6** | 59.30 | 134.90 | 28.04 |
| **7** | 59.90 | 139.80 | 27.61 |
| **8** | 59.60 | 137.30 | 27.83 |
| **9** | 60.00 | 135.90 | 28.49 |
| **10** | 59.60 | 135.70 | 28.16 |
| **AVERAGE DECELERATION RATE:** | | | **28.08 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **28.36 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **136.6 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Vehicle stopped in straight line? | Yes |
| Vehicle stopped within correct lane? | Yes |

*All vehicles tested are equipped with Anti-lock brakes (ABS)

# BRAKE TESTING

## Ford Police Interceptor Utility Hybrid AWD

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021
**BEGINNING TIME:** 12:48 p.m. **TEMPERATURE:** 72.2° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.00 | 137.50 | 28.16 |
| **2** | 59.80 | 134.10 | 28.68 |
| **3** | 60.20 | 134.70 | 28.94 |
| **4** | 60.00 | 134.00 | 28.90 |
| **5** | 60.10 | 133.20 | 29.17 |
| **6** | 59.80 | 133.10 | 28.90 |
| **7** | 60.00 | 132.70 | 29.18 |
| **8** | 59.90 | 135.00 | 28.59 |
| **9** | 60.10 | 135.70 | 28.63 |
| **10** | 59.90 | 132.80 | 29.06 |
| **AVERAGE DECELERATION RATE:** | | | **28.82 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 59.90 | 132.30 | 29.17 |
| **2** | 60.00 | 130.10 | 29.76 |
| **3** | 60.10 | 133.00 | 29.21 |
| **4** | 60.10 | 131.90 | 29.45 |
| **5** | 60.00 | 133.60 | 28.98 |
| **6** | 59.90 | 132.40 | 29.15 |
| **7** | 60.10 | 135.40 | 28.69 |
| **8** | 60.10 | 130.30 | 29.82 |
| **9** | 60.00 | 132.50 | 29.22 |
| **10** | 60.00 | 130.50 | 29.67 |
| **AVERAGE DECELERATION RATE:** | | | **29.31 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **29.07 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **133.2 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Vehicle stopped in straight line? | Yes |
| Vehicle stopped within correct lane? | Yes |

*All vehicles tested are equipped with Anti-lock brakes (ABS)

# BRAKE TESTING

## Ford Police Interceptor Utility 3.0L EcoBoost AWD

**TEST LOCATION:** Chelsea Proving Grounds
**DATE:** September 18, 2021
**BEGINNING TIME:** 10:54 a.m.
**TEMPERATURE:** 69.4° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.10 | 141.80 | 27.40 |
| **2** | 60.00 | 141.60 | 27.35 |
| **3** | 59.70 | 133.10 | 28.80 |
| **4** | 59.80 | 133.20 | 28.88 |
| **5** | 59.70 | 130.90 | 29.29 |
| **6** | 59.80 | 132.40 | 29.05 |
| **7** | 59.90 | 135.10 | 28.57 |
| **8** | 59.70 | 131.30 | 29.20 |
| **9** | 59.80 | 131.60 | 29.23 |
| **10** | 59.40 | 129.30 | 29.35 |
| **AVERAGE DECELERATION RATE:** | | | **28.71 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 59.80 | 131.80 | 29.18 |
| **2** | 59.80 | 133.10 | 28.90 |
| **3** | 59.90 | 129.60 | 29.78 |
| **4** | 59.80 | 133.80 | 28.75 |
| **5** | 59.70 | 129.80 | 29.53 |
| **6** | 59.70 | 133.50 | 28.72 |
| **7** | 59.90 | 128.80 | 29.96 |
| **8** | 59.80 | 129.60 | 29.68 |
| **9** | 59.90 | 134.50 | 28.69 |
| **10** | 59.60 | 128.20 | 29.80 |
| **AVERAGE DECELERATION RATE:** | | | **29.30 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **29.00 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **133.5 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Vehicle stopped in straight line? | Yes |
| Vehicle stopped within correct lane? | Yes |

*All vehicles tested are equipped with Anti-lock brakes (ABS)

# BRAKE TESTING

## Ford Police Interceptor Utility 3.3L AWD

**TEST LOCATION:** Chelsea Proving Grounds
**DATE:** September 18, 2021
**BEGINNING TIME:** 1:55 p.m.
**TEMPERATURE:** 74.5° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.60 | 139.00 | 28.42 |
| **2** | 60.40 | 135.90 | 28.87 |
| **3** | 60.30 | 136.70 | 28.61 |
| **4** | 60.30 | 136.20 | 28.72 |
| **5** | 60.30 | 138.10 | 28.32 |
| **6** | 60.30 | 133.10 | 29.38 |
| **7** | 60.50 | 138.20 | 28.49 |
| **8** | 60.10 | 135.70 | 28.63 |
| **9** | 60.20 | 133.00 | 29.31 |
| **10** | 60.50 | 144.90 | 27.17 |
| **AVERAGE DECELERATION RATE:** | | | **28.59 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.30 | 134.40 | 29.10 |
| **2** | 60.20 | 133.60 | 29.18 |
| **3** | 59.90 | 132.50 | 29.13 |
| **4** | 60.10 | 134.70 | 28.84 |
| **5** | 60.10 | 131.60 | 29.52 |
| **6** | 60.40 | 138.60 | 28.31 |
| **7** | 59.90 | 134.20 | 28.76 |
| **8** | 60.20 | 137.70 | 28.31 |
| **9** | 60.10 | 131.20 | 29.61 |
| **10** | 60.30 | 133.90 | 29.21 |
| **AVERAGE DECELERATION RATE:** | | | **29.00 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **28.79 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **134.5 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Vehicle stopped in straight line? | Yes |
| Vehicle stopped within correct lane? | Yes |

*All vehicles tested are equipped with Anti-lock brakes (ABS)

# BRAKE TESTING

## Ford F150 Police Responder 3.5L EcoBoost

**TEST LOCATION:** Chelsea Proving Grounds
**DATE:** September 18, 2021
**BEGINNING TIME:** 11:39 a.m.
**TEMPERATURE:** 62.5° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.10 | 159.30 | 24.39 |
| **2** | 60.00 | 161.70 | 23.95 |
| **3** | 59.70 | 161.30 | 23.77 |
| **4** | 59.80 | 156.70 | 24.55 |
| **5** | 59.80 | 160.20 | 24.01 |
| **6** | 59.70 | 160.20 | 23.93 |
| **7** | 59.60 | 159.30 | 23.98 |
| **8** | 59.70 | 165.40 | 23.18 |
| **9** | 60.00 | 170.50 | 22.71 |
| **10** | 59.90 | 165.20 | 23.36 |
| **AVERAGE DECELERATION RATE:** | | | **23.78 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 59.90 | 153.40 | 25.16 |
| **2** | 59.50 | 154.00 | 24.73 |
| **3** | 59.40 | 159.90 | 23.73 |
| **4** | 59.70 | 163.50 | 23.45 |
| **5** | 59.90 | 163.40 | 23.62 |
| **6** | 59.40 | 152.10 | 24.95 |
| **7** | 59.80 | 153.60 | 25.04 |
| **8** | 59.70 | 160.40 | 23.90 |
| **9** | 59.80 | 156.00 | 24.66 |
| **10** | 59.80 | 158.50 | 24.27 |
| **AVERAGE DECELERATION RATE:** | | | **24.35 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **24.07 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **160.9 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Vehicle stopped in straight line? | Yes |
| Vehicle stopped within correct lane? | Yes |

*All vehicles tested are equipped with Anti-lock brakes (ABS)

# BRAKE TESTING

## Ford Mustang Mach-E AWD

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021
**BEGINNING TIME:** 9:30 a.m. **TEMPERATURE:** 61.5° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 59.30 | 123.10 | 30.73 |
| **2** | 59.20 | 121.50 | 31.03 |
| **3** | 59.40 | 122.80 | 30.90 |
| **4** | 59.50 | 122.20 | 31.16 |
| **5** | 59.40 | 122.90 | 30.88 |
| **6** | 59.40 | 121.70 | 31.18 |
| **7** | 59.20 | 121.40 | 31.05 |
| **8** | 59.80 | 123.20 | 31.22 |
| **9** | 59.40 | 123.30 | 30.78 |
| **10** | 59.60 | 125.30 | 30.49 |
| **AVERAGE DECELERATION RATE:** | | | **30.94 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 59.60 | 120.00 | 31.84 |
| **2** | 59.50 | 119.80 | 31.79 |
| **3** | 59.80 | 124.70 | 30.85 |
| **4** | 59.70 | 122.80 | 31.22 |
| **5** | 59.50 | 124.70 | 30.54 |
| **6** | 59.30 | 124.30 | 30.43 |
| **7** | 59.70 | 123.60 | 31.02 |
| **8** | 59.60 | 123.80 | 30.86 |
| **9** | 59.90 | 125.60 | 30.73 |
| **10** | 59.40 | 122.90 | 30.88 |
| **AVERAGE DECELERATION RATE:** | | | **31.01 ft/s²** |

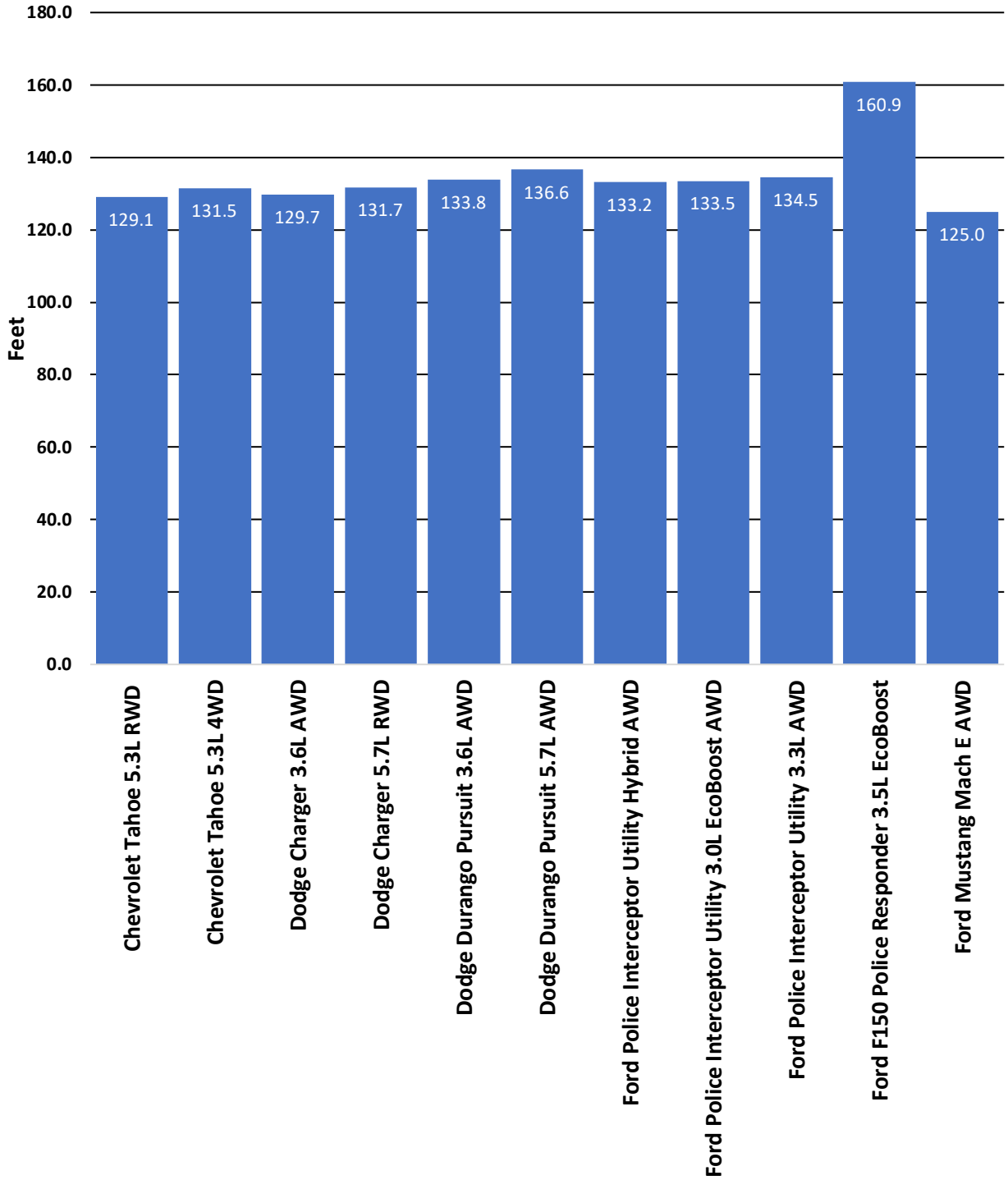
## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **30.98 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **125.0 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Vehicle stopped in straight line? | Yes |
| Vehicle stopped within correct lane? | Yes |

*All vehicles tested are equipped with Anti-lock brakes (ABS)

# 2022 Model Year
# Brake Testing
## Projected Stopping Distance



# ERGONOMICS AND COMMUNICATIONS

## TESTING OBJECTIVE:

Rate each test vehicle's ability to:

1. Provide a suitable environment for the patrol officer in the performance of his/her assigned tasks.
2. Accommodate the required communications and emergency warning equipment and assess the relative difficulty of such installations.

## TESTING METHODOLOGY:

Utilizing the Ergonomics and Communications Form (as seen on page 67 of this book), each category is graded on a scale from 1-10, with 1 representing "totally unacceptable", 5 representing "average", and 10 representing "superior". The scores given are averaged to minimize personal prejudice for or against any given vehicle.

For the ergonomics portion of the form, a minimum of four officers (in this case seven), individually and independently compare and score each test vehicle in several areas. These include comfort, convenience, instrumentation, and visibility.

The installation and communications portion of the evaluation is conducted by personnel from the Michigan Public Safety Communications System. The scores are given based on the relative difficulty of the necessary installations.

# COMMUNICATIONS

| | Chevrolet Tahoe | Dodge Charger | Dodge Durango | Ford Police Interceptor Utility | Ford F150 Police Responder | Mustang Mach-E AWD |
|---|---|---|---|---|---|---|
| **COMMUNICATIONS** | | | | | | |
| Dashboard Accessibility | 9.33 | 9.39 | 10.00 | 10.00 | 9.56 | 3.67 |
| Trunk Accessibility | 8.86 | 9.07 | 9.33 | 8.33 | 7.57 | 7.33 |
| Engine Compartment | 8.33 | 7.67 | 10.00 | 10.00 | 9.00 | 5.00 |
| **TOTAL SCORES** | **8.84** | **8.71** | **9.78** | **9.44** | **8.71** | **5.33** |

# ERGONOMICS

| | Chevrolet Tahoe | Dodge Charger | Dodge Durango | Ford Police Interceptor Utility | Ford F150 Police Responder | Ford Mustang Mach E |
|---|---|---|---|---|---|---|
| **FRONT SEAT** | | | | | | |
| Padding | 8.71 | 8.00 | 8.14 | 8.00 | 8.29 | 8.14 |
| Depth of Bucket Seat | 8.71 | 8.43 | 8.14 | 8.14 | 8.14 | 8.00 |
| Adjustability – Front to Rear | 9.43 | 8.43 | 8.86 | 8.14 | 8.29 | 7.86 |
| Upholstery | 8.43 | 8.00 | 8.14 | 7.86 | 7.71 | 9.00 |
| Bucket Seat Design | 8.71 | 8.29 | 8.14 | 8.00 | 7.71 | 7.86 |
| Headroom | 9.43 | 8.29 | 9.14 | 8.86 | 9.43 | 8.43 |
| Seatbelts | 8.71 | 8.86 | 8.43 | 9.00 | 7.86 | 8.43 |
| Ease of Entry and Exit | 9.29 | 7.14 | 8.57 | 8.57 | 8.43 | 7.14 |
| Overall Comfort Rating | 9.29 | 8.29 | 8.43 | 8.29 | 8.14 | 7.71 |
| **REAR SEAT** | | | | | | |
| Leg Room – Front seat back | 9.14 | 4.43 | 6.57 | 8.00 | 9.00 | 6.00 |
| Ease of Entry and Exit | 9.00 | 5.00 | 8.14 | 8.29 | 8.29 | 5.57 |
| **INSTRUMENTATION** | | | | | | |
| Clarity | 9.14 | 8.86 | 8.86 | 8.29 | 8.71 | 8.43 |
| Placement | 9.29 | 9.00 | 8.71 | 8.00 | 8.71 | 7.57 |
| **VEHICLE CONTROLS** | | | | | | |
| Pedals, Size, and Position | 8.71 | 8.43 | 8.14 | 7.86 | 9.00 | 8.57 |
| Power Window Switch | 9.57 | 9.29 | 9.14 | 8.86 | 9.29 | 8.43 |
| Stability/Traction Control Switch | 9.14 | 9.14 | 8.14 | 4.86 | 7.86 | 3.86 |
| Door Lock Switch | 8.57 | 9.29 | 9.43 | 9.00 | 8.86 | 8.57 |
| Outside Mirror Controls | 9.43 | 9.00 | 9.00 | 9.00 | 8.86 | 8.43 |
| Steering Wheel, Size, Tilt Release, and Surface | 9.29 | 9.14 | 8.86 | 8.57 | 8.43 | 8.14 |
| Heat/AC Vent Placement and Adjustability | 8.71 | 8.71 | 8.43 | 7.43 | 8.43 | 8.00 |
| Trunk Release Switch | 6.29 | 9.29 | 5.86 | 6.29 | N/A | 7.00 |
| **VISIBILITY** | | | | | | |
| Front (Windshield) | 9.29 | 8.71 | 8.57 | 8.86 | 8.86 | 8.29 |
| Rear (Back Window) | 7.86 | 8.29 | 7.86 | 7.14 | 8.57 | 7.57 |
| Left Rear Quarter | 6.71 | 7.29 | 6.57 | 6.86 | 7.86 | 7.43 |
| Right Rear Quarter | 7.29 | 7.29 | 7.00 | 6.86 | 7.86 | 7.00 |
| Outside Rear View Mirrors | 9.14 | 8.29 | 8.43 | 8.43 | 8.43 | 7.86 |
| **TOTAL SCORES** | **8.74** | **8.20** | **8.22** | **7.98** | **8.44** | **7.66** |

# FUEL ECONOMY

The respective auto manufacturers provided estimates for fuel economy as show below. This information has been certified by the Environment Protection Agency.

| Vehicles Make/Model/Engine | E.P.A. Miles Per Gallon | | |
|---|---|---|---|
| | City Label | Highway Label | Combined Label |
| Chevrolet Tahoe 5.3L RWD | 15 | 19 | 16 |
| Chevrolet Tahoe 5.3L 4WD | 14 | 18 | 16 |
| Dodge Charger 3.6L AWD | 18 | 26 | 21 |
| Dodge Charger 5.7L RWD | 16 | 25 | 19 |
| Dodge Durango 3.6L AWD | 18 | 25 | 21 |
| Dodge Durango 5.7L AWD | 14 | 22 | 17 |
| Ford Police Interceptor Utility Hybrid AWD | 23 | 24 | 24 |
| Ford Police Interceptor Utility 3.0L EcoBoost AWD | 17 | 22 | 19 |
| Ford Police Interceptor Utility 3.3L AWD | 17 | 23 | 19 |
| Ford F-150 Police Responder 3.5L EcoBoost | 16 | 20 | 18 |
| Ford Mustang Mach-E AWD- total range 270 miles (40 kWh/100 mi) | | | 84 MPGe |

# MOTORCYCLES

Like many law enforcement agencies, the Michigan State Police used motorcycles until late 1942 and then switched to automobiles. The Michigan State Police rekindled interest in motorcycles for day-to-day patrol operations in 1993. In 2004, Michigan State Police headquarters asked if we had additional information as a resource for our purchasing decisions regarding motorcycles. During that time, we were given direction to expand vehicle testing to include motorcycle testing. It should be noted, the only motorcycles we test are those provided by the manufacturers which are purpose built as police motorcycles. We would like to thank BMW Motorrad USA, Harley-Davidson Motorcycles, and Yamaha Motorcycles for participating and providing their assistance in preparation for this year's successful testing program.

We are constantly evaluating our various tests with the manufacturers and the law enforcement industry to provide you with the most objective test data available. While there are many similarities to automobiles, there are also quite a few differences.

Due to construction at the Precision Driving Unit, motorcycle brake testing was performed on the oval at the Chelsea Proving Grounds this year. The oval has a different coefficient of friction than our facility which may have contributed to the overall increase in braking distances when compared to the 2021 model year motorcycles.

The motorcycle dynamics portion was again conducted at the Grattan Raceway. The Grattan Raceway provides a two-mile road course that has several different curves and elevation changes that tests the motorcycle's high-speed handling characteristics and durability during pursuit and emergency response riding. See the motorcycle dynamics test objectives for further information.

When looking at the data, it is very important for the reader to apply your mission requirements to the motorcycle you are considering so you may make an appropriate decision. This report is not an endorsement of products, but a means of learning what's available for your officers so they can do their job more effectively and safely. If anything in this report requires further explanation or clarification, please call, or write the Michigan State Police Precision Driving Unit.

# BMW R 1250 RT-P

| | |
|---|---|
| **MAKE & MODEL** | BMW R 1250 RT-P |
| **SALES CODE** | 22RP |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 76.5 |
| **LITERS** | 1.254 |
| **HORSEPOWER** | 136 bhp @ 7,750 rpm |
| **TORQUE** | 105 ft./lbs @ 6,500 rpm |
| **ALTERNATOR** | 23 AMP @ 1150 rpm |
| **BATTERY** | 2 x 16 ah AGM no maintenance batteries 220 CCA |
| **TRANSMISSION** | Constant mesh 6-speed w/helical cut gears |
| **SUSPENSION TYPE (FRONT)** | BMW Telelever, 37 mm stanchions, central spring strut |
| **SUSPENSION TYPE (REAR)** | BMW Paralever, travel related damping single strut |
| **TURNING CIRCLE (CURB TO CURB)** | 16 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | 120-70 ZR 17 Front / 180-55 ZR 17 Rear |
| **GROUND CLEARANCE, MINIMUM** | 5.2 inches |
| **BRAKE SYSTEM** | BMW fully integrated ABS with traction control & ABS Pro |
| **FUEL CAPACITY** | 6.6 Gallons/ 25 Liters |
| **MANUFACTURER LIMITED TOP SPEED** | 137 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 58.5 inches |
| **LENGTH** | 87.5 inches |
| **TEST WEIGHT** | 650 lbs. |
| **HEIGHT** | 55.7 inches |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 1,114 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | Not Provided by Manufacturer |
| **HIGHWAY** | Not Provided by Manufacturer |
| **COMBINED** | 50 (WMTC) |

## MANUFACTURER HIGHLIGHTS

The R 1250 RT-P is the newest generation police motor derived from the K52 platform. The R 1250 RT-P model includes an unmatched list of standard features: Electronic Suspension Adjustment (ESA), ABS brakes with traction control, rain or road riding modes, heated handlebar grips, heated seat, electrically adjustable windshield, cruise control, tire pressure monitors, and weather protection.

The newest version of the BMW R 1250 RT-P is equipped with a standard, industry leading, 10.25" TFT instrument panel that displays all motorcycle performance data and a moving map navigational display. Additional new features include an all-new LED headlight system with revised front fairing. New available options include Adaptive Headlight and Enhanced Smart Phone Connectivity.

This generation contains a multi-plate self-adjusting wet clutch that can be changed in an hour, variable valve timing, BMW-Code 3 standard emergency lighting system (including take-down lights and alley lights), handlebar switch system, power management system for all authority accessories, plus a host of special conveniences including electronic radio box latch release, saddlebag lights, alternating headlight system, selectable emergency light start sequence, narrower/lower seat with heat-reflective material (18° cooler in sun), integrated PTT/PTPA switches, etc.

The test motorcycle options include Ride Modes Pro, enabling the selection of riding modes Rain, Road or Dynamic, Dynamic ESA electronic suspension control, Gear Shift Assist Pro, which allows you to shift up or down once the motorcycle is in motion without use of the clutch, ABS Pro enabling braking in corners, and additional fog lights, which also wig-wag with the headlight when there is sufficient ambient light (controlled by dashboard light sensor).

The R 1200 RT-P has 6,000-mile oil change service intervals, comes with a 3-year / 60,000-mile limited warranty at no extra charge and now with EU4 engine management can be run on regular 87 AKI fuel.

Now a BMW Extended Service Contract is available that will extend the limited factory warranty for up to 7 years / Unlimited Mileage.

# Harley-Davidson FLHTP

| | |
|---|---|
| **MAKE & MODEL** | Harley-Davidson FLHTP - Electra Glide |
| **SALES CODE** | FLHTP |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 114 |
| **LITERS** | 1.87 |
| **HORSEPOWER SAENET** | N/A |
| **TORQUE** | 123 @ 3000 RPM |
| **ALTERNATOR** | 48 AMP |
| **BATTERY** | 12 VDC, 28 AMP/Hour, 405 CCA |
| **TRANSMISSION** | 6 Speed Cruise Drive Manual / Mechanical Adjustable Actuation Clutch |
| **SUSPENSION TYPE (FRONT)** | Hydraulic 49 mm Telescopic Forks with Showa Dual Bending Valve Technology |
| **SUSPENSION TYPE (REAR)** | Swing Arm with Hand Adjustable Emulsion Shocks |
| **TURNING CIRCLE (CURB TO CURB)** | Less than 17 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | Rear 180/65B16 M/C 81 H (Load Range 1,019@42psi) Front 130/80B-17 M/C 65 H (Load Range 639 @41psi) |
| **GROUND CLEARANCE, MINIMUM** | 5.3 inches |
| **BRAKE SYSTEM** | Hydraulic Disc/ Reflex Linked Brembo ABS (Dual Front Floating Rotors-Single-Single Fixed Rear) |
| **FUEL CAPACITY** | 6 Gallons |
| **MANUFACTURER LIMITED TOP SPEED** | 110 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 64 inches |
| **LENGTH** | 96.5 inches |
| **TEST WEIGHT** | 842 lbs. |
| **HEIGHT** | 56.3 inches |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 516 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | N/A |
| **HIGHWAY** | N/A |
| **COMBINED** | 43 |

**MANUFACTURER HIGHLIGHTS**

NEW IN 2021
• Mechanical Adjustable Actuation Clutch
• Limited 3-year, 60,000-mile factory warranty -Police Duty Use only -Fully Transferable -Expires at 3 years or 60,000 miles, whichever comes first

MODEL UNIQUE FEATURES

• RDRS Rider Safety Enhancements
  - Cornering Enhanced ABS (C-ABS)
  - Cornering Enhanced Electronic Linked Braking (C-ELB)
  - Cornering Enhanced Traction Control System (C-TCS)
  - Drag-Torque Slip Control System (DSCS)
  - Vehicle Hold Control (VHC) - Tire Pressure Monitoring System (TPMS)
• Handlebar with bar ends turned higher to provide more clearance to the operator's legs
• Fan-assisted oil cooler • Batwing fairing • Floating, dual-front open brake rotors
• Heated hand grips with adjustable six-setting heat control
• 2-1-2 exhaust with dual tapered mufflers
• Dual law enforcement blue license plate marker lamps (OEM standard)
• Pivoting footboards with heel/toe shift lever • Daymaker® LED headlight
• Reflex™ Linked Brembo® Brakes with ABS • 4-piston front and rear caliper
• Trigger switch activation allows approx. 15 minutes of power to police emergency equipment with ignition off
• Independent hazard warning switch
• Emergency light switch with 4 functions and individual indicator lights for: Off, Both Front and Rear On, Front On only, Rear On only
• Saddlebags with One-Touch latch, standard saddlebag guard and luggage locks, common with ignition key

# Harley-Davidson FLHP

| | |
|---|---|
| **MAKE & MODEL** | Harley-Davidson FLHP- Road King |
| **SALES CODE** | FLHP |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 114 |
| **LITERS** | 1.87 |
| **HORSEPOWER SAENET** | N/A |
| **TORQUE** | 123 @ 3000 RPM |
| **ALTERNATOR** | 48 AMP |
| **BATTERY** | 12 VDC, 28 AMP/Hour, 405 CCA |
| **TRANSMISSION** | 6 Speed Cruise Drive Manual / Mechanical Adjustable Actuation Clutch |
| **SUSPENSION TYPE (FRONT)** | Hydraulic 49 mm Telescopic Forks with Showa Dual Bending Valve Technology |
| **SUSPENSION TYPE (REAR)** | Swing Arm with Hand Adjustable Emulsion Shocks |
| **TURNING CIRCLE (CURB TO CURB)** | Less than 17 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | Rear 180/65B16 M/C 81 H (Load Range 1,019@42psi) Front 130/80B-17 M/C 65 H (Load Range 639 @41psi) |
| **GROUND CLEARANCE, MINIMUM** | 5.3 inches |
| **BRAKE SYSTEM** | Hydraulic Disc/ Reflex Linked Brembo ABS (Dual Front Floating Rotors-Single-Single Fixed Rear) |
| **FUEL CAPACITY** | 6 Gallons |
| **MANUFACTURER LIMITED TOP SPEED** | 110 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 64 inches |
| **LENGTH** | 96.5 inches |
| **TEST WEIGHT** | 842 lbs. |
| **HEIGHT** | 56.3 inches |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 518 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | N/A |
| **HIGHWAY** | N/A |
| **COMBINED** | 43 |

**MANUFACTURER HIGHLIGHTS**

NEW IN 2021
• Mechanical Adjustable Actuation Clutch
• Limited 3-year, 60,000-mile factory warranty -Police Duty Use only -Fully Transferable -Expires at 3 years or 60,000 miles, whichever comes first

MODEL UNIQUE FEATURES
• RDRS Rider Safety Enhancements
  - Cornering Enhanced ABS (C-ABS)
  - Cornering Enhanced Electronic Linked Braking (C-ELB)
  - Cornering Enhanced Traction Control System (C-TCS)
  - Drag-Torque Slip Control System (DSCS)
  - Vehicle Hold Control (VHC)
  - Tire Pressure Monitoring System (TPMS)
• Handlebar with bar ends turned higher to provide more clearance to the operator's legs
• Fan-assisted oil cooler • Batwing fairing • Floating, dual-front open brake rotors
• Heated hand grips with adjustable six-setting heat control
• 2-1-2 exhaust with dual tapered mufflers
• Dual law enforcement blue license plate marker lamps (OEM standard)
• Pivoting footboards with heel/toe shift lever • Daymaker® LED headlight
• Reflex™ Linked Brembo® Brakes with ABS • 4-piston front and rear caliper
• Trigger switch activation allows approx. 15 minutes of power to police emergency equipment with ignition off
• Independent hazard warning switch
• Emergency light switch with 4 functions and individual indicator lights for: Off, Both Front and Rear On, Front On only, Rear On only
• Saddlebags with One-Touch latch, standard saddlebag guard and luggage locks, common with ignition key

# Yamaha FJR1300P-AB

| | |
|---|---|
| **MAKE & MODEL** | Yamaha FJR1300P-AB |
| **SALES CODE** | RP31Y |
| **POWERTRAIN INFORMATION** | |
| **CUBIC INCHES** | 79.2 |
| **LITERS** | 1.298 |
| **HORSEPOWER SAENET** | 144.2bhp@8,000RPM |
| **TORQUE** | 101.7 ft./lbs. |
| **ALTERNATOR** | 42.1 AMP |
| **BATTERY** | 12V, 12.0AH CCA |
| **TRANSMISSION** | 6 Speed Manual / Wet, Multiple Disc Clutch |
| **SUSPENSION TYPE (FRONT)** | 48mm fork fully adjustable |
| **SUSPENSION TYPE (REAR)** | Single Shock – adjustable spring preload and rebound damping |
| **TURNING CIRCLE (CURB TO CURB)** | 10.16 ft. |
| **TIRE SIZE, LOAD & SPEED RATING** | FR – 120/70/ZR17 RR – 180/55/ZR17 |
| **GROUND CLEARANCE, MINIMUM** | 5.1 inches |
| **BRAKE SYSTEM** | FR – Dual 12.6 in. discs; Unified Brake System w/ABS<br>RR - 11.1 in.; Unified Brake System and ABS |
| **FUEL CAPACITY** | 6.6 Gallons/24.98 Liters |
| **MANUFACTURER LIMITED TOP SPEED** | 145 mph |
| **GENERAL MEASUREMENTS** | |
| **WHEELBASE** | 60.8 inches |
| **LENGTH** | 87.8 inches |
| **TEST WEIGHT** | 865 lbs. |
| **HEIGHT** | Low 55.7 – High 61 inches |
| **MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)** | 1111 lbs. |
| **EPA MILEAGE EST. (MPG)** | |
| **CITY** | Not provided by Manufacturer |
| **HIGHWAY** | Not provided by Manufacturer |
| **COMBINED** | 36 MPG |

## MANUFACTURER HIGHLIGHTS

The quality and reliability of the FJR1300P makes it the perfect vehicle for police bike patrol and escort vehicle services. Low center of gravity helps maintain excellent high-speed stability. The FJR1300P blends the ultra-high-speed performance of a standard bike with a variety of equipment designed exclusively for police use. Thanks to feedback obtained directly from police bike patrols in various European countries, the FJR1300P sets a new benchmark for performance and reliability. Key Features Include:

**Riding Comfort**

- Electrically adjustable windscreen with 135mm of vertical range
- Upright handle position specific to police model
- Two position, adjustable seating position
- Special comfort seat specific to police model
- Integrated rear view mirror with Knuckle Visors
- Four setting heated grips
- Two setting (Soft / Hard) rear cushion spring preload

**Utility**

- Tight turning radius, within 10 feet
- Detachable, hard side cases
- Fairing-Mounted Storage, including a 12V outlet

**Technology**

- Traction control, plus a Unified Braking System with ABS
- Cruise control
- YCCT – Ride by Wire throttle system with multiple drive modes.
- Assist-and-Slipper Clutch that reduces clutch lever effort by approximately 20%

# MOTORCYCLE DYNAMICS TESTING

## MOTORCYCLE DYNAMICS TESTING OBJECTIVE:

To determine each motorcycle's high-speed handling characteristics and performance in comparison to other motorcycles. The course used is a two-mile road racing type configuration containing hills, curves, and corners. The course simulates actual conditions encountered in pursuit or emergency driving situations in the field, with the exception of other traffic. The evaluation is a true test of the motorcycle manufacturers in offering balanced packages of acceleration capabilities, suspension components, and braking characteristics.

## MOTORCYCLE DYNAMICS TESTING METHODOLOGY:

Each motorcycle is ridden over the course a total of 32 timed laps using four separate riders, each riding an eight-lap series. The final score for the motorcycle is the combined average (from the four riders) of the five fastest laps for each rider during the eight-lap series.

## MOTORCYCLE DYNAMICS SCHEDULE:

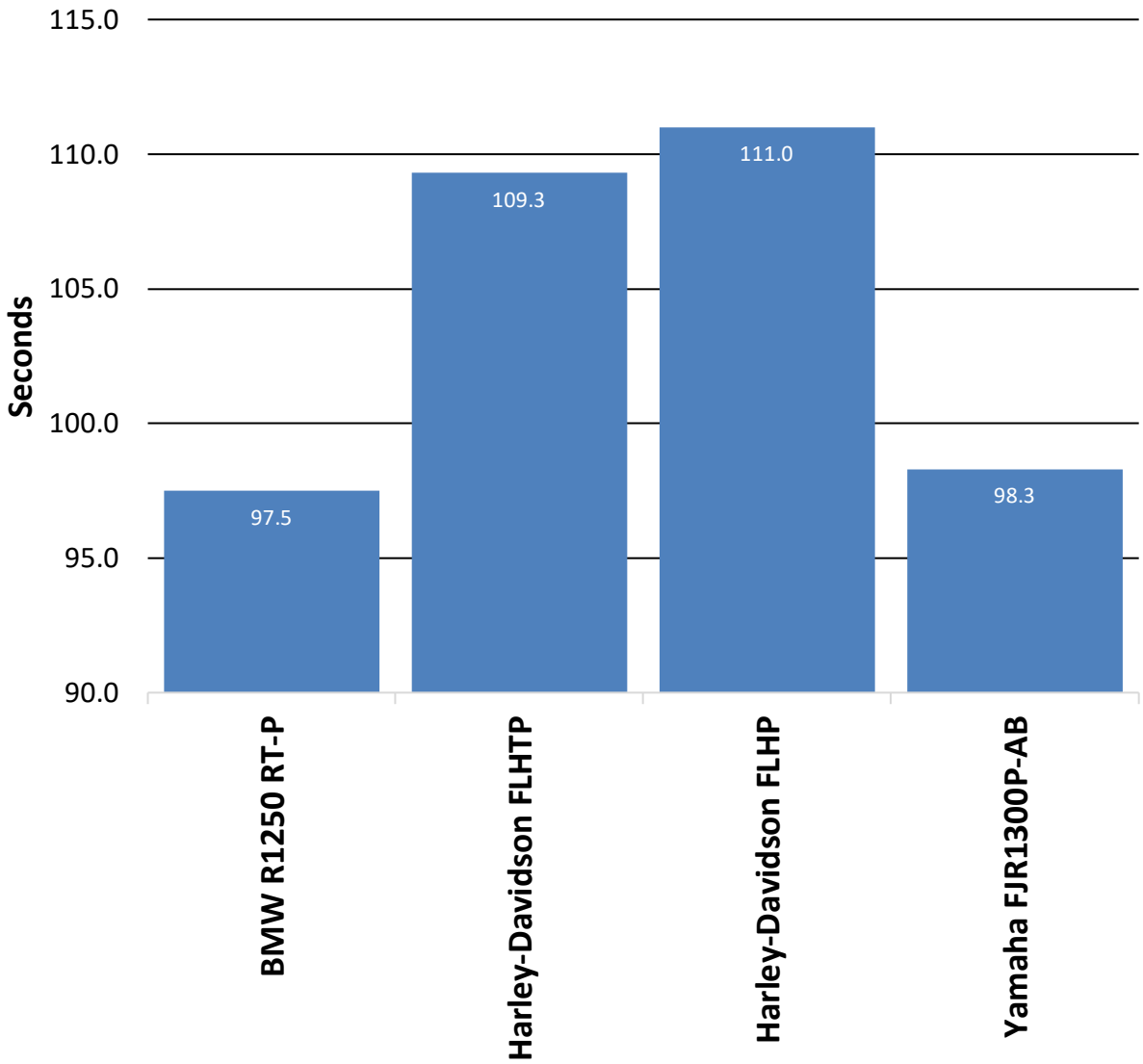
**GRATTAN RACEWAY**
**2022 MODEL YEAR MOTORCYCLE DYNAMICS SCHEDULE**
**SEPTEMBER 16, 2021**

| | CUPP | ROGERS | DARLINGTON | AGEMA |
|---|---|---|---|---|
| **11 a.m.** | Pass | Pass | Harley-Davidson FLHP | Harley-Davidson FLHTP |
| **11:30 a.m.** | Yamaha FJR1300P-AB | BMW R 1250 RT-P | Pass | Pass |
| **12 p.m.** | Pass | Pass | Harley-Davidson FLHTP | Harley-Davidson FLHP |
| **12:30 p.m.** | BMW R 1250 RT-P | Yamaha FJR1300P-AB | Pass | Pass |
| **1 p.m.** | Harley-Davidson FLHTP | Harley-Davidson FLHP | Pass | Pass |
| **1:30 p.m.** | Pass | Pass | Yamaha FJR1300P-AB | BMW R 1250 RT-P |
| **2 p.m.** | Harley-Davidson FLHP | Harley-Davidson FLHTP | Pass | Pass |
| **2:30 p.m.** | Pass | Pass | BMW R 1250 RT-P | Yamaha FJR1300P-AB |

# MOTORCYCLE DYNAMICS TESTING
# SEPTEMBER 16, 2021

| Vehicles | Drivers | Lap 1 | Lap 2 | Lap 3 | Lap 4 | Lap 5 | Average |
|---|---|---|---|---|---|---|---|
| **BMW R 1250 RT-P** | ROGERS | 01:35.52 | 01:35.49 | 01:35.55 | 01:35.11 | 01:34.97 | 01:35.33 |
| | CUPP | 01:35.32 | 01:34.90 | 01:34.99 | 01:35.30 | 01:34.96 | 01:35.10 |
| | AGEMA | 01:43.31 | 01:42.40 | 01:42.77 | 01:42.48 | 01:42.19 | 01:42.63 |
| | DARLINGTON | 01:37.22 | 01:37.11 | 01:36.65 | 01:36.62 | 01:36.35 | 01:36.79 |
| **Overall Average** | | | | | | | **01:37.46** |
| **Harley-Davidson FLHTP** | AGEMA | 01:52.84 | 01:52.90 | 01:52.08 | 01:51.66 | 01:52.32 | 01:52.36 |
| | DARLINGTON | 01:48.66 | 01:49.19 | 01:49.24 | 01:49.32 | 01:48.98 | 01:49.08 |
| | CUPP | 01:48.76 | 01:49.27 | 01:48.51 | 01:48.52 | 01:47.76 | 01:48.57 |
| | ROGERS | 01:47.40 | 01:47.34 | 01:47.39 | 01:47.20 | 01:47.12 | 01:47.29 |
| **.** | | | | | | | **01:49.32** |
| **Harley-Davidson FLHP** | DARLINGTON | 01:51.16 | 01:50.95 | 01:50.90 | 01:50.77 | 01:50.46 | 01:50.85 |
| | AGEMA | 01:54.80 | 01:54.61 | 01:54.41 | 01:54.30 | 01:54.73 | 01:54.57 |
| | ROGERS | 01:49.06 | 01:49.71 | 01:49.50 | 01:49.20 | 01:49.48 | 01:49.39 |
| | CUPP | 01:49.23 | 01:48.57 | 01:48.74 | 01:49.09 | 01:48.93 | 01:48.91 |
| **Overall Average** | | | | | | | **01:50.93** |
| **Yahama FJR1300P-AB** | CUPP | 01:37.96 | 01:37.18 | 01:36.68 | 01:36.74 | 01:36.22 | 01:36.95 |
| | ROGERS | 01:35.89 | 01:36.02 | 01:35.31 | 01:35.34 | 01:36.01 | 01:35.71 |
| | DARLINGTON | 01:37.59 | 01:37.55 | 01:37.36 | 01:37.13 | 01:37.00 | 01:37.33 |
| | AGEMA | 01:43.52 | 01:43.79 | 01:43.47 | 01:42.73 | 01:42.99 | 01:43.30 |
| **Overall Average** | | | | | | | **01:38.32** |

# 2022 Model Year
# Motorcycle Dynamics



# MOTORCYCLE ACCELERATION AND TOP SPEED TESTING

## ACCELERATION TEST OBJECTIVE:

To determine the ability of each test motorcycle to accelerate from a standing start to 60 mph, 80 mph, and 100 mph.

## ACCELERATION TEST METHODOLOGY:

Using a Race Logic Vbox 3i GPS data collection unit, each motorcycle is driven through four acceleration sequences, two northbound and two southbound, to allow for wind direction. The four resulting times for each target speed are averaged and the average times are used to derive scores for acceleration. To ensure accuracy, the same rider performs the test for all motorcycles.

## TOP SPEED TEST OBJECTIVE:

To determine the actual top speed attainable by each test motorcycle within 14 miles from a standing start.

## TOP SPEED TEST METHODOLOGY:

Following the fourth acceleration run, each test motorcycle will continue to accelerate to the top speed attainable within 14 miles from the start of the run. The highest speed attained within the 14-mile distance will be recorded as the vehicle's top speed.

## BMW R1250 RT-P

**BEGINNING TIME:** 11:43 a.m. **TEMPERATURE:** 69.2° F
**WIND VELOCITY:** 7.9 mph **WIND DIRECTION:** 80°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 4.66 | 4.06 | 4.00 | 3.95 | 4.17 |
| **0-80** | 6.15 | 5.97 | 5.87 | 5.91 | 5.98 |
| **0-100** | 10.24 | 9.11 | 8.71 | 9.10 | 9.29 |

**DISTANCE TO REACH 100 MPH:** 0.15 mile **DISTANCE TO REACH 120 MPH:** 0.35 mile

**TOP SPEED ATTAINED:** 134* mph

**DISTANCE TO REACH TOP SPEED:** 2.42 miles **TIME TO REACH TOP SPEED:** 77.68 seconds

** This is the practical top speed of the motorcycle. Practical top speed is defined as when the electronic speed limiter reduces engine power and limits acceleration gains prior to reaching 137 mph nominal top speed.*

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## Harley-Davidson FLHTP

**BEGINNING TIME:** 9:55 a.m. **TEMPERATURE:** 63.4° F
**WIND VELOCITY:** 6.3 mph **WIND DIRECTION:** 55°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 5.40 | 5.65 | 5.53 | 5.65 | 5.56 |
| **0-80** | 9.25 | 9.71 | 9.15 | 9.79 | 9.48 |
| **0-100** | 17.47 | 20.45 | 16.96 | 20.09 | 18.74 |

**DISTANCE TO REACH 100 MPH:** 0.37 mile **DISTANCE TO REACH 120 MPH:** N/A

**TOP SPEED ATTAINED:** 110 mph

**DISTANCE TO REACH TOP SPEED:** 0.83 mile **TIME TO REACH TOP SPEED:** 34.03 seconds

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021

## Harley-Davidson FLHP

**BEGINNING TIME:** 10:48 a.m. **TEMPERATURE:** 66° F
**WIND VELOCITY:** 5.3 mph **WIND DIRECTION:** 76°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 5.29 | 5.37 | 5.25 | 5.28 | 5.30 |
| **0-80** | 8.86 | 9.21 | 8.74 | 9.35 | 9.04 |
| **0-100** | 16.42 | 18.26 | 15.88 | 18.22 | 17.20 |

**DISTANCE TO REACH 100 MPH:** 0.33 mile **DISTANCE TO REACH 120 MPH:** N/A

**TOP SPEED ATTAINED:** 110 mph

**DISTANCE TO REACH TOP SPEED:** 0.71 mile **TIME TO REACH TOP SPEED:** 29.96 seconds

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## Yahama FJR1300 P-AB

**BEGINNING TIME:** 12:49 p.m. **TEMPERATURE:** 72.2° F
**WIND VELOCITY:** 2.1 mph **WIND DIRECTION:** 46°

| SPEEDS | RUN 1 | RUN 2 | RUN 3 | RUN 4 | AVERAGE (seconds) |
|---|---|---|---|---|---|
| **0-60** | 4.67 | 4.38 | 4.33 | 4.43 | 4.45 |
| **0-80** | 6.66 | 6.4 | 6.26 | 6.37 | 6.42 |
| **0-100** | 9.43 | 9.32 | 9.01 | 9.24 | 9.25 |

**DISTANCE TO REACH 100 MPH:** 0.15 mile **DISTANCE TO REACH 120 MPH:** 0.30 mile

**TOP SPEED ATTAINED:** 145* mph

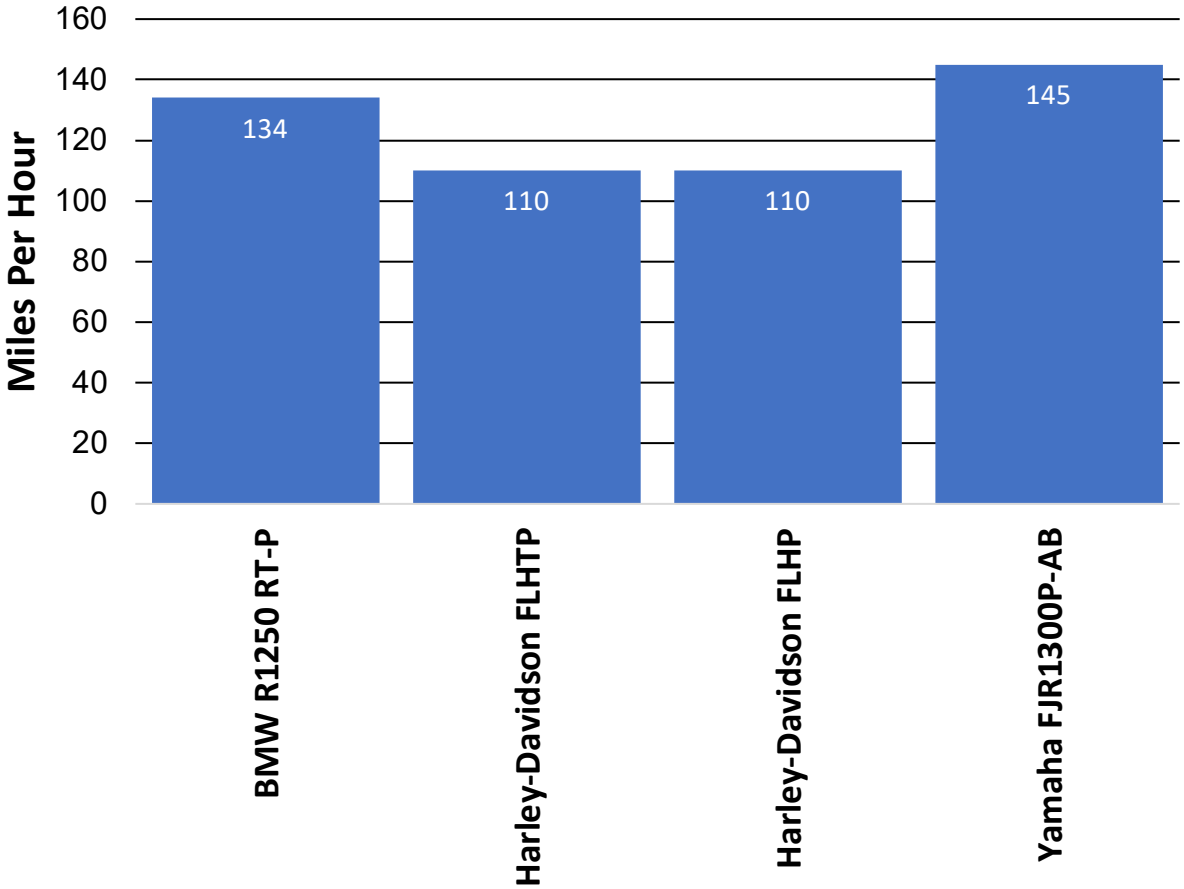
**DISTANCE TO REACH TOP SPEED:** 0.94 mile **TIME TO REACH TOP SPEED:** 30.60 seconds

**This is the practical top speed of the motorcycle. Practical top speed is defined as when the electronic speed limiter reduces engine power and limits acceleration gains prior to reaching 147 mph nominal top speed.*

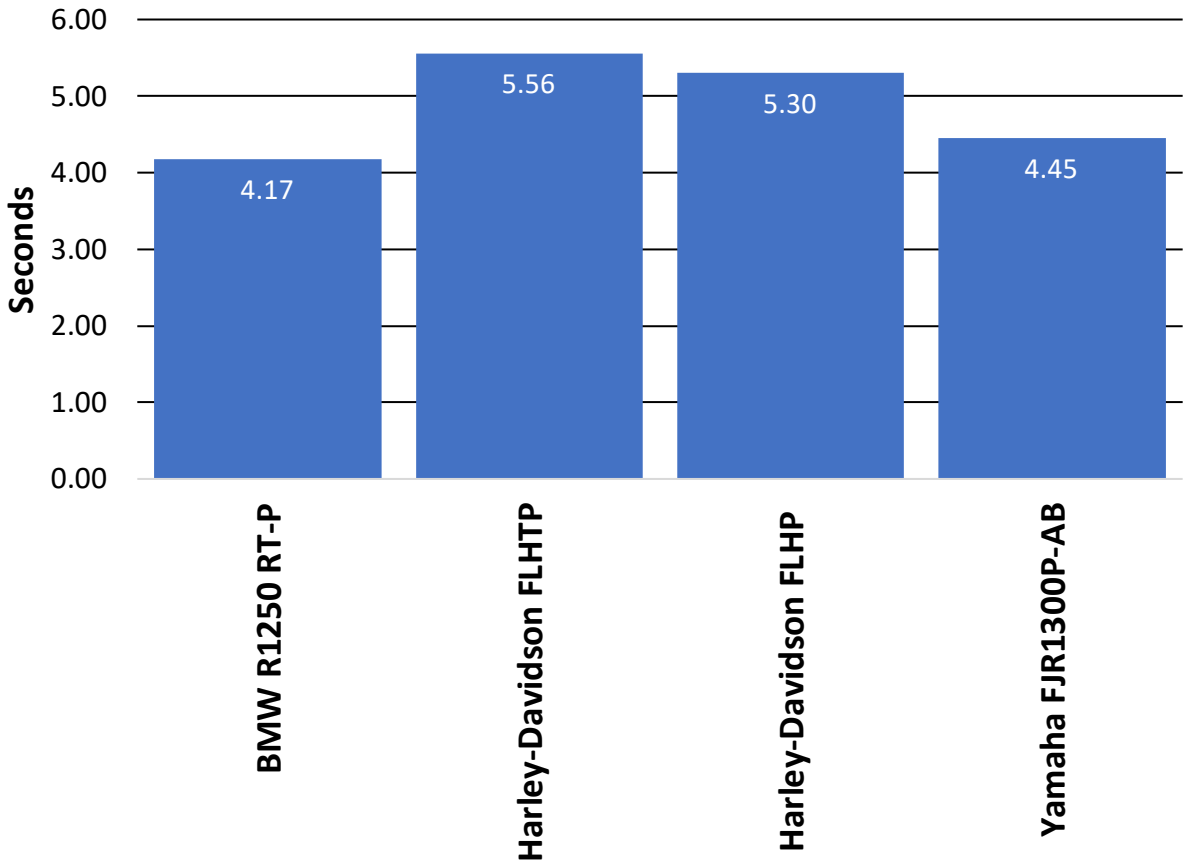
# SUMMARY OF MOTORCYCLE ACCELERATION & TOP SPEED

| | BMW R 1250 RT-P | Harley-Davidson FLHTP | Harley-Davidson FLHP | Yahama FJR1300 P-AB |
|---|---|---|---|---|
| **ACCELERATION (seconds)** | | | | |
| 0-20 mph | 1.42 | 1.38 | 1.26 | 1.75 |
| 0-30 mph | 2.08 | 2.05 | 1.89 | 2.37 |
| 0-40 mph | 2.67 | 2.84 | 2.68 | 2.98 |
| 0-50 mph | 3.37 | 4.17 | 3.96 | 3.56 |
| 0-60 mph | 4.17 | 5.56 | 5.30 | 4.45 |
| 0-70 mph | 4.95 | 7.16 | 6.85 | 5.26 |
| 0-80 mph | 5.98 | 9.48 | 9.04 | 6.42 |
| 0-90 mph | 7.16 | 12.48 | 11.81 | 7.62 |
| 0-100 mph | 9.29 | 18.74 | 17.20 | 9.25 |
| TOP SPEED (mph) | 134 | 110 | 110 | 145 |
| **DISTANCE TO REACH (miles)** | | | | |
| 100 mph | 0.15 | 0.37 | 0.33 | 0.15 |
| 120 mph | 0.35 | N/A | N/A | 0.30 |
| Top Speed | 2.42 | 0.83 | 0.71 | 0.94 |

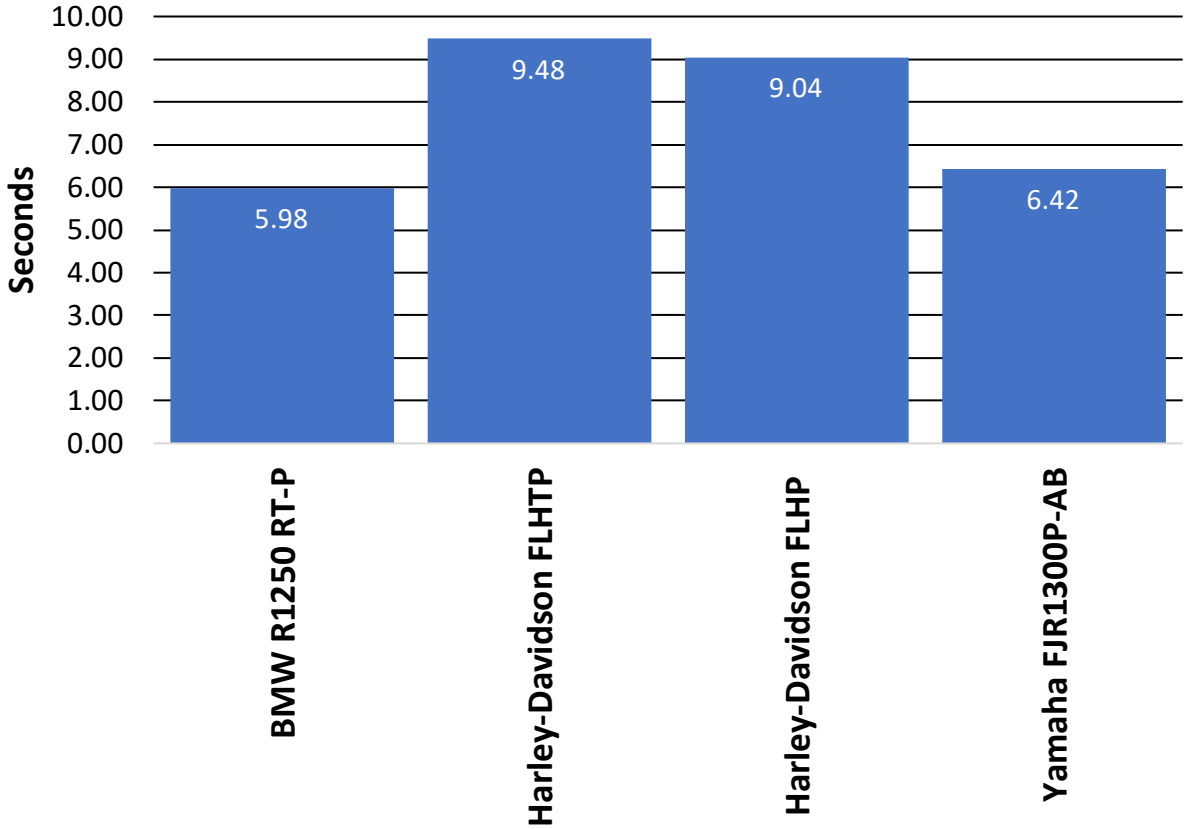
# 2022 Model Year
# Motorcycle Top Speed Comparison
## Top Speed Attained



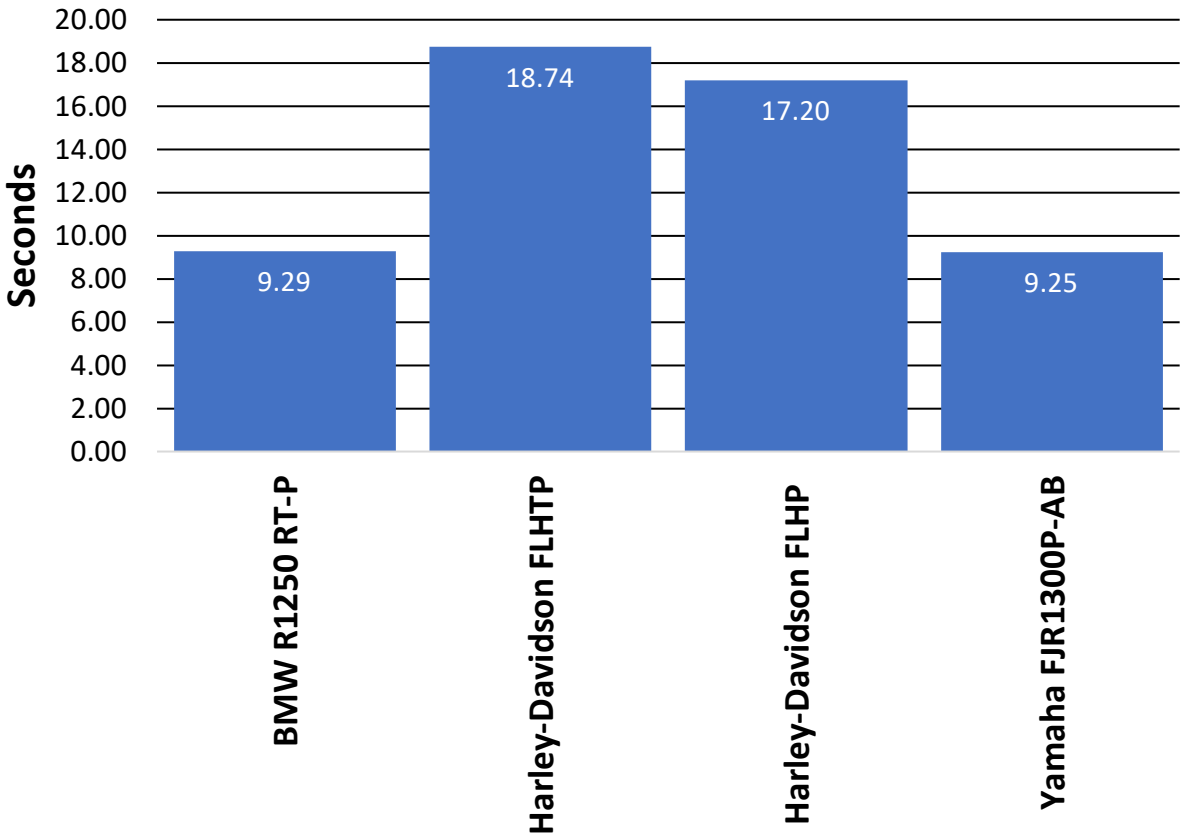
# 2022 Model Year
# Motorcycle Acceleration Comparison
## Acceleration Times
## 0-60 mph



# 2022 Model Year
# Motorcycle Acceleration Comparison
## Acceleration Times
## 0-80 mph



# 2022 Model Year
# Motorcycle Acceleration Comparison
# Acceleration Times
# 0-100



# MOTORCYCLE BRAKE TESTING

## BRAKE TEST OBJECTIVE:

To determine the deceleration rate attained by each test motorcycle on twenty 60 – 0 mph full ABS maximum deceleration panic stops. Each motorcycle will be scored on the average deceleration rate it attains.

## BRAKE TEST METHODOLOGY:

Each motorcycle makes ten measured 60 – 0 mph full ABS maximum deceleration panic stops, at specific predetermined points. After a one-mile lap to cool the brakes, the entire sequence is repeated. The exact initial velocity at the beginning of each of the 60 – 0 mph decelerations, and the exact distance required to make each stop, is recorded by means of a Race Logic Vbox 3i GPS based data collection unit. The data resulting from the twenty total stops is used to calculate the average deceleration rate which is the motorcycle's score for this test. To ensure consistency, the same rider performs all the stops on every motorcycle.

## DECELERATION RATE FORMULA:

$$\text{Deceleration Rate (DR)} = \frac{\text{Initial Velocity* (IV) squared}}{\text{Two times Stopping Distance (SD)}} = \frac{(IV)^2}{2\,(SD)}$$

**EXAMPLE:**

Initial Velocity **=** 89.175 ft/s (60.8 mph x 1.4667*)
Stopping Distance **=** 171.4 ft.

$$DR = \frac{(IV)^2}{2(SD)} = \frac{(89.175)^2}{2(171.4)} = \frac{7952.24}{342.8} = 23.198 \text{ ft/s}^2$$

Once a motorcycle's average deceleration rate has been determined, it is possible to calculate the approximate stopping distance from any given speed by utilizing the following formula:

Select a speed; translate that speed into feet per second; square the feet per second figure by multiplying it by itself; divide the resultant figure by 2; divide the remaining figure by the average deceleration rate of the motorcycle in question.

**EXAMPLE:**
60 mph = 88.002 ft/s x 88.002 = 7744.352 / 2 = 3872.176 / 23.198 ft/s$^2$ = 166.9 ft.

* Initial velocity must be expressed in terms of feet per second, with 1 mile per hour being equal to 1.4667 feet per second.

# BRAKE TESTING

## BMW R1250 RT-P

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021
**BEGINNING TIME:** 11:59 a.m. **TEMPERATURE:** 68.9° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 61.40 | 142.80 | 28.40 |
| **2** | 58.90 | 135.10 | 27.62 |
| **3** | 58.60 | 131.90 | 28.00 |
| **4** | 59.90 | 141.90 | 27.20 |
| **5** | 60.40 | 143.60 | 27.33 |
| **6** | 59.30 | 139.30 | 27.15 |
| **7** | 60.50 | 139.20 | 28.28 |
| **8** | 60.50 | 130.60 | 30.15 |
| **9** | 61.00 | 142.80 | 28.03 |
| **10** | 59.90 | 145.70 | 26.49 |
| **AVERAGE DECELERATION RATE:** | | | **27.86 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.20 | 141.80 | 27.49 |
| **2** | 60.00 | 136.70 | 28.33 |
| **3** | 59.90 | 137.20 | 28.13 |
| **4** | 60.20 | 135.20 | 28.83 |
| **5** | 60.50 | 141.90 | 27.74 |
| **6** | 59.80 | 137.40 | 27.99 |
| **7** | 60.40 | 129.60 | 30.28 |
| **8** | 59.70 | 143.00 | 26.81 |
| **9** | 61.20 | 142.20 | 28.33 |
| **10** | 61.30 | 147.80 | 27.35 |
| **AVERAGE DECELERATION RATE:** | | | **28.13 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **28.00 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **138.3 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Motorcycle stopped in straight line? | Yes |
| Motorcycle stopped within correct lane? | Yes |

*All motorcycles tested are equipped with Anti-lock brakes (ABS)

# BRAKE TESTING

## Harley-Davidson FLHTP

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021
**BEGINNING TIME:** 10:16 a.m. **TEMPERATURE:** 64.8° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 58.70 | 141.70 | 26.16 |
| **2** | 58.30 | 139.20 | 26.26 |
| **3** | 58.60 | 141.80 | 26.05 |
| **4** | 58.60 | 143.70 | 25.70 |
| **5** | 58.10 | 138.50 | 26.22 |
| **6** | 58.40 | 140.60 | 26.09 |
| **7** | 58.50 | 133.60 | 27.55 |
| **8** | 59.20 | 144.80 | 26.03 |
| **9** | 58.90 | 140.10 | 26.63 |
| **10** | 60.30 | 144.20 | 27.12 |
| **AVERAGE DECELERATION RATE:** | | | **26.38 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 61.10 | 145.00 | 27.69 |
| **2** | 59.30 | 138.50 | 27.31 |
| **3** | 59.60 | 140.00 | 27.29 |
| **4** | 60.10 | 143.70 | 27.04 |
| **5** | 59.40 | 139.00 | 27.30 |
| **6** | 60.30 | 147.90 | 26.44 |
| **7** | 59.60 | 147.00 | 25.99 |
| **8** | 59.70 | 139.70 | 27.44 |
| **9** | 58.70 | 140.20 | 26.44 |
| **10** | 60.00 | 143.00 | 27.08 |
| **AVERAGE DECELERATION RATE:** | | | **27.00 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **26.69 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **145.1 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Motorcycle stopped in straight line? | Yes |
| Motorcycle stopped within correct lane? | Yes |

*All motorcycles tested are equipped with Anti-lock brakes (ABS)

# BRAKE TESTING

## Harley-Davidson FLHP

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021
**BEGINNING TIME:** 11:09 a.m. **TEMPERATURE:** 67.2° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.50 | 145.30 | 27.10 |
| **2** | 60.50 | 144.90 | 27.17 |
| **3** | 59.70 | 142.30 | 26.94 |
| **4** | 60.10 | 143.40 | 27.09 |
| **5** | 60.40 | 145.40 | 26.99 |
| **6** | 59.40 | 139.60 | 27.19 |
| **7** | 59.50 | 140.50 | 27.10 |
| **8** | 60.00 | 141.10 | 27.44 |
| **9** | 60.80 | 139.70 | 28.46 |
| **10** | 60.20 | 138.50 | 28.14 |
| **AVERAGE DECELERATION RATE:** | | | **27.36 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 59.60 | 136.90 | 27.91 |
| **2** | 60.70 | 137.80 | 28.76 |
| **3** | 60.80 | 144.00 | 27.61 |
| **4** | 60.20 | 146.40 | 26.63 |
| **5** | 59.90 | 139.40 | 27.68 |
| **6** | 61.20 | 152.90 | 26.35 |
| **7** | 60.40 | 145.40 | 26.99 |
| **8** | 60.70 | 145.70 | 27.20 |
| **9** | 60.90 | 146.50 | 27.23 |
| **10** | 60.70 | 143.50 | 27.62 |
| **AVERAGE DECELERATION RATE:** | | | **27.40 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **27.38 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **141.4 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Motorcycle stopped in straight line? | Yes |
| Motorcycle stopped within correct lane? | Yes |

*All motorcycles tested are equipped with Anti-lock brakes (ABS)

# BRAKE TESTING

## Yamaha FJR1300P-AB

**TEST LOCATION:** Chelsea Proving Grounds **DATE:** September 18, 2021
**BEGINNING TIME:** 1:03 p.m. **TEMPERATURE:** 73° F

## Phase I

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.70 | 157.30 | 25.19 |
| **2** | 60.60 | 152.50 | 25.90 |
| **3** | 60.90 | 156.00 | 25.57 |
| **4** | 60.80 | 156.20 | 25.46 |
| **5** | 61.60 | 161.80 | 25.23 |
| **6** | 60.80 | 151.50 | 26.25 |
| **7** | 60.80 | 154.70 | 25.70 |
| **8** | 60.10 | 147.10 | 26.41 |
| **9** | 60.90 | 150.10 | 26.58 |
| **10** | 60.80 | 151.20 | 26.30 |
| **AVERAGE DECELERATION RATE:** | | | **25.86 ft/s²** |

***(One cool down lap at 45 mph)***

## Phase II

(Ten 60-0 mph full ABS maximum deceleration stops)

| Stop # | Initial Velocity *(mph)* | Stopping Distance *(feet)* | Deceleration Rate *(ft/s²)* |
|---|---|---|---|
| **1** | 60.60 | 155.70 | 25.37 |
| **2** | 60.80 | 150.10 | 26.49 |
| **3** | 60.60 | 157.20 | 25.13 |
| **4** | 60.90 | 151.50 | 26.33 |
| **5** | 60.30 | 151.60 | 25.80 |
| **6** | 61.40 | 158.20 | 25.63 |
| **7** | 60.60 | 146.20 | 27.02 |
| **8** | 60.60 | 140.90 | 28.03 |
| **9** | 60.70 | 139.50 | 28.41 |
| **10** | 60.50 | 146.20 | 26.93 |
| **AVERAGE DECELERATION RATE:** | | | **26.51 ft/s²** |

## Phase III

| | |
|---|---|
| **OVERALL AVERAGE DECELERATION RATE:** | **26.19 ft/s²** |
| **PROJECTED STOPPING DISTANCE FROM 60 mph:** | **147.9 feet** |

| | |
|---|---|
| Evidence of severe fading? | No |
| Motorcycle stopped in straight line? | Yes |
| Motorcycle stopped within correct lane? | Yes |

*All motorcycles tested are equipped with Anti-lock brakes (ABS)

# 2022 Motorcycle Brake Testing

## Projected Stopping Distance