POLICE VEHICLE EVALUATION

Model Year 2020

STATE OF MICHIGAN

Department of State Police

and

Department of Technology, Management and Budget

2020 Model Year

Police Vehicle Evaluation Program

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TABLE OF CONTENTS

PREFACE

The Michigan State Police Vehicle Test Team is pleased to announce the results of the 2020 Model Year Police Vehicle Evaluation. This year we tested thirteen patrol vehicles and six police motorcycles. We appreciate your continued support and encouragement. The vehicles evaluated this year included the following:

POLICE CATEGORY

Chevrolet Tahoe 5.3L RWD
Chevrolet Tahoe 5.3L 4WD
Dodge Charger 3.6L RWD
2021 Dodge Charger 3.6L AWD
2021 Dodge Charger 5.7L RWD
Dodge Charger 5.7L AWD
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 Police Responder Hybrid Sedan

MOTORCYCLES

BMW R 1250 RT-P
BMW F 750 GS-P
BMW F 850 GS-P
Harley-Davidson FLHTP
Harley-Davidson FLHP
Yamaha FJR1300P-AB

GENERAL INFORMATION

All the 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, or with the exception of certain motorcycles.

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 the majority of the equipment installed.

The manufacturers were allowed to 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 thirteenth 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 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.

EVALUATION INFORMATION

Motorcycle Brake Testing

While performing brake testing on both the BMW F750 GS-P and the BMW F850 GS-P the rear tire lost contact with the roadway on the majority of brake applications. In general, the rear tire lifted 24 to 30 inches causing the rider to modulate braking pressure rather than applying a true panic stop. On several occasions the rider had to release front brake pressure as the rear tire lifted high enough that the motorcycle was no longer stable.

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 in order 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 has 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 threshold braking 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 is capable of performing 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.

Colonel Joe Gasper, Director, Michigan Department of State Police
Lt. Colonel Richard T. Arnold, Deputy Director, Field Operations Bureau
Lt. Colonel W. Thomas Sands, Deputy Director, Field Support Bureau
Lt. Colonel Chris Kelenske, Deputy Director, Intelligence and Technology Bureau
Mr. Shawn Sible, Deputy Director, Office of Administrative Services
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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, Ford Motor Company, BMW Motorrad USA, Harley-Davidson Motorcycles, and Yamaha Motorcycles for their hard work in building and preparing the test cars and motorcycles. 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: Sgt. Nick Darlington, Ret. Sgt. David "Doc" Halliday, Tpr. Lisa Kanyuh, Lt. Mike McCarthy, Tpr. Jeff Mercer,

Front Row: Tpr. Eddie Ricklefs, Sgt. Doug Schutter, Sgt. John Looney, Ms. Ashly Obrien, Ms. Jackie Fitzsimmons, Sgt. Tim Thompson, Sgt. Andy Douville, and Sgt. Pat Agema

Not Pictured: Sgt. Matt Rogers, Tpr. Jon Tibaudo, Tpr. Jeremy Cupp, Tpr. Everett Morris, and Tpr. Michael McCuaig

TEST EQUIPMENT

The following test equipment is utilized during the Acceleration, Top Speed, Braking, and Vehicle 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 Radios

TEST VEHICLE DESCRIPTIONS AND PHOTOGRAPHS

Chevrolet Tahoe
5.3L RWD

MAKE & MODEL	2020 Chevrolet Tahoe 2WD
SALES CODE	CC15706
POWERTRAIN INFORMATION	
CUBIC INCHES	325
LITERS	5.3
DRIVE SYSTEM	Rear Wheel Drive
HORSEPOWER	355 HP @ 5600 RPM
TORQUE	383 ft./lbs. @ 4100 RPM
ALTERNATOR	170 AMP
BATTERY	720 Primary 730 Auxiliary CCA
TRANSMISSION	6-Speed Automatic
AXLE RATIO	3.08:1 Rear- Wheel Drive with Heavy-Duty Locking Rear Differential
TURNING RADIUS	39 ft.
TIRE SIZE, LOAD & SPEED RATING	Goodyear P265/60R17 All Season, 108 Load Rating, "V" Speed Rating
GROUND CLEARANCE, MINIMUM	8.5 inches
BRAKE SYSTEM	Heavy Duty 4-Wheel Anti-lock front & rear disc with Vacuum boost
FUEL CAPACITY	26 Gallons/98 Liters
GENERAL MEASUREMENTS	
WHEELBASE	116 inches
LENGTH	204 inches
CURB WEIGHT	5,223 lbs.
GVWR	6,800 lbs.
HEIGHT	72.4 inches
INTERIOR VOLUME	
FRONT	68.3 cu. ft.
REAR	56.9 cu. ft.
COMBINED	120.7 cu. ft. Passenger Volume
TRUNK	54.0 cu. ft. Behind Second Row Seats, 112.1 cu. ft. Behind First Row Seats
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,588 lbs. with 40/40 front seats (no center seat)
EPA MILEAGE EST. (MPG)	
CITY	15
HIGHWAY	22
COMBINED	18

MANUFACTURER VEHICLE HIGHLIGHTS

The Tahoe PPV is a full-size, body-on-frame, pursuit-rated cruiser. It provides excellent officer comfort, visibility, cargo capacity, up-fit capability, and true utility.

Tahoe interior showcases office-like ergonomics, innovative technologies, and a host of safety features to keep officers safe and connected behind the wheel. Standard are a Rear Vision Camera with 8" Display and Rear Park Assist backup sensors. An 8 inch Chevrolet Infotainment radio with Bluetooth[1] cell phone connectivity and steering wheel mounted controls are also standard.

Optional Enhanced Driver Alert Package that includes Forward Collision Alert, Low Speed Forward Automatic Braking, Lane Keep Assist with Lane Departure Warning and exclusive GM Safety Alert Seat is available.
The Tahoe PPV offers full pursuit capability with tremendous power, speed, braking, and agility. The 5.3L EcoTec3 V8 under the hood features direct injection, variable valve timing, and Active Fuel Management. It produces 355 horsepower and 383 lb-ft of torque all while yielding better gas mileage than the engine it replaced (up to 22 highway mpg). Also, standard is an auxiliary battery to handle the electrical draw of emergency equipment, and a tow package capable of up to 4,000 lbs. of tow capacity[2].

Whether it's high-speed emergency vehicle operations, city patrol, HAZMAT, K-9 unit, medical first responder, or tactical operations, the 2020 Tahoe PPV reaffirms that the SUV is thriving and ready for duty.

[1] Go to myChevrolet.com/learnAbout/bluetooth to find out which phones are compatible with the vehicle.
[2] Before you buy a vehicle or use it for trailering, carefully review the Trailering section of the Owner's Manual. The weight of passengers, cargo and options or accessories may reduce the amount you can tow

Chevrolet Tahoe
5.3L 4WD

MAKE & MODEL	2020 Chevrolet Tahoe 5.3L 4WD
SALES CODE	CK15706
POWERTRAIN INFORMATION	
CUBIC INCHES	325
LITERS	5.3
DRIVE SYSTEM	Rear Wheel Drive
HORSEPOWER	355 HP @ 5600 RPM
TORQUE	383 ft./lbs. @ 4100 RPM
ALTERNATOR	170 AMP
BATTERY	720 Primary 730 Auxiliary CCA
TRANSMISSION	6-Speed Automatic
AXLE RATIO	3.08:1 Rear- Wheel Drive with Heavy-Duty Locking Rear Differential
TURNING RADIUS	39 ft.
TIRE SIZE, LOAD & SPEED RATING	Goodyear P265/60R17 All Season, 108 Load Rating, "V" Speed Rating
GROUND CLEARANCE, MINIMUM	8.5 inches
BRAKE SYSTEM	Heavy Duty 4-Wheel Anti-lock front & rear disc with Vacuum boost
FUEL CAPACITY	26 Gallons/98 Liters
GENERAL MEASUREMENTS	
WHEELBASE	116 inches
LENGTH	204 inches
CURB WEIGHT	5,480 lbs.
GVWR	7,100 lbs.
HEIGHT	72.4 inches
INTERIOR VOLUME	
FRONT	68.3 cu. ft.
REAR	56.9 cu. ft.
COMBINED	120.7 cu. ft. Passenger Volume
TRUNK	54.0 cu. ft. Behind Second Row Seats, 112.1 cu. ft. Behind First Row Seats
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,628 lbs. with 40/40 front seats (no center seat)
EPA MILEAGE EST. (MPG)	
CITY	14
HIGHWAY	20
COMBINED	16

MANUFACTURER VEHICLE HIGHLIGHTS

The Tahoe PPV is a full-size, body-on-frame, pursuit-rated cruiser. It provides excellent officer comfort, visibility, cargo capacity, up-fit capability, and true utility.

Tahoe interior showcases office-like ergonomics, innovative technologies, and a host of safety features to keep officers safe and connected behind the wheel. Standard are a Rear Vision Camera with 8" Display and Rear Park Assist backup sensors. An 8-inch Chevrolet Infotainment radio with Bluetooth[1] cell phone connectivity and steering wheel mounted controls are also standard.

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The Tahoe PPV offers full pursuit capability with tremendous power, speed, braking, and agility. The 5.3L EcoTec3 V8 under the hood features direct injection, variable valve timing, and Active Fuel Management. It produces 355 horsepower and 383 lb-ft of torque all while yielding better gas mileage than the engine it replaced (up to 20 highway mpg). Also, standard is an auxiliary battery to handle the electrical draw of emergency equipment, and a tow package capable of up to 4,000 lbs. of tow capacity[2].

Whether it's high-speed emergency vehicle operations, city patrol, HAZMAT, K-9 unit, medical first responder, or tactical operations, the 2020 Tahoe PPV reaffirms that the SUV is thriving and ready for duty.

[1] Go to myChevrolet.com/learnAbout/bluetooth to find out which phones are compatible with the vehicle.
[2] Before you buy a vehicle or use it for trailering, carefully review the Trailering section of the Owner's Manual. The weight of passengers, cargo and options or accessories may reduce the amount you can tow

Dodge Charger
3.6L RWD

MAKE & MODEL	2020 Dodge Charger 3.6L RWD
SALES CODE	27A, 590
POWERTRAIN INFORMATION	
CUBIC INCHES	220
LITERS	3.6
DRIVE SYSTEM	Rear Wheel Drive
HORSEPOWER	292 HP
TORQUE	260 ft./lbs.
ALTERNATOR	220 AMP
BATTERY	800 CCA
TRANSMISSION	5 Speed Electronic Automatic
AXLE RATIO	2.62
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
GENERAL MEASUREMENTS	
WHEELBASE	120.2 inches
LENGTH	198.4 inches
CURB WEIGHT	4097 lbs.
GVWR	5250 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)	1353 lbs.
EPA MILEAGE EST. (MPG)	
CITY	18
HIGHWAY	26
COMBINED	20

MANUFACTURER VEHICLE HIGHLIGHTS

The 2020 Dodge Charger Pursuit offers FCA's exclusive, Officer Protection Package. This package is designed to provide officers with rear vision and enhanced officer safety when parked and working inside their vehicle. When activated, the rear-facing camera and sensors detect movement behind the vehicle. When motion is detected, images automatically appear on the vehicle's Uconnect touchscreen, and any or all of the following can be programmed to occur: alert chimes sound, reverse lights and tail lamps flash, windows roll up and all doors lock.

The available Uconnect 12.1-inch display integrates law enforcement systems and innovative technology to improve safety and occupant space.

The 2020 Dodge Charger Pursuit features a Pentastar® V6 engine with Decel Fuel Shut-Off feature that provides a unique balance of pursuit-rated performance and V6 efficiency.

Pursuit package upgrades include performance-tuned suspension, load-leveling shocks, and heavy-duty brakes. Additional officer-focused upgrades include specially developed seats to accommodate belt-mounted gear, a steering wheel with auxiliary buttons for controlling police equipment, and an I/P-mounted gear shifter that frees up the center console for police-specific controls.

Dodge Charger
3.6L AWD

MAKE & MODEL	2021 Dodge Charger 3.6L AWD
SALES CODE	TBD
POWERTRAIN INFORMATION	
CUBIC INCHES	220
LITERS	3.6
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	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
GENERAL MEASUREMENTS	
WHEELBASE	120.2 inches
LENGTH	198.4 inches
CURB WEIGHT	4217 (est.) lbs.
GVWR	5350 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 (est.) lbs.
EPA MILEAGE EST. (MPG)	
CITY	18 (est.)
HIGHWAY	27 (est.)
COMBINED	21 (est.)

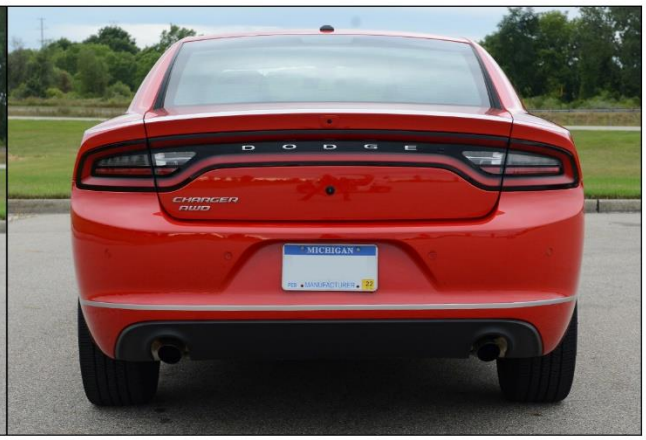
MANUFACTURER VEHICLE HIGHLIGHTS
Powered by the award-winning 3.6-liter Pentastar® V-6 and mated to the standard TorqueFlite eight-speed automatic transmission, the all-new 2021 Dodge Charger Pursuit all-wheel-drive (AWD) delivers 300 horsepower and 260 lb.-ft. of torque resulting in maximum tactical performance, all-weather traction, and fuel-efficiency.

Dodge Charger
5.7L RWD

MAKE & MODEL	2021 Dodge Charger 5.7L RWD
SALES CODE	TBD
POWERTRAIN INFORMATION	
CUBIC INCHES	345
LITERS	5.7
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	38.7 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
GENERAL MEASUREMENTS	
WHEELBASE	120.2 inches
LENGTH	198.4 inches
CURB WEIGHT	4336 (est.) lbs.
GVWR	5450 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)	1160 (est.) lbs.
EPA MILEAGE EST. (MPG)	
CITY	16 (est.)
HIGHWAY	25 (est.)
COMBINED	19 (est.)

MANUFACTURER VEHICLE HIGHLIGHTS
The 2021 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 360 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.

Dodge Charger
5.7L AWD



MAKE & MODEL	2020 Dodge Charger 5.7L AWD
SALES CODE	29A, 590
	POWERTRAIN INFORMATION
CUBIC INCHES	345
LITERS	5.7
DRIVE SYSTEM	All Wheel Drive
HORSEPOWER	370 HP
TORQUE	395 ft./lbs.
ALTERNATOR	220 AMP
BATTERY	800 CCA
TRANSMISSION	5 Speed Electronic Automatic
AXLE RATIO	3.08
TURNING RADIUS	38.7 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
	GENERAL MEASUREMENTS
WHEELBASE	120.2 inches
LENGTH	198.4 inches
CURB WEIGHT	4526 lbs.
GVWR	5500 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)	974 lbs.
	EPA MILEAGE EST. (MPG)
CITY	15
HIGHWAY	23
COMBINED	18

MANUFACTURER VEHICLE HIGHLIGHTS

The 2020 Dodge Charger Pursuit offers FCA's exclusive, Officer Protection Package. This package is designed to provide officers with rear vision and enhanced officer safety when parked and working inside their vehicle. When activated, the rear-facing camera and sensors detect movement behind the vehicle. When motion is detected, images automatically appear on the vehicle's Uconnect touchscreen, and any or all of the following can be programmed to occur: alert chimes sound, reverse lights and tail lamps flash, windows roll up, and all doors lock.

The available Uconnect 12.1-inch display integrates law enforcement systems and innovative technology to improve safety and occupant space.

The 2020 Dodge Charger Pursuit's advanced all-wheel-drive system transitions seamlessly from RWD to AWD, resulting in more control for officers. The 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. The 5.7L HEMI® V8 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.

Pursuit package upgrades include performance-tuned suspension, load-leveling shocks, heavy-duty brakes and two-mode police-specific Electronic Stability Control (ESC). Additional officer-focused upgrades include specially developed seats to accommodate belt-mounted gear, a steering wheel with auxiliary buttons for controlling police equipment and an I/P-mounted gear shifter that frees up the center console for police-specific controls.

Dodge Durango
3.6L AWD

MAKE & MODEL	2020 Dodge Durango 3.6L AWD
SALES CODE	2BZ, 514
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 850RE
AXLE RATIO	3.45
TURNING RADIUS	41.0 ft.
TIRE SIZE, LOAD & SPEED RATING	265/60R18T Michelin Latitude Tour HP
GROUND CLEARANCE, MINIMUM	8.1 inches
BRAKE SYSTEM	Power with dual piston front calipers, single piston rear calipers, anti-lock
FUEL CAPACITY	24.6 Gallons/93.1 Liters
GENERAL MEASUREMENTS	
WHEELBASE	119.8 inches
LENGTH	201.2 inches
CURB WEIGHT	4886 lbs.
GVWR	6500 lbs.
HEIGHT	70.9 inches
INTERIOR VOLUME	
FRONT	54.4 cu. ft.
REAR	44.8 cu. ft.
COMBINED	99.2 cu. ft.
TRUNK	47.7 cu. ft.
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1600 lbs.
EPA MILEAGE EST. (MPG)	
CITY	18
HIGHWAY	25
COMBINED	21

MANUFACTURER VEHICLE HIGHLIGHTS

The 2020 Dodge Durango Pursuit –is equipped with world-class safety and security features, segment-first technology and tactical equipment. The Uconnect 7.0-inch display is standard and includes Apple CarPlay and Android Auto. The 2020 Durango Pursuit embodies the three qualities that every Dodge law enforcement vehicle is designed to maximize: safety, performance and efficiency.

Dodge recognizes that the heroic men and women who protect us must be equipped with the best-performing pursuit-rated vehicle. With input from law enforcement officials, the 2020 Durango Pursuit continues to add improvements to meet the high expectations and performance needs of the heroes who protect us.

Durango Pursuit models feature all-wheel-drive (AWD) and offer the standard 3.6-liter Pentastar V-6 engine rated at 293 horsepower and 260 lb.-ft. of torque, class-exclusive, K-9 friendly tri-zone interior temperature control and the segment's longest wheelbase (119.8 inches) for added stability and handling.

Dodge Durango
5.7L AWD

MAKE & MODEL	2020 Dodge Durango 5.7L AWD
SALES CODE	22Z, 514
POWERTRAIN INFORMATION	
CUBIC INCHES	345
LITERS	5.7
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	265/60R18T Michelin Latitude Tour HP
GROUND CLEARANCE, MINIMUM	8.1 inches
BRAKE SYSTEM	Power with dual piston front calipers, single piston rear calipers, anti-lock
FUEL CAPACITY	24.6 Gallons/93.1 Liters
GENERAL MEASUREMENTS	
WHEELBASE	119.8 inches
LENGTH	201.2 inches
CURB WEIGHT	5248 lbs.
GVWR	7100 lbs.
HEIGHT	70.9 inches
INTERIOR VOLUME	
FRONT	54.4 cu. ft.
REAR	44.8 cu. ft.
COMBINED	99.2 cu. ft.
TRUNK	47.7 cu. ft.
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1650 lbs.
EPA MILEAGE EST. (MPG)	
CITY	14
HIGHWAY	22
COMBINED	17

MANUFACTURER VEHICLE HIGHLIGHTS

The 2020 Dodge Durango Pursuit –is equipped with world-class safety and security features, segment-first technology and tactical equipment. The Uconnect 7.0-inch display is standard and includes Apple CarPlay and Android Auto. The 2020 Durango Pursuit embodies the three qualities that every Dodge law enforcement vehicle is designed to maximize: safety, performance and efficiency.

Dodge recognizes that the heroic men and women who protect us must be equipped with the best-performing pursuit-rated vehicle. In addition to the legendary 5.7L V-8 HEMI® engine that delivers 360 horsepower, Durango Pursuit offers the segment's most advanced all-wheel-drive (AWD) system for maximum tactical performance, all-weather traction and fuel-efficiency. With input from law enforcement officials, the 2020 Durango Pursuit continues to add improvements to meet the high expectations and performance needs of the heroes who protect us.

Durango Pursuit models feature all-wheel-drive (AWD) and the 5.7-liter V-8 HEMI model is rated at 360 horsepower and 390 lb.-ft. of torque and includes the segment's most technologically advanced AWD system with an active 2 speed transfer case to improve real-world fuel economy while also enhancing the vehicle's traction and handling.

Ford Police Interceptor Utility Hybrid AWD

MAKE & MODEL	2020 Police Interceptor Utility Hybrid AWD
SALES CODE	K8A, 99W
POWERTRAIN INFORMATION	
CUBIC INCHES	201
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
GENERAL MEASUREMENTS	
WHEELBASE	119.1 inches
LENGTH	198.8 inches
CURB WEIGHT	5303 lbs.
GVWR	6840 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 is ideal for law enforcement, due to optimal performance and significant potential fuel savings
- Fuel savings of over $3,400 per year, per vehicle, at $2.75/gallon; see www.fordpoliceinterceptor.com for details

SAFETY:

- Ford Police Interceptors are the only vehicles in the world designed and engineered for the 75-mph rear-impact crash test
- New 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
- Standard Anti-Stab plates in front seat backs

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 0-100, lap, average lap and highest top speed of utility vehicles tested by MSP in 2018CY[2]
- Standard AWD provides optimum handling in various road conditions – dry, ice/snow, wet/rain, gravel, etc.

1. The 2019CY is based on IHS Markit Registration data as of May 2019 2. Excludes Ford Police Interceptor Utility 3.0L EcoBoost

Ford Police Interceptor Utility
3.0L EcoBoost AWD

MAKE & MODEL	2020 Police Interceptor Utility 3.0L EcoBoost AWD
SALES CODE	K8A, 99C
POWERTRAIN INFORMATION	
CUBIC INCHES	183
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
GENERAL MEASUREMENTS	
WHEELBASE	119.1 inches
LENGTH	198.8 inches
CURB WEIGHT	4848 lbs.
GVWR	6500 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 is 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:

- Ford Police Interceptors are the only vehicles in the world designed and engineered for the 75-mph rear-impact crash test
- New 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
- Standard Anti-Stab plates in front seat backs

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, 0-100, lap, average lap and highest top speed of all vehicles tested by MSP in 2018CY
- Standard AWD provides optimum handling in various road conditions – dry, ice/snow, wet/rain, gravel, etc.

The 2019CY is based on IHS Markit Registration data as of May 2019

Ford Police Interceptor Utility
3.3L AWD

MAKE & MODEL	2020 Police Interceptor Utility 3.3L AWD
SALES CODE	K8A, 99B
POWERTRAIN INFORMATION	
CUBIC INCHES	201
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
GENERAL MEASUREMENTS	
WHEELBASE	119.1 inches
LENGTH	198.8 inches
CURB WEIGHT	4755 lbs.
GVWR	6465 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 is 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:

- Ford Police Interceptors are the only vehicles in the world designed and engineered for the 75-mph rear-impact crash test
- New 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
- Standard Anti-Stab plates in front seat backs

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. The 2019CY is based on IHS Markit Registration data as of May 2019

Ford F150 Police Responder
3.5L EcoBoost

MAKE & MODEL	2020 F-150 Police Responder 3.5L EcoBoost
SALES CODE	W1P
POWERTRAIN INFORMATION	
CUBIC INCHES	213
LITERS	3.5L
DRIVE SYSTEM	Four Wheel Drive
HORSEPOWER	375 HP
TORQUE	470 ft./lbs.
ALTERNATOR	240 AMP
BATTERY	800 CCA
TRANSMISSION	10-Speed SelectShift Automatic
AXLE RATIO	3:55:1
TURNING RADIUS	47.1 ft.
TIRE SIZE, LOAD & SPEED RATING	LT275/65R18, 110S
GROUND CLEARANCE, MINIMUM	9.3 inches
BRAKE SYSTEM	Power – dual piston calipers front, single piston calipers rear, 4 circuit, ABS
FUEL CAPACITY	26.0 Gallons/ 98 Liters
GENERAL MEASUREMENTS	
WHEELBASE	145.0 inches
LENGTH	231.9 inches
CURB WEIGHT	5060 lbs.
GVWR	7000 lbs.
HEIGHT	77.2 inches
INTERIOR VOLUME	
FRONT	79.9 cu. ft.
REAR	51.9 cu. ft.
COMBINED	131.8 cu. ft.
TRUNK	52.8 cu. ft.
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	2030 lbs.
EPA MILEAGE EST. (MPG)	
CITY	16
HIGHWAY	22
COMBINED	18

MANUFACTURER VEHICLE HIGHLIGHTS

NEW FEATURES:

The Ford F-150 Police Responder® is the first-ever pursuit-rated pickup truck to market, designed for on-road pursuit with Built Ford Tough off-road capability. The standard FX4 off-road package includes a purpose-tuned suspension, electronic-locking rear axle and underbody skid plates. Unique upgrades include brake pad-friction material, front stabilizer bar for improved braking and handling, and durable fabric front seats with slim bolsters for comfort and anti-stab plates in seat backs. Best interior passenger volume of any pursuit-rated police vehicle, as well as best front/rear shoulder room, front/rear hip room and rear leg room.

SAFETY:

- Standard Anti-Stab plates in front seat backs
- Rear View Camera with Dynamic Hitch Assist
- Perimeter Alarm
- Curve Control

DURABILITY:

- Off-Road tuned shock absorbers
- Underbody skid plates
- Upgraded front stabilizer bar

PERFORMANCE:

- Powerful 3.5L EcoBoost® engine generates 375 horsepower and 470 lb.-ft. of torque, highest torque of any pursuit-rated vehicle
- Best payload capacity (2,030 lbs.) and best standard towing capacity (7,000 lbs.) of any pursuit-rated vehicle
- 240-amp alternator
- Unique brake pad-friction material

Ford Police Responder Hybrid Sedan

MAKE & MODEL	2020 Police Responder Hybrid Sedan
SALES CODE	P0A
POWERTRAIN INFORMATION	
CUBIC INCHES	122
LITERS	2.0
DRIVE SYSTEM	Front Wheel Drive
HORSEPOWER	188 HP
TORQUE	129 ft./lbs.
ALTERNATOR	165 AMP
BATTERY	590 CCA
TRANSMISSION	eCVT (automatic)
AXLE RATIO	2.57:1
TURNING RADIUS	37.6 ft.
TIRE SIZE, LOAD & SPEED RATING	235/50R17 96W
GROUND CLEARANCE, MINIMUM	6.3 inches
BRAKE SYSTEM	Regenerative Braking System and 4-wheel Disc with ABS
FUEL CAPACITY	14 Gallons/ 53 Liters
GENERAL MEASUREMENTS	
WHEELBASE	112.2 inches
LENGTH	191.8 inches
CURB WEIGHT	3748 lbs.
GVWR	4980 lbs.
HEIGHT	58.0 inches
INTERIOR VOLUME	
FRONT	55.2 cu. ft.
REAR	47.6 cu. ft.
COMBINED	102.8 cu. ft.
TRUNK	12.0 cu. ft.
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1200 lbs.
EPA MILEAGE EST. (MPG)	
CITY	40
HIGHWAY	36
COMBINED	38

MANUFACTURER VEHICLE HIGHLIGHTS

NEW FEATURES:

A Greener Shade of Blue™

The first-ever pursuit-rated Hybrid police vehicle to market, the Ford Police Responder® Hybrid Sedan provides a capable option that delivers multiple benefits, including potential fuel savings, reduced CO_2 emissions and fewer fill-ups – meaning less vehicle downtime to keep your vehicles and officers on the road. Our scenario shows potential savings of nearly $4,300 per year, per vehicle, at $2.75 per gallon. See www.fordpoliceresponder.com for details and to run your own scenarios.

SAFETY:

- Standard Anti-Stab plates in front seat backs
- Standard Police Engine Idle feature
- Standard Individual Tire Pressure Monitoring System
- Optional NIJ Level IIIa Ballistic Panels

DURABILITY:

- Enhanced Police durability-cycle tested
- Standard Front Underbody Deflector Plate

PERFORMANCE:

- Pursuit calibrated powertrain
- Police-tuned Regenerative Braking System
- Heavy duty suspension components, upgraded braking and cooling

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 2-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 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 driver during the eight-lap series.

Grattan Raceway, 7201 Lessiter Road, Belding, MI 48809

616-691-7221

GRATTAN RACEWAY
2020 MODEL YEAR VEHICLE DYNAMICS SCHEDULE
SEPTEMBER 16, 2019

	AGEMA	SCHUTTER	DOUVILLE	MERCER
9:00 a.m.	Ford F-150 Police Responder 3.5L EcoBoost	Ford Police Responder Hybrid Sedan	Pass	Pass
9:25 a.m.	Chevrolet Tahoe 5.3L RWD	Chevrolet Tahoe 5.3L 4WD	Dodge Durango 5.7L AWD	Dodge Durango 3.6L AWD
9:50 a.m.	2021 Dodge Charger 3.6L AWD	Dodge Charger 3.6L RWD	Ford PI Utility Hybrid AWD	Ford PI Utility 3.3L AWD
10:15 a.m.	Ford PI Utility 3.0L EcoBoost AWD	Dodge Charger 5.7L AWD	2021 Dodge Charger 5.7L RWD	Pass
10:40 a.m.	Pass	Pass	Ford F-150 Police Responder 3.5L EcoBoost	Ford Police Responder Hybrid Sedan
11:05 a.m.	Dodge Durango 3.6L AWD	Chevrolet Tahoe 5.3L RWD	Chevrolet Tahoe 5.3L 4WD	Dodge Durango 5.7L AWD
11:30 a.m.	Ford PI Utility 3.3L AWD	2021 Dodge Charger 3.6L AWD	Dodge Charger 3.6L RWD	Ford PI Utility Hybrid AWD
11:55 a.m.	Pass	Ford PI Utility 3.0L EcoBoost AWD	Dodge Charger 5.7L AWD	2021 Dodge Charger 5.7L RWD
1:00 p.m.	Ford Police Responder Hybrid Sedan	Ford F-150 Police Responder 3.5L EcoBoost	Pass	Pass
1:25 p.m.	Dodge Durango 5.7L AWD	Dodge Durango 3.6L AWD	Chevrolet Tahoe 5.3L RWD	Chevrolet Tahoe 5.3L 4WD
1:50 p.m.	Ford PI Utility Hybrid AWD	Ford PI Utility 3.3L AWD	2021 Dodge Charger 3.6L AWD	Dodge Charger 3.6L RWD
2:15 p.m.	2021 Dodge Charger 5.7L RWD	Pass	Ford PI Utility 3.0L EcoBoost AWD	Dodge Charger 5.7L AWD
2:40 p.m.	Pass	Pass	Ford Police Responder Hybrid Sedan	Ford F-150 Police Responder 3.5L EcoBoost
3:05 p.m.	Chevrolet Tahoe 5.3L 4WD	Dodge Durango 5.7L AWD	Dodge Durango 3.6L AWD	Chevrolet Tahoe 5.3L RWD
3:30 p.m.	Dodge Charger 3.6L RWD	Ford PI Utility Hybrid AWD	Ford PI Utility 3.3L AWD	2021 Dodge Charger 3.6L AWD
3:55 p.m.	Dodge Charger 5.7L AWD	2021 Dodge Charger 5.7L RWD	Pass	Ford PI Utility 3.0L EcoBoost AWD

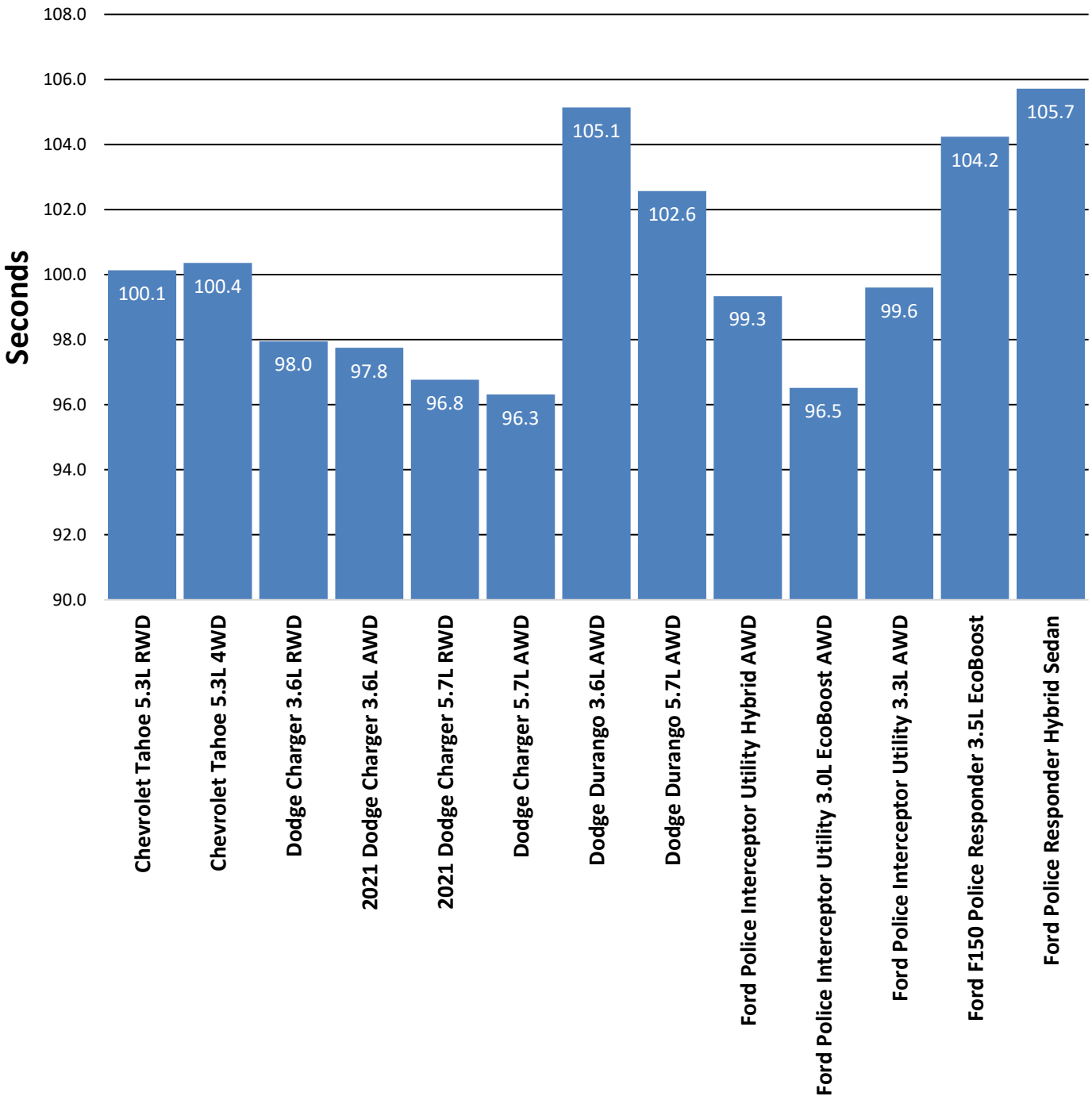
VEHICLE DYNAMICS TESTING ON SEPTEMBER 16, 2019

Vehicles	Drivers	Lap 1	Lap 2	Lap 3	Lap 4	Lap 5	Average
Chevrolet Tahoe 5.3L RWD	AGEMA	01:40.00	01:40.10	01:40.02	01:39.83	01:39.86	01:39.96
	SCHUTTER	01:40.23	01:40.01	01:39.73	01:40.30	01:39.84	01:40.02
	DOUVILLE	01:40.22	01:41.18	01:41.27	01:40.63	01:40.95	01:40.85
	MERCER	01:39.72	01:39.56	01:39.76	01:39.78	01:39.66	01:39.70
OVERALL AVERAGE							**01:40.13**
Chevrolet Tahoe 5.3L 4WD	SCHUTTER	01:40.60	01:40.54	01:40.44	01:40.67	01:40.01	01:40.45
	DOUVILLE	01:40.88	01:41.01	01:41.27	01:40.87	01:41.04	01:41.01
	MERCER	01:39.69	01:39.51	01:39.53	01:39.33	01:39.54	01:39.52
	AGEMA	01:40.62	01:40.50	01:40.32	01:40.56	01:40.31	01:40.46
OVERALL AVERAGE							**01:40.36**
Dodge Charger 3.6L RWD	SCHUTTER	01:38.38	01:37.91	01:38.02	01:37.56	01:38.22	01:38.02
	DOUVILLE	01:38.00	01:38.65	01:38.68	01:38.64	01:38.48	01:38.49
	MERCER	01:37.25	01:37.14	01:36.77	01:36.67	01:37.05	01:36.98
	AGEMA	01:38.35	01:38.30	01:38.37	01:38.35	01:38.20	01:38.31
OVERALL AVERAGE							**01:37.95**
2021 Dodge Charger 3.6L AWD	AGEMA	01:38.82	01:38.85	01:38.24	01:38.35	01:38.63	01:38.58
	SCHUTTER	01:37.71	01:37.54	01:37.64	01:37.64	01:37.56	01:37.62
	DOUVILLE	01:37.92	01:38.09	01:38.11	01:38.14	01:37.65	01:37.98
	MERCER	01:37.11	01:36.95	01:36.75	01:36.61	01:36.64	01:36.81
OVERALL AVERAGE							**01:37.75**
2021 Dodge Charger 5.7L RWD	DOUVILLE	01:37.43	01:37.35	01:37.35	01:37.16	01:37.32	01:37.32
	MERCER	01:35.97	01:35.84	01:35.53	01:35.90	01:35.83	01:35.82
	AGEMA	01:37.03	01:36.97	01:37.01	01:36.69	01:36.37	01:36.81
	SCHUTTER	01:37.01	01:37.18	01:37.41	01:37.31	01:36.80	01:37.14
OVERALL AVERAGE							**01:36.77**
Dodge Charger 5.7L AWD	SCHUTTER	01:36.40	01:36.48	01:36.18	01:36.28	01:35.88	01:36.24
	DOUVILLE	01:36.69	01:36.87	01:37.08	01:36.94	01:36.97	01:36.91
	MERCER	01:35.46	01:35.41	01:35.65	01:35.39	01:35.42	01:35.47
	AGEMA	01:36.28	01:36.42	01:36.71	01:36.95	01:36.70	01:36.61
OVERALL AVERAGE							**01:36.31**
Dodge Durango 3.6L AWD	MERCER	01:44.12	01:44.56	01:43.62	01:44.44	01:44.12	01:44.17
	AGEMA	01:45.76	01:45.58	01:45.33	01:45.86	01:45.86	01:45.68
	SCHUTTER	01:45.34	01:45.49	01:45.47	01:45.27	01:45.20	01:45.36
	DOUVILLE	01:45.69	01:45.19	01:45.54	01:45.24	01:45.21	01:45.37
OVERALL AVERAGE							**01:45.14**
Dodge Durango 5.7L AWD	DOUVILLE	01:44.17	01:43.84	01:43.76	01:43.78	01:43.52	01:43.81
	MERCER	01:42.02	01:41.22	01:41.76	01:41.21	01:41.50	01:41.54
	AGEMA	01:41.66	01:42.03	01:41.84	01:41.73	01:41.44	01:41.74
	SCHUTTER	01:43.43	01:43.41	01:43.00	01:42.88	01:43.12	01:43.17
OVERALL AVERAGE							**01:42.57**

VEHICLE DYNAMICS TESTING ON SEPTEMBER 16, 2019

Vehicles	Drivers	Lap 1	Lap 2	Lap 3	Lap 4	Lap 5	Average
Ford Police Interceptor Utility Hybrid AWD	DOUVILLE	01:39.95	01:40.01	01:39.81	01:39.73	01:39.93	01:39.89
	MERCER	01:38.47	01:38.66	01:38.58	01:38.71	01:38.41	01:38.56
	AGEMA	01:38.66	01:38.74	01:39.16	01:39.12	01:39.19	01:38.97
	SCHUTTER	01:39.54	01:39.97	01:40.06	01:39.86	01:40.22	01:39.93
OVERALL AVERAGE							**01:39.34**
Ford Police Interceptor Utility 3.0L EcoBoost AWD	AGEMA	01:36.87	01:36.80	01:36.89	01:36.71	01:36.60	01:36.77
	SCHUTTER	01:36.18	01:37.11	01:36.73	01:36.81	01:37.26	01:36.82
	DOUVILLE	01:36.56	01:36.73	01:36.63	01:37.10	01:36.80	01:36.76
	MERCER	01:35.99	01:35.71	01:35.51	01:35.74	01:35.67	01:35.72
OVERALL AVERAGE							**01:36.52**
Ford Police Interceptor Utility 3.3L AWD	MERCER	01:39.62	01:39.22	01:38.96	01:39.18	01:38.67	01:39.13
	AGEMA	01:39.49	01:39.06	01:39.14	01:39.00	01:39.08	01:39.15
	SCHUTTER	01:40.24	01:40.09	01:40.05	01:39.77	01:40.28	01:40.09
	DOUVILLE	01:39.78	01:40.07	01:40.19	01:40.13	01:40.02	01:40.04
OVERALL AVERAGE							**01:39.60**
Ford F-150 Police Responder 3.5L EcoBoost	AGEMA	01:44.01	01:43.99	01:43.88	01:44.01	01:43.77	01:43.93
	DOUVILLE	01:45.30	01:45.24	01:44.48	01:44.79	01:45.19	01:45.00
	SCHUTTER	01:44.46	01:45.11	01:44.29	01:45.07	01:45.15	01:44.81
	MERCER	01:43.86	01:42.97	01:42.94	01:42.81	01:43.47	01:43.21
OVERALL AVERAGE							**01:44.24**
Ford Police Responder Hybrid Sedan	SCHUTTER	01:46.22	01:46.48	01:46.51	01:46.34	01:46.04	01:46.32
	MERCER	01:45.06	01:44.77	01:44.74	01:44.90	01:44.58	01:44.81
	AGEMA	01:44.78	01:45.01	01:44.94	01:44.94	01:44.69	01:44.87
	DOUVILLE	01:46.92	01:46.70	01:46.94	01:46.74	01:47.11	01:46.88
OVERALL AVERAGE							**01:45.72**

2020 Model Year
Vehicle Dynamics




POLICE


PURSUIT


POLICE


POLICE


PURSUIT

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, and 100 mph, and determine the distance to reach 100 mph and 120 mph.

ACCELERATION TESTING METHODOLOGY

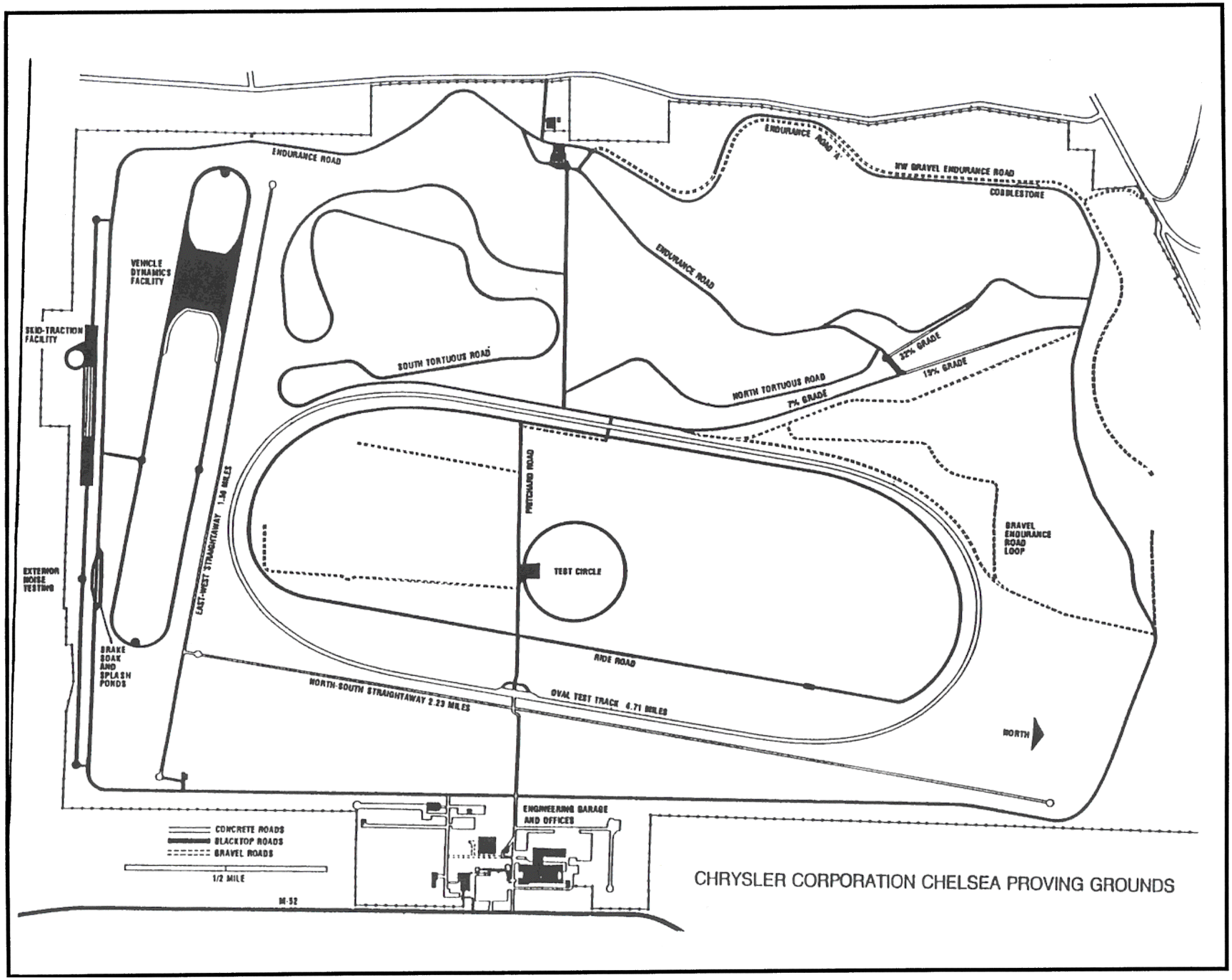
Using a Race Logic Vbox 3i GPS based data collection unit, each vehicle is driven through four acceleration sequences, two northbound and two southbound, to allow for wind direction. The four resulting times for each target speed are averaged and the average times are used to derive scores for acceleration.

TOP SPEED TESTING OBJECTIVE

To verify the electronically limited top speed reported by the manufacturer attainable by each test vehicle within a distance of 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
VEHICLE DYNAMICS FACILITY
SKID-TRACTION FACILITY
ENDURANCE ROAD
SOUTH TORTUOUS ROAD
NORTH TORTUOUS ROAD
32% GRADE
19% GRADE
7% GRADE
PRITCHARD ROAD
EAST-WEST STRAIGHTAWAY 1.50 MILES
TEST CIRCLE
GRAVEL 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 14, 2019

Chevrolet Tahoe 5.3L RWD

BEGINNING TIME: 8:53 a.m. **TEMPERATURE:** 61.1° F
WIND VELOCITY: 5.6 mph **WIND DIRECTION:** 263°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	7.82	7.90	7.78	7.72	7.81
0 – 80	12.90	12.92	12.70	12.67	12.80
0 – 100	19.70	19.33	19.06	19.08	19.29

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

TOP SPEED ATTAINED: 134 mph

DISTANCE TO REACH TOP SPEED: 1.53 miles
TIME TO REACH TOP SPEED: 54.5 seconds

Chevrolet Tahoe 5.3L 4WD

BEGINNING TIME: 2:02 p.m. **TEMPERATURE:** 70.4° F
WIND VELOCITY: 3.3 mph **WIND DIRECTION:** 262°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	7.94	7.98	7.92	7.93	7.94
0 – 80	13.21	13.16	13.03	13.14	13.14
0 – 100	20.07	20.13	19.76	19.97	19.98

DISTANCE TO REACH 100 MPH: 0.35 mile
DISTANCE TO REACH 120 MPH: 0.73 mile

TOP SPEED ATTAINED: 120 mph

DISTANCE TO REACH TOP SPEED: 0.73 mile
TIME TO REACH TOP SPEED: 32.51 seconds

Dodge Charger 3.6L RWD

BEGINNING TIME: 3:30 p.m. **TEMPERATURE:** 73.1° F
WIND VELOCITY: 7.3 mph **WIND DIRECTION:** 287°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	7.92	7.70	7.55	7.63	7.70
0 – 80	12.71	12.45	12.21	12.27	12.41
0 – 100	19.77	19.44	19.12	19.33	19.42

DISTANCE TO REACH 100 MPH: 0.34 mile
DISTANCE TO REACH 120 MPH: 0.69 mile

TOP SPEED ATTAINED: 141 mph

DISTANCE TO REACH TOP SPEED: 1.50 miles
TIME TO REACH TOP SPEED: 52.69 seconds

TEST LOCATION: Chelsea Proving Grounds **DATE:** September 14, 2019

2021 Dodge Charger 3.6L AWD

BEGINNING TIME: 9:59 a.m. **TEMPERATURE:** 63.5° F
WIND VELOCITY: 12.1 mph **WIND DIRECTION:** 273°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	7.73	7.24	7.06	6.90	7.23
0 – 80	12.34	11.78	11.52	11.35	11.75
0 – 100	19.07	18.46	18.11	17.93	18.39

DISTANCE TO REACH 100 MPH: 0.32 mile
DISTANCE TO REACH 120 MPH: 0.68 mile

TOP SPEED ATTAINED: 140 mph

DISTANCE TO REACH TOP SPEED: 2.21 miles
TIME TO REACH TOP SPEED: 70.9 seconds

2021 Dodge Charger 5.7L RWD

BEGINNING TIME: 12:39 p.m. **TEMPERATURE:** 67.7° F
WIND VELOCITY: 10.4 mph **WIND DIRECTION:** 291°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	6.16	5.89	6.02	6.18	6.06
0 – 80	9.52	9.15	9.24	9.39	9.33
0 – 100	14.20	14.12	13.97	13.86	14.04

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

TOP SPEED ATTAINED: 149 mph

DISTANCE TO REACH TOP SPEED: 1.40 miles
TIME TO REACH TOP SPEED: 45.53 seconds

Dodge Charger 5.7L AWD

BEGINNING TIME: 11:01 a.m. **TEMPERATURE:** 64.9° F
WIND VELOCITY: 4.1 mph **WIND DIRECTION:** 298°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	5.92	5.76	5.81	5.74	5.81
0 – 80	9.80	9.50	9.60	9.48	9.60
0 – 100	14.83	14.41	14.56	14.33	14.53

DISTANCE TO REACH 100 MPH: 0.25 mile
DISTANCE TO REACH 120 MPH: 0.50 mile

TOP SPEED ATTAINED: 149 mph

DISTANCE TO REACH TOP SPEED: 1.34 miles
TIME TO REACH TOP SPEED: 44.11 seconds

TEST LOCATION: Chelsea Proving Grounds **DATE:** September 14, 2019

Dodge Durango 3.6L AWD

BEGINNING TIME: 2:17 p.m. **TEMPERATURE:** 70.9° F
WIND VELOCITY: 6.6 mph **WIND DIRECTION:** 287°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	9.13	8.65	8.30	8.28	8.59
0 – 80	14.92	14.17	13.78	13.82	14.17
0 – 100	23.64	22.65	22.13	22.29	22.68

DISTANCE TO REACH 100 MPH: 0.41 mile
DISTANCE TO REACH 120 MPH: N/A

TOP SPEED ATTAINED: 117 mph

DISTANCE TO REACH TOP SPEED: 1.10 miles
TIME TO REACH TOP SPEED: 44.71 seconds

Dodge Durango 5.7L AWD

BEGINNING TIME: 10:42 a.m. **TEMPERATURE:** 65.3° F
WIND VELOCITY: 15.1 mph **WIND DIRECTION:** 275°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	7.45	7.25	7.37	7.69	7.44
0 – 80	12.40	12.31	12.36	12.80	12.47
0 – 100	20.54	20.18	20.27	20.44	20.36

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

TOP SPEED ATTAINED: 118 mph

DISTANCE TO REACH TOP SPEED: 0.71 mile
TIME TO REACH TOP SPEED: 31.75 seconds

Ford Police Interceptor Utility Hybrid AWD

BEGINNING TIME: 10:04 a.m. **TEMPERATURE:** 63.5° F
WIND VELOCITY: 12.1 mph **WIND DIRECTION:** 273°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	7.09	7.26	7.25	7.21	7.20
0 – 80	11.34	11.50	11.53	11.46	11.46
0 – 100	17.48	17.58	17.99	17.42	17.62

DISTANCE TO REACH 100 MPH: 0.31 mile
DISTANCE TO REACH 120 MPH: 0.66 mile

TOP SPEED ATTAINED: 136 mph

DISTANCE TO REACH TOP SPEED: 1.20 miles
TIME TO REACH TOP SPEED: 43.69 seconds

TEST LOCATION: Chelsea Proving Grounds **DATE:** September 14, 2019

Ford Police Interceptor Utility 3.0L EcoBoost AWD

BEGINNING TIME: 11:16 a.m. **TEMPERATURE:** 65.1° F
WIND VELOCITY: 10.2 mph **WIND DIRECTION:** 295°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	5.59	5.43	5.38	5.33	5.43
0 – 80	9.03	8.88	8.91	8.68	8.88
0 – 100	13.91	13.99	14.37	13.67	13.99

DISTANCE TO REACH 100 MPH: 0.25 mile
DISTANCE TO REACH 120 MPH: 0.49 mile

TOP SPEED ATTAINED: 148 mph

DISTANCE TO REACH TOP SPEED: 1.96 miles
TIME TO REACH TOP SPEED: 59.93 seconds

Ford Police Interceptor Utility 3.3L AWD

BEGINNING TIME: 11:52 a.m. **TEMPERATURE:** 65.8° F
WIND VELOCITY: 7.6 mph **WIND DIRECTION:** 289°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	8.03	7.89	8.58	7.91	8.10
0 – 80	12.75	12.60	13.18	12.64	12.79
0 – 100	19.86	19.64	20.02	19.45	19.74

DISTANCE TO REACH 100 MPH: 0.34 mile
DISTANCE TO REACH 120 MPH: 0.73 mile

TOP SPEED ATTAINED: 136 mph

DISTANCE TO REACH TOP SPEED: 1.68 miles
TIME TO REACH TOP SPEED: 58.50 seconds

Ford F150 Police Responder 3.5L EcoBoost

BEGINNING TIME: 1:55 p.m. **TEMPERATURE:** 70.4° F
WIND VELOCITY: 3.3 mph **WIND DIRECTION:** 262°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	6.79	6.51	6.89	6.58	6.69
0 – 80	10.89	10.53	10.76	10.55	10.68
0 – 100	17.04	16.78	16.25	16.58	16.66

DISTANCE TO REACH 100 MPH: 0.29 mile
DISTANCE TO REACH 120 MPH: N/A

TOP SPEED ATTAINED: 105 mph

DISTANCE TO REACH TOP SPEED: 0.37 mile
TIME TO REACH TOP SPEED: 19.50 seconds

TEST LOCATION: Chelsea Proving Grounds **DATE:** September 14, 2019

Ford Police Responder Hybrid Sedan

BEGINNING TIME: 9:06 a.m. **TEMPERATURE:** 61.1° F
WIND VELOCITY: 5.6 mph **WIND DIRECTION:** 263°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	8.90	9.04	9.19	9.09	9.06
0 – 80	14.48	14.81	16.28	16.22	15.45
0 – 100	24.53	24.60	31.28	31.24	27.91

DISTANCE TO REACH 100 MPH: 0.53 mile
DISTANCE TO REACH 120 MPH: N/A

TOP SPEED ATTAINED: 117 mph

DISTANCE TO REACH TOP SPEED: 1.90 miles
TIME TO REACH TOP SPEED: 73.17 seconds

SUMMARY OF ACCELERATION AND TOP SPEED

	Chevrolet Tahoe 5.3L RWD	Chevrolet Tahoe 5.3L 4WD	Dodge Charger 3.6L RWD	2021 Dodge Charger 3.6L AWD
ACCELERATION (seconds)				
0-20 mph	2.25	2.23	1.85	2.04
0-30 mph	3.27	3.28	3.21	3.05
0-40 mph	4.59	4.60	4.58	4.10
0-50 mph	6.13	6.24	5.95	5.54
0-60 mph	7.81	7.94	7.70	7.23
0-70 mph	10.09	10.29	9.99	9.39
0-80 mph	12.80	13.14	12.41	11.75
0-90 mph	15.77	16.31	15.08	14.84
0-100 mph	19.29	19.98	19.42	18.39
TOP SPEED (mph)	134	120	141	140
DISTANCE TO REACH (miles)				
100 mph	0.33	0.35	0.34	0.32
120 mph	0.72	0.73	0.69	0.68
Top Speed	1.53	0.73	1.50	2.21

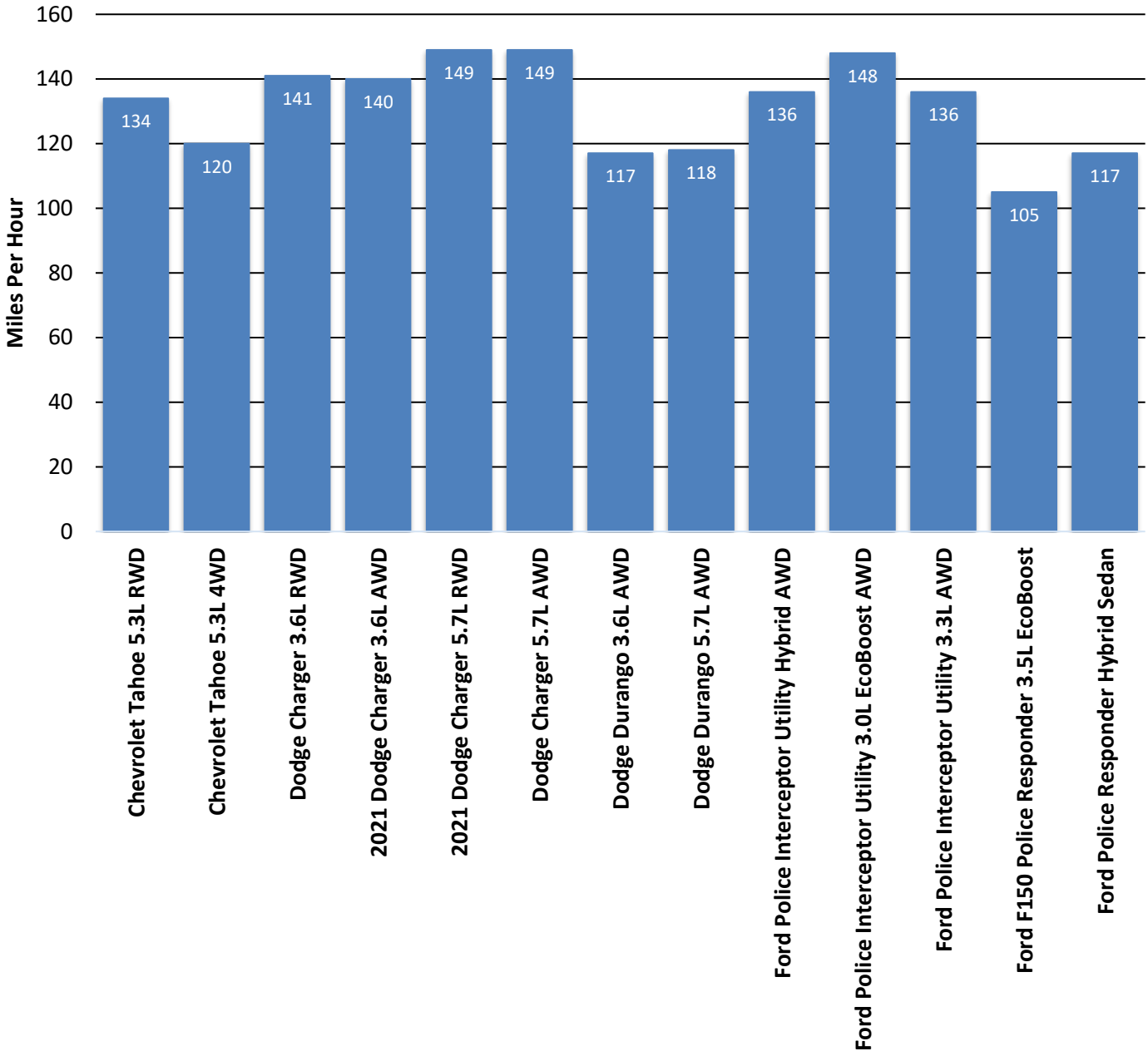
SUMMARY OF ACCELERATION AND TOP SPEED

	2021 Dodge Charger 5.7L RWD	Dodge Charger 5.7L AWD	Dodge Durango 3.6L AWD	Dodge Durango 5.7L AWD
ACCELERATION (seconds)				
0-20 mph	1.75	1.39	1.95	1.56
0-30 mph	2.54	2.27	3.10	2.56
0-40 mph	3.51	3.17	4.53	3.89
0-50 mph	4.59	4.48	6.22	5.39
0-60 mph	6.06	5.81	8.59	7.44
0-70 mph	7.63	7.44	11.13	9.65
0-80 mph	9.33	9.60	14.17	12.47
0-90 mph	11.54	11.88	17.91	15.84
0-100 mph	14.04	14.53	22.68	20.36
TOP SPEED (mph)	149	149	117	118
DISTANCE TO REACH (miles)				
100 mph	0.24	0.25	0.41	0.37
120 mph	0.46	0.50	N/A	N/A
Top Speed	1.40	1.34	1.1	0.71

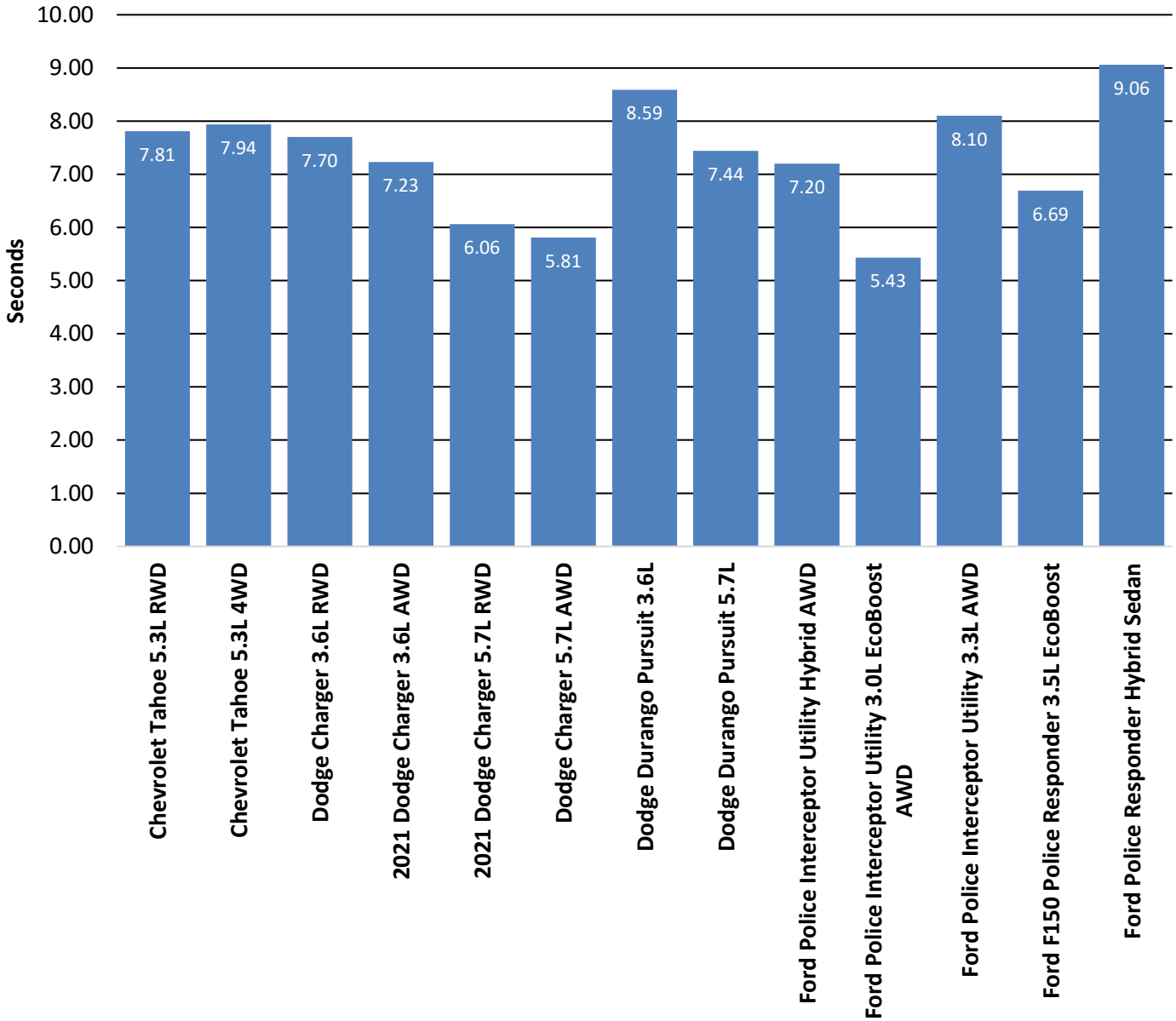
SUMMARY OF ACCELERATION AND TOP SPEED

	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 Police Responder Hybrid Sedan
ACCELERATION (seconds)					
0-20 mph	1.61	1.37	2.10	1.85	2.40
0-30 mph	2.76	2.07	3.31	2.75	3.58
0-40 mph	4.07	3.09	4.74	3.81	5.04
0-50 mph	5.51	4.16	6.31	5.10	6.84
0-60 mph	7.20	5.43	8.10	6.69	9.06
0-70 mph	9.18	6.90	10.24	8.49	11.85
0-80 mph	11.46	8.88	12.79	10.68	15.45
0-90 mph	14.23	11.18	15.90	13.41	20.37
0-100 mph	17.62	13.99	19.74	16.66	27.91
TOP SPEED (mph)	136	148	136	105	117
DISTANCE TO REACH (miles)					
100 mph	0.31	0.25	0.34	0.29	0.53
120 mph	0.66	0.49	0.73	N/A	N/A
Top Speed	1.20	1.96	1.68	0.37	1.90

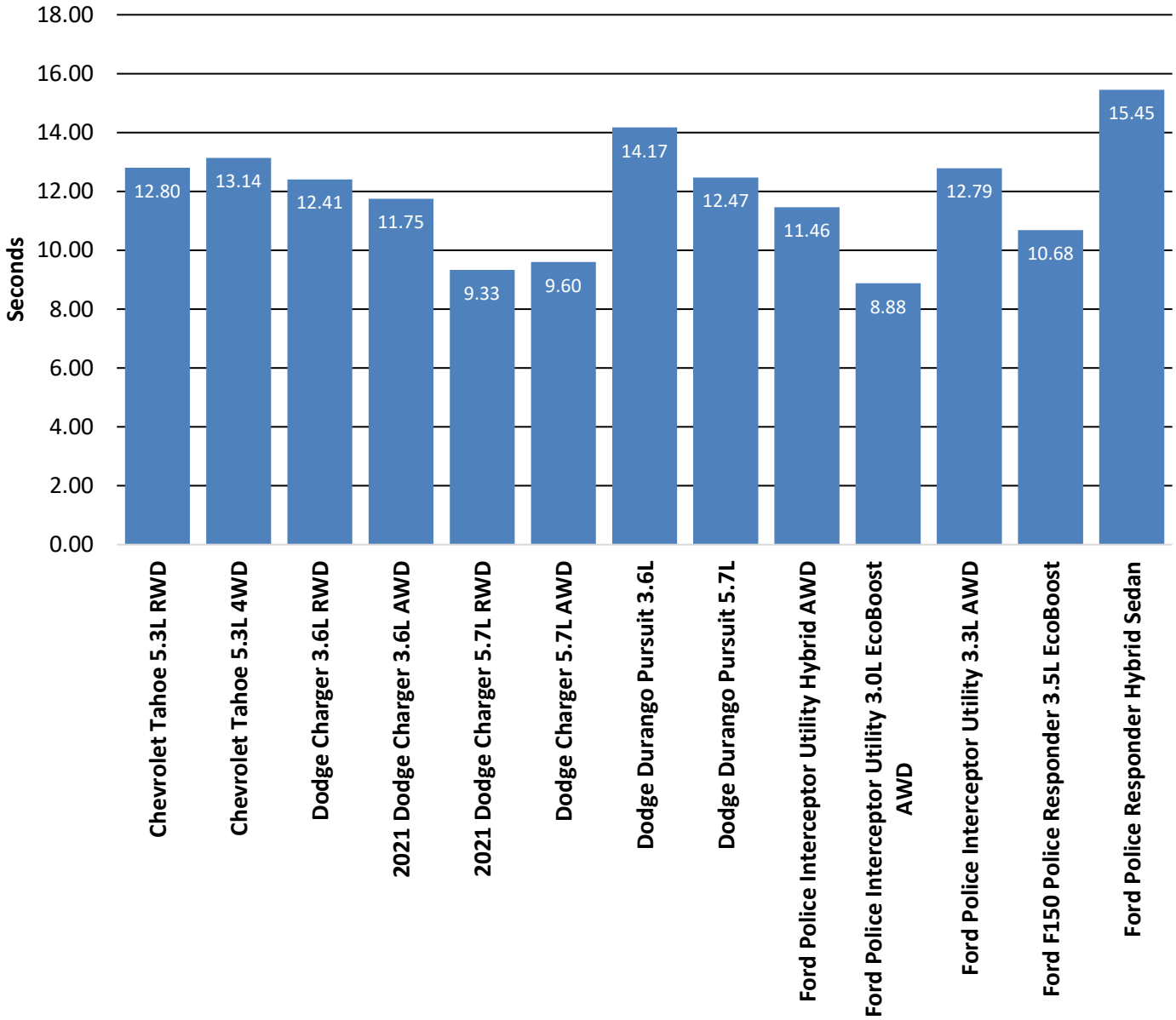
2020 Model Year
Top Speed Comparison
Top Speed Attained



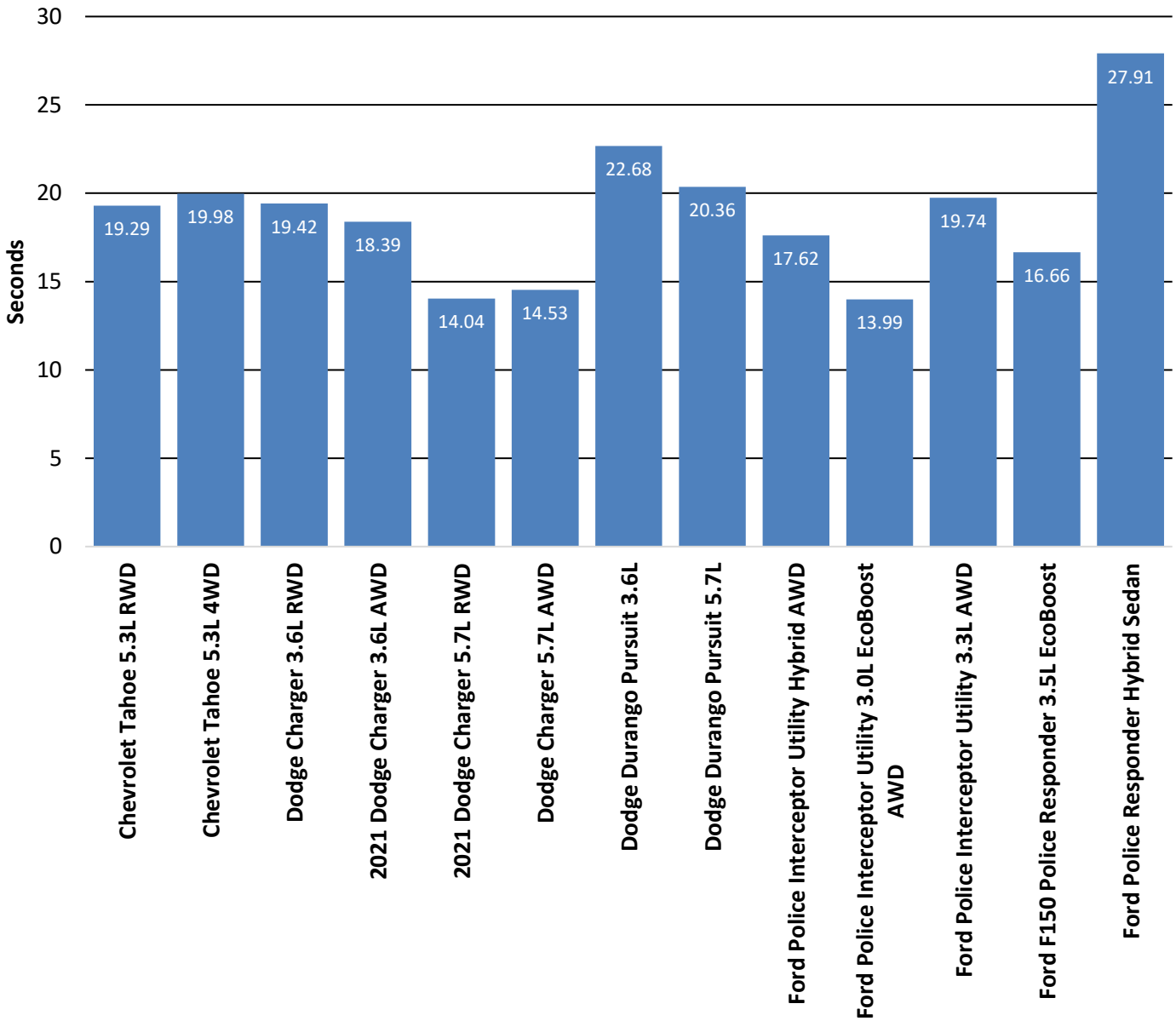
2020 Model Year
Acceleration Comparison
Acceleration Times
0-60 mph



2020 Model Year
Acceleration Comparison
Acceleration Times
0-80 mph



2020 Model Year
Acceleration Comparison
Acceleration Times
0-100 mph




13
POLICE

BRAKE TESTING

BRAKE TESTING OBJECTIVE

To determine the deceleration rate attained by each test vehicle on twenty 60 – 0 mph full ABS 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 in an effort 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.

DECELERATION RATE FORMULA

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

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 14, 2019
BEGINNING TIME: 9:56 a.m.	**TEMPERATURE:** 64° 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	151.94	25.57
2	60.50	146.12	26.94
3	60.90	146.61	27.21
4	60.50	146.71	26.84
5	59.90	140.52	27.46
6	60.40	145.16	27.03
7	60.60	144.78	27.28
8	60.20	143.81	27.11
9	60.40	147.56	26.59
10	59.60	141.21	27.06
AVERAGE DECELERATION RATE:			**26.91 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	60.90	146.55	27.22
2	59.90	138.61	27.84
3	61.10	145.61	27.58
4	60.40	141.26	27.78
5	60.50	142.73	27.58
6	60.50	143.24	27.49
7	60.70	144.02	27.52
8	60.40	142.66	27.51
9	59.90	143.98	26.80
10	* Not recorded due to data collection error		
AVERAGE DECELERATION RATE:			**27.48 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**27.18 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**142.5 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*

BRAKE TESTING

Chevrolet Tahoe 5.3L 4WD

TEST LOCATION: Chelsea Proving Grounds	**DATE:** September 14, 2019
BEGINNING TIME: 1:40 p.m.	**TEMPERATURE:** 70° 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	153.99	25.57
2	60.10	149.67	25.96
3	60.40	147.26	26.65
4	60.10	144.66	26.86
5	59.80	143.28	26.85
6	59.80	146.48	26.26
7	60.90	152.98	26.08
8	60.00	145.80	26.56
9	60.50	148.25	26.56
10	60.20	148.94	26.17
AVERAGE DECELERATION RATE:			**26.35 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	60.50	149.96	26.25
2	59.70	142.39	26.92
3	60.50	145.71	27.02
4	60.90	147.32	27.08
5	59.90	139.40	27.68
6	59.00	137.03	27.32
7	61.60	151.09	27.01
8	59.90	142.76	27.03
9	60.40	144.30	27.19
10	61.10	147.20	27.28
AVERAGE DECELERATION RATE:			**27.08 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**26.71 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**144.9 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*

BRAKE TESTING

Dodge Charger 3.6L RWD

TEST LOCATION: Chelsea Proving Grounds	**DATE:** September 14, 2019
BEGINNING TIME: 2:05 p.m.	**TEMPERATURE:** 70° 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	128.44	29.75
2	59.50	125.75	30.28
3	61.70	134.62	30.42
4	60.30	126.40	30.94
5	60.90	128.86	30.96
6	60.50	128.59	30.62
7	59.80	125.00	30.77
8	60.30	129.39	30.23
9	61.20	132.71	30.36
10	60.70	129.57	30.59
AVERAGE DECELERATION RATE:			**30.49 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	121.11	31.55
2	60.30	129.38	30.23
3	60.90	131.77	30.27
4	60.20	125.66	31.02
5	60.20	128.75	30.28
6	59.90	127.41	30.29
7	60.80	132.40	30.03
8	60.80	131.67	30.20
9	60.60	135.06	29.25
10	*Not recorded due to data collection error		
AVERAGE DECELERATION RATE:			**30.35 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**30.42 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**127.3 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*

BRAKE TESTING

2021 Dodge Charger 3.6L AWD

TEST LOCATION: Chelsea Proving Grounds	**DATE:** September 14, 2019
BEGINNING TIME: 10:31 a.m.	**TEMPERATURE:** 65° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.90	133.99	29.77
2	60.40	127.66	30.74
3	60.50	129.67	30.36
4	59.60	124.20	30.76
5	60.10	126.50	30.71
6	60.40	127.81	30.70
7	60.10	127.45	30.48
8	60.10	129.41	30.02
9	60.60	130.37	30.30
10	60.30	128.42	30.45
AVERAGE DECELERATION RATE:			**30.43 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	126.95	30.20
2	60.50	129.22	30.47
3	60.20	124.87	31.22
4	60.50	126.55	31.11
5	60.80	130.63	30.44
6	60.50	129.39	30.43
7	60.30	129.27	30.25
8	59.90	128.21	30.10
9	60.60	131.74	29.98
10	60.30	129.85	30.12
AVERAGE DECELERATION RATE:			**30.43 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**30.43 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**127.2 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*****

BRAKE TESTING

2021 Dodge Charger 5.7L RWD

TEST LOCATION: Chelsea Proving Grounds	**DATE:** September 14, 2019
BEGINNING TIME: 12:56 p.m.	**TEMPERATURE:** 68° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	61.20	136.63	29.49
2	60.90	132.41	30.13
3	60.50	130.43	30.18
4	60.00	126.53	30.60
5	59.90	128.92	29.94
6	59.90	127.34	30.31
7	60.00	126.83	30.53
8	60.90	134.38	29.69
9	59.90	128.01	30.15
10	59.20	126.54	29.79
AVERAGE DECELERATION RATE:			**30.08 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	59.30	128.39	29.46
2	59.30	125.58	30.12
3	59.70	127.82	29.99
4	60.30	130.41	29.99
5	60.00	130.09	29.77
6	60.40	131.18	29.91
7	59.50	126.16	30.18
8	60.50	131.87	29.86
9	59.80	127.15	30.25
10	59.50	127.71	29.82
AVERAGE DECELERATION RATE:			**29.93 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**30.01 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**129.0 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*****

BRAKE TESTING

Dodge Charger 5.7L AWD

TEST LOCATION: Chelsea Proving Grounds	**DATE:** September 14, 2019
BEGINNING TIME: 11:19 a.m.	**TEMPERATURE:** 65° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.80	134.52	29.56
2	60.40	130.17	30.15
3	60.50	129.73	30.35
4	60.00	126.90	30.51
5	60.00	128.51	30.13
6	60.50	130.59	30.15
7	59.80	126.47	30.41
8	59.90	126.42	30.53
9	60.50	129.96	30.29
10	61.20	134.11	30.04
AVERAGE DECELERATION RATE:			**30.21 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	132.27	29.57
2	60.90	132.72	30.06
3	60.40	129.13	30.39
4	61.40	132.86	30.52
5	60.40	129.33	30.34
6	60.40	130.13	30.15
7	59.40	125.09	30.34
8	60.70	131.98	30.03
9	59.80	128.81	29.86
10	60.90	134.78	29.60
AVERAGE DECELERATION RATE:			**30.09 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**30.15 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**128.4 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*

BRAKE TESTING

Dodge Durango 3.6L AWD

TEST LOCATION: Chelsea Proving Grounds	**DATE:** September 14, 2019
BEGINNING TIME: 2:50 p.m.	**TEMPERATURE:** 72° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.80	135.97	29.24
2	60.60	133.49	29.59
3	59.60	129.21	29.57
4	60.10	129.57	29.98
5	60.50	132.70	29.67
6	59.80	132.06	29.13
7	60.70	133.92	29.59
8	61.20	137.31	29.34
9	59.90	131.25	29.40
10	60.00	134.24	28.85
AVERAGE DECELERATION RATE:			**29.44 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	134.04	29.18
2	59.30	127.55	29.65
3	59.90	129.34	29.84
4	60.10	128.67	30.19
5	60.50	131.41	29.96
6	59.70	130.75	29.32
7	60.20	133.59	29.18
8	60.20	133.22	29.26
9	60.40	135.81	28.89
10	60.30	134.90	28.99
AVERAGE DECELERATION RATE:			**29.45 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**29.44 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 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*

BRAKE TESTING

Dodge Durango 5.7L AWD

TEST LOCATION: Chelsea Proving Grounds	**DATE:** September 14, 2019
BEGINNING TIME: 9:11 a.m.	**TEMPERATURE:** 62° 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	134.09	29.46
2	60.90	135.38	29.47
3	60.00	129.98	29.79
4	61.80	133.50	30.77
5	59.80	127.26	30.22
6	60.40	131.28	29.89
7	60.00	128.82	30.06
8	60.60	131.77	29.98
9	61.20	135.64	29.70
10	60.50	134.35	29.30
AVERAGE DECELERATION RATE:			**29.86 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	61.00	132.30	30.25
2	60.30	129.54	30.19
3	60.20	128.00	30.45
4	60.50	130.62	30.14
5	60.20	129.22	30.17
6	60.30	129.22	30.27
7	60.60	129.99	30.39
8	60.40	132.01	29.72
9	60.20	130.65	29.84
10	60.70	134.00	29.58
AVERAGE DECELERATION RATE:			**30.10 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**29.98 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**129.2 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*****

BRAKE TESTING

Ford Police Interceptor Utility Hybrid AWD

TEST LOCATION: Chelsea Proving Grounds	**DATE:** September 14, 2019
BEGINNING TIME: 10:53 a.m.	**TEMPERATURE:** 65° 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	134.38	29.39
2	60.70	132.41	29.93
3	60.40	130.95	29.97
4	60.50	132.25	29.77
5	60.10	129.00	30.12
6	61.10	132.74	30.25
7	61.20	134.45	29.96
8	61.40	136.90	29.62
9	60.70	132.56	29.90
10	59.70	129.89	29.51
AVERAGE DECELERATION RATE:			**29.84 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	60.90	134.43	29.68
2	60.30	132.73	29.47
3	59.70	127.69	30.02
4	59.80	128.55	29.92
5	59.90	130.72	29.52
6	60.90	132.67	30.07
7	61.10	134.99	29.75
8	60.20	131.39	29.67
9	60.10	131.91	29.45
10	60.10	132.51	29.32
AVERAGE DECELERATION RATE:			**29.69 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**29.76 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**130.1 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*

BRAKE TESTING

Ford Police Interceptor Utility 3.0L EcoBoost AWD

TEST LOCATION: Chelsea Proving Grounds	**DATE:** September 14, 2019
BEGINNING TIME: 11:44 a.m.	**TEMPERATURE:** 66° 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	130.15	29.06
2	61.80	138.06	29.76
3	59.00	125.62	29.81
4	60.60	127.73	30.92
5	59.30	126.37	29.93
6	60.30	131.08	29.84
7	60.80	132.63	29.98
8	60.10	130.20	29.84
9	60.20	131.98	29.54
10	59.10	128.24	29.30
AVERAGE DECELERATION RATE:			**29.80 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	61.40	140.36	28.89
2	59.70	131.94	29.06
3	59.50	128.27	29.69
4	61.10	132.49	30.31
5	60.80	134.30	29.61
6	59.10	126.77	29.64
7	59.90	127.18	30.35
8	60.50	131.99	29.83
9	59.30	126.27	29.95
10	60.70	136.58	29.02
AVERAGE DECELERATION RATE:			**29.63 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**29.71 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**130.3 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*****

BRAKE TESTING

Ford Police Interceptor Utility 3.3L AWD

TEST LOCATION: Chelsea Proving Grounds	**DATE:** September 14, 2019
BEGINNING TIME: 1:17 p.m.	**TEMPERATURE:** 70° 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	134.41	29.10
2	61.50	139.39	29.19
3	60.00	129.22	29.97
4	61.10	135.20	29.70
5	59.50	127.96	29.76
6	60.30	134.48	29.08
7	60.80	134.31	29.60
8	60.00	130.52	29.67
9	61.70	141.33	28.97
10	60.20	132.21	29.48
AVERAGE DECELERATION RATE:			**29.45 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	59.40	131.27	28.91
2	59.10	127.47	29.47
3	60.60	133.85	29.51
4	59.70	127.97	29.96
5	60.40	132.21	29.68
6	59.70	130.92	29.28
7	59.30	128.14	29.52
8	60.00	131.20	29.51
9	61.00	135.31	29.58
10	60.80	136.48	29.13
AVERAGE DECELERATION RATE:			**29.46 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**29.45 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 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*

BRAKE TESTING

Ford F150 Police Responder 3.5L EcoBoost

TEST LOCATION: Chelsea Proving Grounds	**DATE:** September 14, 2019
BEGINNING TIME: 2:30 p.m.	**TEMPERATURE:** 71° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	59.10	146.68	25.61
2	60.10	148.44	26.17
3	60.40	145.79	26.92
4	59.90	144.94	26.63
5	60.00	145.29	26.65
6	59.50	142.37	26.75
7	59.80	145.44	26.45
8	60.20	144.85	26.91
9	60.60	148.51	26.60
10	61.50	155.24	26.21
AVERAGE DECELERATION RATE:			**26.49 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	60.00	148.80	26.02
2	60.70	147.64	26.84
3	60.00	143.75	26.94
4	60.10	143.82	27.01
5	60.00	144.15	26.86
6	60.00	144.05	26.88
7	59.70	144.28	26.57
8	59.70	146.49	26.17
9	61.30	153.27	26.37
10	59.90	147.33	26.19
AVERAGE DECELERATION RATE:			**26.59 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**26.54 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**145.9 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*****

BRAKE TESTING

Ford Police Responder Hybrid Sedan

TEST LOCATION: Chelsea Proving Grounds	**DATE:** September 14, 2019
BEGINNING TIME: 8:41 a.m.	**TEMPERATURE:** 60° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	61.00	135.38	29.56
2	60.00	127.63	30.34
3	60.50	129.86	30.32
4	60.10	137.64	28.23
5	60.60	132.82	29.74
6	60.70	131.26	30.19
7	60.20	131.04	29.75
8	60.60	135.88	29.07
9	60.40	137.98	28.44
10	60.50	131.91	29.85
AVERAGE DECELERATION RATE:			**29.55 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	131.46	29.55
2	60.20	133.87	29.12
3	61.00	135.70	29.49
4	60.80	130.59	30.45
5	61.50	134.35	30.28
6	61.70	135.45	30.23
7	61.10	132.45	30.32
8	60.40	132.70	29.57
9	*Not recorded due to data collection error		
10	*Not recorded due to data collection error		
AVERAGE DECELERATION RATE:			**29.88 ft/s²**

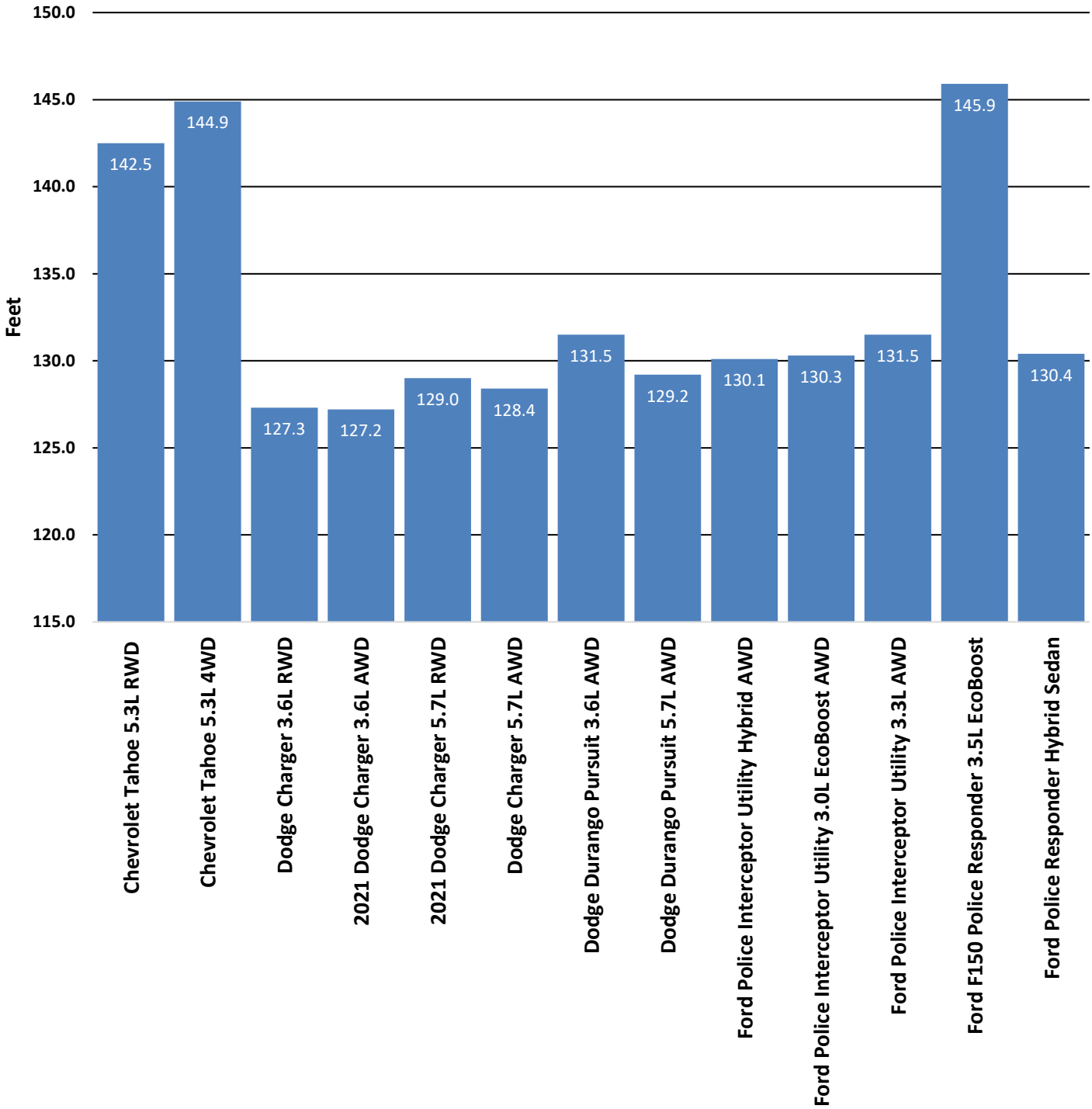
Phase III

OVERALL AVERAGE DECELERATION RATE:	**29.69 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**130.4 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*

2020 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 74 of this book) each category is graded on a scale of 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	2020 Ford Police Interceptor Utility	Ford F150 Police Responder	Ford Police Responder Hybrid
COMMUNICATIONS						
Dashboard Accessibility	9.33	9.39	10.00	10.00	9.56	7.61
Trunk Accessibility	8.86	9.07	9.33	8.33	7.57	6.93
Engine Compartment	8.33	7.67	10.00	10.00	9.00	5.67
TOTAL SCORES	**8.84**	**8.71**	**9.78**	**9.44**	**8.71**	**6.74**

ERGONOMICS

	Chevrolet Tahoe	Dodge Charger	Dodge Durango	Ford Police Interceptor Utility	Ford F150 Police Responder	Ford Police Responder Hybrid
FRONT SEAT						
Padding	8.29	9.14	9.29	8.14	8.57	8.00
Depth of Bucket Seat	8.57	9.00	9.14	7.86	8.71	7.86
Adjustability – Front to Rear	9.86	9.43	9.57	8.71	8.71	7.00
Upholstery	8.71	8.86	8.86	8.57	8.29	7.86
Bucket Seat Design	8.57	8.71	8.86	7.29	7.29	7.29
Headroom	9.86	8.57	9.86	9.71	9.86	8.71
Seatbelts	8.29	9.43	8.86	9.29	8.43	9.57
Ease of Entry and Exit	9.57	8.00	9.43	9.29	8.29	6.71
Overall Comfort Rating	8.71	8.57	9.43	8.29	8.14	7.57
REAR SEAT						
Leg room – Front seat back	9.43	5.86	8.43	8.71	9.86	5.29
Ease of Entry and Exit	8.71	6.00	9.14	9.00	8.00	6.71
INSTRUMENTATION						
Clarity	9.57	9.57	9.57	8.29	8.57	7.86
Placement	9.57	9.43	9.71	9.14	9.29	8.71
VEHICLE CONTROLS						
Pedals, Size, and Position	9.57	9.43	9.43	8.57	9.57	9.29
Power Window Switch	9.71	9.86	9.86	9.00	9.00	8.71
Stability/Traction Control Switch	8.67	9.43	9.57	7.80	9.00	3.40
Door Lock Switch	9.00	9.43	9.43	9.43	7.71	9.71
Outside Mirror Controls	9.00	9.43	9.29	8.71	8.57	8.43
Steering Wheel, Size, Tilt Release, and Surface	7.86	9.29	9.43	9.14	9.14	8.29
Heat/AC Vent Placement and Adjustability	9.43	8.57	8.86	8.29	9.29	8.86
Trunk Release Switch	10.00	8.86	9.50	2.40	N/A	8.71
VISIBILITY						
Front (Windshield)	9.57	9.43	9.29	8.43	9.71	9.57
Rear (Back Window)	8.57	8.43	8.43	7.57	8.86	8.00
Left Rear Quarter	7.57	8.29	7.71	7.86	8.14	8.29
Right Rear Quarter	7.14	7.86	7.57	7.57	8.57	8.14
Outside Rear View Mirrors	8.14	8.29	9.00	8.57	9.57	8.86
TOTAL SCORES	**8.92**	**8.74**	**9.13**	**8.29**	**8.77**	**7.98**

FUEL ECONOMY

The respective auto manufacturers provided estimates for fuel economy as shown below.

This information has been certified by the Environmental Protection Agency.

Vehicles Make/Model/Engine	E.P.A. Miles Per Gallon		
	City Label	Highway Label	Combined Label
Chevrolet Tahoe 5.3L RWD	15	22	18
Chevrolet Tahoe 5.3L 4WD	14	20	16
Dodge Charger 3.6L RWD	18	26	20
2021 Dodge Charger 3.6L AWD	18	27	21
2021 Dodge Charger 5.7L RWD	16	25	19
Dodge Charger 5.7L AWD	15	23	18
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	22	18
Ford Police Responder Hybrid Sedan	40	36	38

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.

We conduct motorcycle brake testing on our track at the Precision Driving Unit in Lansing. Our facility provides a very flat and consistent surface for this type of testing. Thus, better information is provided to the reader as to the braking capabilities of each motorcycle.

The motorcycle dynamics portion was again conducted at Grattan Raceway. 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	20RP
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 partial-integral ABS with traction control & ABS Pro
FUEL CAPACITY	6.6 Gallons/ 25 Liters
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 standard features: Electronic Suspension Adjustment (ESA), ABS brakes with traction control, rain or road riding modes, heated handlebar grips, cruise control, tire pressure monitors and weather protection.

The new generation contains a multi-plate self-adjusting wet clutch that can be changed in an hour, variable valve timing, completely new 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), adjustable dashboard angle, 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 includes 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 management can be run on regular 87 AKI fuel

BMW F 750 GS-P

MAKE & MODEL	F 750 GS-P
SALES CODE	FB
POWERTRAIN INFORMATION	
CUBIC INCHES	52
LITERS	853 CC
HORSEPOWER	77 hp @ 7,500
TORQUE	61 ft./lbs.
ALTERNATOR	416 Watts
BATTERY	2 – 10 Ah rated AGM maintenance free batteries 180 CCA
TRANSMISSION	Six speed constant mesh
SUSPENSION TYPE (FRONT)	Standard Fork 41mm
SUSPENSION TYPE (REAR)	Two-sided aluminum swing arm
TURNING CIRCLE (CURB TO CURB)	16 ft.
TIRE SIZE, LOAD & SPEED RATING	Front 110/80 R19 Rear 15-/70 R17
GROUND CLEARANCE, MINIMUM	7.83 inches
BRAKE SYSTEM	BMW Motorrad ABS (disengageable)
FUEL CAPACITY	4 Gallons/15 Liters
GENERAL MEASUREMENTS	
WHEELBASE	61.3 inches
LENGTH	88.3 inches
TEST WEIGHT	593 lbs.
HEIGHT	48.2 inches
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	970 lbs.
EPA MILEAGE EST. (MPG)	
CITY	Not Provided by Manufacturer
HIGHWAY	Not Provided by Manufacturer
COMBINED	57 mpg (WMTC)

MANUFACTURER HIGHLIGHTS

Today's needs for homeland security and law enforcement challenge every agency with limited budgets to utilize its resources as broadly as possible. The F 750 GS-P and F 850 GS-P models provide the widest range available to agencies for deploying resources. The GS-P's are not only capable of doing 100+ mph on the street, but can also tackle secondary roads, trails, greenbelts, parks and recreation areas, airports, dams, reservoirs, power plants, docks, ports, your college campus or anywhere else motors work best.

- **Performance:** will pleasantly surprise even seasoned motor veterans – few will evade you on or off pavement.
- **Lighting:** state-of-the-art emergency lighting system, with take-down & alley lights, wig-wag headlight, etc.
- **Two Suspension Versions:** 19" or 21" front wheel sizes provide the right suspension for your mission.
- **Standard ABS brakes:** provide superior stopping power which can be disabled on-the-fly when terrain demands.
- **Versatility:** multiple saddlebag options. The GS-P can fit through narrow gates and crossings that stop ATV's in their tracks.
- **Sure-starting:** linked auxiliary battery powers emergency lights and pre-wired equipment with engine "off" ensures restarting.
- **Superior cooling:** fan-driven water-cooled single won't over-heat in parades or congested traffic.
- **Economy:** 57 mpg on regular fuel, 6,000-mile service intervals and 3-year/36,000 miles limited warranty.

BMW F 850 GS-P

MAKE & MODEL	BMW F 850 GS-P
SALES CODE	19FP
POWERTRAIN INFORMATION	
CUBIC INCHES	52
LITERS	853 CC
HORSEPOWER	90 hp @ 8,000
TORQUE	63 ft./lbs. @ 6,250
ALTERNATOR	416 Watts
BATTERY	2 – 10 Ah rated AGM maintenance free batteries 180 CCA
TRANSMISSION	Six speed constant mesh
SUSPENSION TYPE (FRONT)	Upside Down Fork 43mm
SUSPENSION TYPE (REAR)	Two-sided aluminum swing arm
TURNING CIRCLE (CURB TO CURB)	16 ft.
TIRE SIZE, LOAD & SPEED RATING	Front 90/90 R21 Rear 150-/70 R17
GROUND CLEARANCE, MINIMUM	6.26 inches
BRAKE SYSTEM	BMW Motorrad ABS (disengageable)
FUEL CAPACITY	4 Gallons/ 15 Liters
GENERAL MEASUREMENTS	
WHEELBASE	62.7 inches
LENGTH	90.8 inches
TEST WEIGHT	600 lbs.
HEIGHT	53.4 inches
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	981 lbs.
EPA MILEAGE EST. (MPG)	
CITY	Not Provided by Manufacturer
HIGHWAY	Not Provided by Manufacturer
COMBINED	57 mpg (WMTC)

MANUFACTURER HIGHLIGHTS

Today's needs for homeland security and law enforcement challenge every agency with limited budgets to utilize its resources as broadly as possible. The F 750 GS-P and F 850 GS-P models provide the widest range available to agencies for deploying resources. The GS-P's are not only capable of doing 100+ mph on the street, but can also tackle secondary roads, trails, greenbelts, parks and recreation areas, airports, dams, reservoirs, power plants, docks, ports, your college campus or anywhere else motors work best.

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- **Economy:** 57 mpg on regular fuel, 6,000-mile service intervals and 3-year/36,000 miles limited warranty.

Harley-Davidson FLHTP

MAKE & MODEL	2020 Police FLHTP Electra Glide
SALES CODE	Not Provided by Manufacturer
POWERTRAIN INFORMATION	
CUBIC INCHES	114
LITERS	1.87
HORSEPOWER	Not Provided by Manufacturer
TORQUE	123 @ 3000 RPM
ALTERNATOR	48 AMP, producing approximately 28 amps at idle
BATTERY	12VDC, 28 Amp/Hour, 405 CCA
TRANSMISSION	6-Speed Cruise Drive Manual / Assist and Slip Wet 9 Plate Clutch
SUSPENSION TYPE (FRONT)	Hydraulic 49mm Telescopic Forks with Showa® Dual Bending Valve Technology improving dampening performance
SUSPENSION TYPE (REAR)	Swing Arm with Hand Adjustable Emulsion Rear shocks
TURNING CIRCLE (CURB TO CURB)	<17 ft.
TIRE SIZE, LOAD & SPEED RATING	Front: BW 130/80B17 65H Rear: BW 180/65B16 81H
GROUND CLEARANCE, MINIMUM	5.3 inches
BRAKE SYSTEM	Hydraulic Disc / Reflex™ Electronically Linked with ABS (Dual Front Floating Rotors-Single Fixed Rear)
FUEL CAPACITY	6 Gallons/22.7 Liters
GENERAL MEASUREMENTS	
WHEELBASE	64 inches
LENGTH	94.7 inches
TEST WEIGHT	844 lbs.
HEIGHT	57.1 inches
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	516 lbs.
EPA MILEAGE EST. (MPG)	
CITY	Not Provided by Manufacturer
HIGHWAY	Not Provided by Manufacturer
COMBINED	43

MANUFACTURER HIGHLIGHTS

A. Milwaukee-Eight 114 powertrain as standard equipment, the most displacement offered from our factory in standard Touring model motorcycles.

- Milwaukee-Eight 114 rated at 123 ft. lbs. peak torque
- 5 percent torque increase over Milwaukee-Eight 107 (123 vs. 117 ft. lbs.)
- 5 percent quicker 0-to-60 mph than Milwaukee-Eight 107
- Execute passing maneuvers with confidence and fewer down-shifts
- More “on ramp” power to gain speed and merge with freeway traffic
- More power to pull away from traffic

B. Dual Bending Valve front forks and hand-adjustable pre-load rear suspension with emulsion damping let you ride in comfort and confidence; the tool-less rear shocks have a hydraulic pre-load adjuster that is intuitive and easy to adjust for all road and loading conditions

C. Six-Speed Cruise Drive® transmission provides smooth, quiet shifting and reduces engine speed on the highway, so you get a better match between engine turnover and road speed

D. NEW Reflex™ Defensive Rider Systems (RDRS) is a new collection of technology designed to match motorcycle performance to available traction during acceleration, deceleration and braking. The systems are designed to aid the rider in controlling the vehicle while accelerating and braking in a straight line or while in a turn. New package (which is standard on Touring Police Motorcycles) provides the following features:

- Anti-Lock Brakes (ABS)
- Electronic Linked Brakes (ELB)
- Cornering Enhanced ABS (C-ABS)
- Cornering Enhanced Electronic Linked Braking (C-ELB)
- Cornering Enhanced Traction Control (C-TCS)
- Drag-Torque Slip Control (DSCS)
- Cornering Enhanced Drag-Torque Slip Control (DSCS)
- Vehicle Hold Control (VHC)
- Tire Pressure Monitoring System (TPMS)

Harley-Davidson FLHP

MAKE & MODEL	2020 Police FLHP Road King
SALES CODE	Not Provided by Manufacturer
POWERTRAIN INFORMATION	
CUBIC INCHES	114
LITERS	1.87
HORSEPOWER	Not Provided by Manufacturer
TORQUE	123 @ 3000 RPM
ALTERNATOR	48 AMP, producing approximately 28 amps at idle
BATTERY	12VDC, 28 Amp/Hour, 405 CCA
TRANSMISSION	6-Speed Cruise Drive Manual / Assist and Slip Wet 9 Plate Clutch
SUSPENSION TYPE (FRONT)	Hydraulic 49mm Telescopic Forks with Showa® Dual Bending Valve Technology improving dampening performance
SUSPENSION TYPE (REAR)	Swing Arm with Hand Adjustable Emulsion Rear shocks
TURNING CIRCLE (CURB TO CURB)	<17 ft.
TIRE SIZE, LOAD & SPEED RATING	Front: BW 130/80B17 65H Rear: BW 180/65B16 81H
GROUND CLEARANCE, MINIMUM	5.3 inches
BRAKE SYSTEM	Hydraulic Disc / Reflex™ Electronically Linked with ABS (Dual Front Floating Rotors-Single Fixed Rear)
FUEL CAPACITY	6 Gallons/22.7 Liters
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	Not Provided by Manufacturer
HIGHWAY	Not Provided by Manufacturer
COMBINED	43

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- Milwaukee-Eight 114 rated at 123 ft. lbs. peak torque
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- Cornering Enhanced Electronic Linked Braking (C-ELB)
- Cornering Enhanced Traction Control (C-TCS)
- Drag-Torque Slip Control (DSCS)
- Cornering Enhanced Drag-Torque Slip Control (DSCS)
- Vehicle Hold Control (VHC)
- Tire Pressure Monitoring System (TPMS)

Yamaha FJR1300P-AB

MAKE & MODEL	Yamaha FJR1300P-AB
SALES CODE	RP31Y
POWERTRAIN INFORMATION	
CUBIC INCHES	79.2
LITERS	1.298
HORSEPOWER	144.2bhp @8000 RPM
TORQUE	101.7 ft./lbs.
ALTERNATOR	42.1 AMP
BATTERY	12V, 12.0AH
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 with ABS RR – 11.1 in; Unified Brake System and ABS
FUEL CAPACITY	6.6 Gallons/24.98 Liters
GENERAL MEASUREMENTS	
WHEELBASE	60.8 inches
LENGTH	87.8 inches
TEST WEIGHT	865 lbs.
HEIGHT	Low 55.7 inches – High 61 inches 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 FJR1300 has made its mark as a truly iconic model for Yamaha Motor Company since its introduction to the U.S. market in 2003, with tens of thousands of this incredibly reliable “supersport touring” model having been sold since that time.

Known for its sportbike-like engine performance, impeccable handling, and superb braking capabilities, the FJR1300 has proven itself to be extremely reliable, with many retail customers racking up well over 100,000 miles on their personal bikes.

The FJR1300 has also undergone 4 significant generational updates and multiple refinements since its introduction, the last of which coming in the 2016 model year, with the addition of a six-speed transmission and advanced electronic additions. These upgrades have only added to the reliability, versatility, comfort, and sophistication of this motorcycle, without inhibiting the impressive performance or rider adjustability of this uniquely capable sport-touring motorcycle.

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.

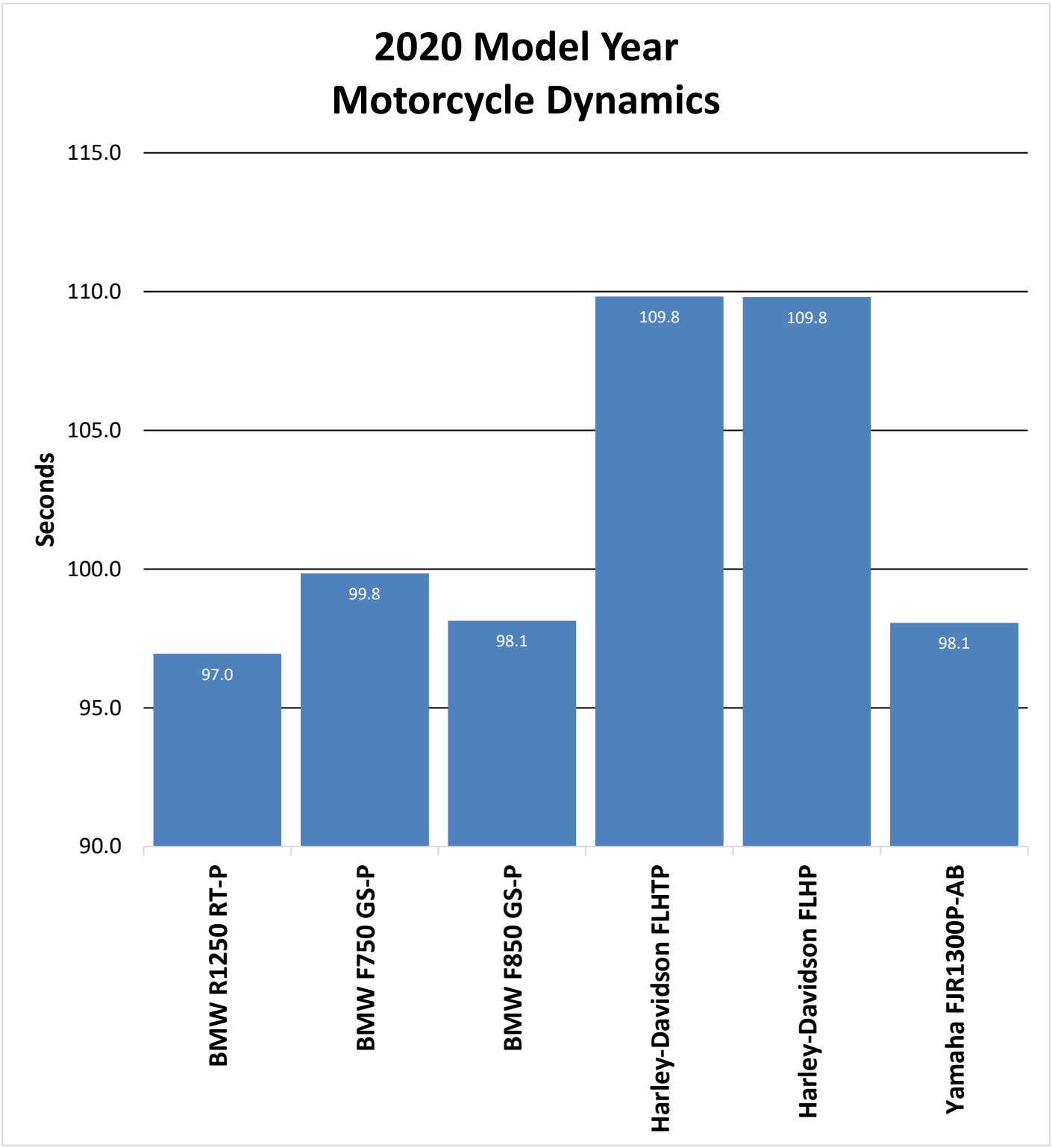
MOTORCYCLE DYNAMICS SCHEDULE

GRATTAN RACEWAY
2020 MODEL YEAR MOTORCYCLE DYNAMICS SCHEDULE
SEPTEMBER 12, 2019

	DARLINGTON	ROGERS	TIBAUDO	CUPP
9:30 a.m.	Harley-Davidson FLHP	Harley-Davidson FLHTP	Pass	Pass
10:00 a.m.	BMW F 750 GSP	BMW F 850 GSP	BMW R 1250 RT-P	Yamaha FJR 1300P-AB
10:30 a.m.	Pass	Pass	Harley-Davidson FLHP	Harley-Davidson FLHTP
11:00 a.m.	BMW R 1250 RT-P	Yamaha FJR 1300P-AB	BMW F 750 GSP	BMW F 850 GSP
11:30 a.m.	Harley-Davidson FLHTP	Harley-Davidson FLHP	Pass	Pass
12:30 p.m.	BMW F 850 GSP	BMW F 750 GSP	Yamaha FJR 1300P-AB	BMW R 1250 RT-P
1:00 p.m.	Pass	Pass	Harley-Davidson FLHTP	Harley-Davidson FLHP
1:30 p.m.	Yamaha FJR 1300P-AB	BMW R 1250 RT-P	BMW F 850 GSP	BMW F 750 GSP

MOTORCYCLE DYNAMICS TESTING
SEPTEMBER 12, 2019

Vehicles	Drivers	Lap 1	Lap 2	Lap 3	Lap 4	Lap 5	Average
BMW R 1250 RT-P	TIBAUDO	01:37.71	01:38.52	01:37.84	01:38.37	01:37.41	01:37.97
	DARLINGTON	01:37.40	01:37.43	01:37.58	01:37.22	01:36.85	01:37.29
	CUPP	01:35.99	01:36.25	01:36.49	01:36.56	01:35.71	01:36.20
	ROGERS	01:36.91	01:36.27	01:36.16	01:36.06	01:36.29	01:36.34
Overall Average							**01:36.95**
BMW F 750 GS-P	DARLINGTON	01:40.20	01:39.58	01:39.92	01:39.56	01:39.52	01:39.76
	TIBAUDO	01:41.67	01:41.61	01:41.00	01:41.64	01:40.67	01:41.32
	ROGERS	01:39.43	01:38.89	01:39.41	01:39.35	01:39.21	01:39.26
	CUPP	01:39.22	01:39.26	01:38.76	01:39.41	01:38.45	01:39.02
Overall Average							**01:39.84**
BMW F 850 GS-P	ROGERS	01:38.01	01:37.30	01:38.27	01:38.19	01:37.17	01:37.79
	CUPP	01:37.55	01:37.35	01:37.31	01:37.62	01:37.06	01:37.38
	DARLINGTON	01:38.17	01:37.67	01:37.77	01:39.00	01:39.37	01:38.40
	TIBAUDO	01:39.29	01:38.92	01:39.00	01:39.14	01:38.57	01:38.98
Overall Average							**01:38.14**
Harley-Davidson FLHTP	ROGERS	01:50.05	01:49.06	01:49.61	01:49.15	01:49.37	01:49.45
	CUPP	01:49.66	01:49.27	01:50.08	01:49.93	01:49.46	01:49.68
	DARLINGTON	01:50.04	01:50.15	01:49.76	01:49.73	01:49.50	01:49.84
	TIBAUDO	01:50.62	01:50.30	01:50.41	01:50.30	01:49.90	01:50.31
Overall Average							**01:49.82**
Harley-Davidson FLHP	DARLINGTON	01:51.69	01:51.02	01:51.26	01:50.97	01:51.31	01:51.25
	TIBAUDO	01:49.65	01:49.13	01:49.81	01:49.51	01:49.15	01:49.45
	ROGERS	01:48.94	01:48.97	01:49.19	01:49.04	01:49.00	01:49.03
	CUPP	01:49.41	01:49.62	01:49.38	01:49.45	01:49.48	01:49.47
Overall Average							**01:49.80**
Yahama FJR1300P-AB	CUPP	01:38.34	01:37.06	01:37.17	01:36.48	01:35.57	01:36.92
	ROGERS	01:36.68	01:37.13	01:36.59	01:36.32	01:36.80	01:36.70
	TIBAUDO	01:40.69	01:39.85	01:39.60	01:39.80	01:40.22	01:40.03
	DARLINGTON	01:38.38	01:38.79	01:38.85	01:38.63	01:38.18	01:38.57
Overall Average							**01:38.06**


2020 Model Year
Motorcycle Dynamics
Seconds
115.0
110.0
105.0
100.0
95.0
90.0
97.0
99.8
98.1
109.8
109.8
98.1
BMW R1250 RT-P
BMW F750 GS-P
BMW F850 GS-P
Harley-Davidson FLHTP
Harley-Davidson FLHP
Yamaha FJR1300P-AB

MOTORCYCLE ACCELERATION
&
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 a distance of 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.

TEST LOCATION: Chelsea Proving Grounds **DATE:** September 14, 2019

BMW R1250 RT-P

BEGINNING TIME: 2:15 p.m. **TEMPERATURE:** 70.9° F
WIND VELOCITY: 6.6 mph **WIND DIRECTION:** 287°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	3.95	3.82	3.73	4.01	3.88
0 – 80	5.94	5.73	5.98	5.93	5.90
0 – 100	8.92	8.69	8.90	8.86	8.84

DISTANCE TO REACH 100 MPH: 0.15 mile
DISTANCE TO REACH 120 MPH: 0.33 mile

TOP SPEED ATTAINED: 137 mph

DISTANCE TO REACH TOP SPEED: 2.27 miles
TIME TO REACH TOP SPEED: 67.32 seconds

BMW F750 GS-P

BEGINNING TIME: 11:08 a.m. **TEMPERATURE:** 64.9° F
WIND VELOCITY: 4.1 mph **WIND DIRECTION:** 298°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	4.93	4.68	4.73	4.54	4.72
0 – 80	8.37	8.09	8.13	8.00	8.15
0 – 100	15.58	15.62	15.33	14.83	15.34

DISTANCE TO REACH 100 MPH: .29 mile
DISTANCE TO REACH 120 MPH: N/A

TOP SPEED ATTAINED: 116 mph

DISTANCE TO REACH TOP SPEED: 1.78 miles
TIME TO REACH TOP SPEED: 63.42 seconds

BMW F850 GS-P

BEGINNING TIME: 2:43 p.m. **TEMPERATURE:** 84.8° F
WIND VELOCITY: 4.76 mph **WIND DIRECTION:** 145°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	4.77	4.47	4.55	4.43	4.56
0 – 80	7.87	7.44	7.64	7.57	7.63
0 – 100	14.49	13.57	13.74	13.60	13.85

DISTANCE TO REACH 100 MPH: 0.26 mile
DISTANCE TO REACH 120 MPH: 1.60 miles

TOP SPEED ATTAINED: 120 mph

DISTANCE TO REACH TOP SPEED: 1.60 miles
TIME TO REACH TOP SPEED: 57.16 seconds

TEST LOCATION: Chelsea Proving Grounds **DATE:** September 14, 2019

Harley-Davidson FLHTP

BEGINNING TIME: 9:54 a.m. **TEMPERATURE:** 63.5° F
WIND VELOCITY: 12.1 mph **WIND DIRECTION:** 273°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	5.53	5.23	5.16	5.26	5.30
0 – 80	9.59	9.64	9.40	9.41	9.51
0 – 100	19.59	20.19	20.66	19.76	20.05

DISTANCE TO REACH 100 MPH: 0.41 mile
DISTANCE TO REACH 120 MPH: N/A

TOP SPEED ATTAINED: 108 mph

DISTANCE TO REACH TOP SPEED: 0.79 mile
TIME TO REACH TOP SPEED: 33.21 seconds

Harley-Davidson FLHP

BEGINNING TIME: 11:46 a.m. **TEMPERATURE:** 66.2° F
WIND VELOCITY: 7.7 mph **WIND DIRECTION:** 311°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	5.42	5.09	5.07	5.08	5.17
0 – 80	9.26	8.92	8.96	9.04	9.05
0 – 100	18.12	18.06	17.72	18.25	18.04

DISTANCE TO REACH 100 MPH: 0.36 mile
DISTANCE TO REACH 120 MPH: N/A

TOP SPEED ATTAINED: 109 mph

DISTANCE TO REACH TOP SPEED: 0.67 mile
TIME TO REACH TOP SPEED: 28.62 seconds

Yamaha FJR1300 P-AB

BEGINNING TIME: 1:27 p.m. **TEMPERATURE:** 69.9° F
WIND VELOCITY: 5.0 mph **WIND DIRECTION:** 274°

SPEEDS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE (seconds)
0 – 60	3.92	3.60	3.46	3.69	3.67
0 – 80	5.65	5.45	5.33	5.50	5.48
0 – 100	8.46	8.07	8.05	8.19	8.19

DISTANCE TO REACH 100 MPH: 0.13 mile
DISTANCE TO REACH 120 MPH: 0.28 mile

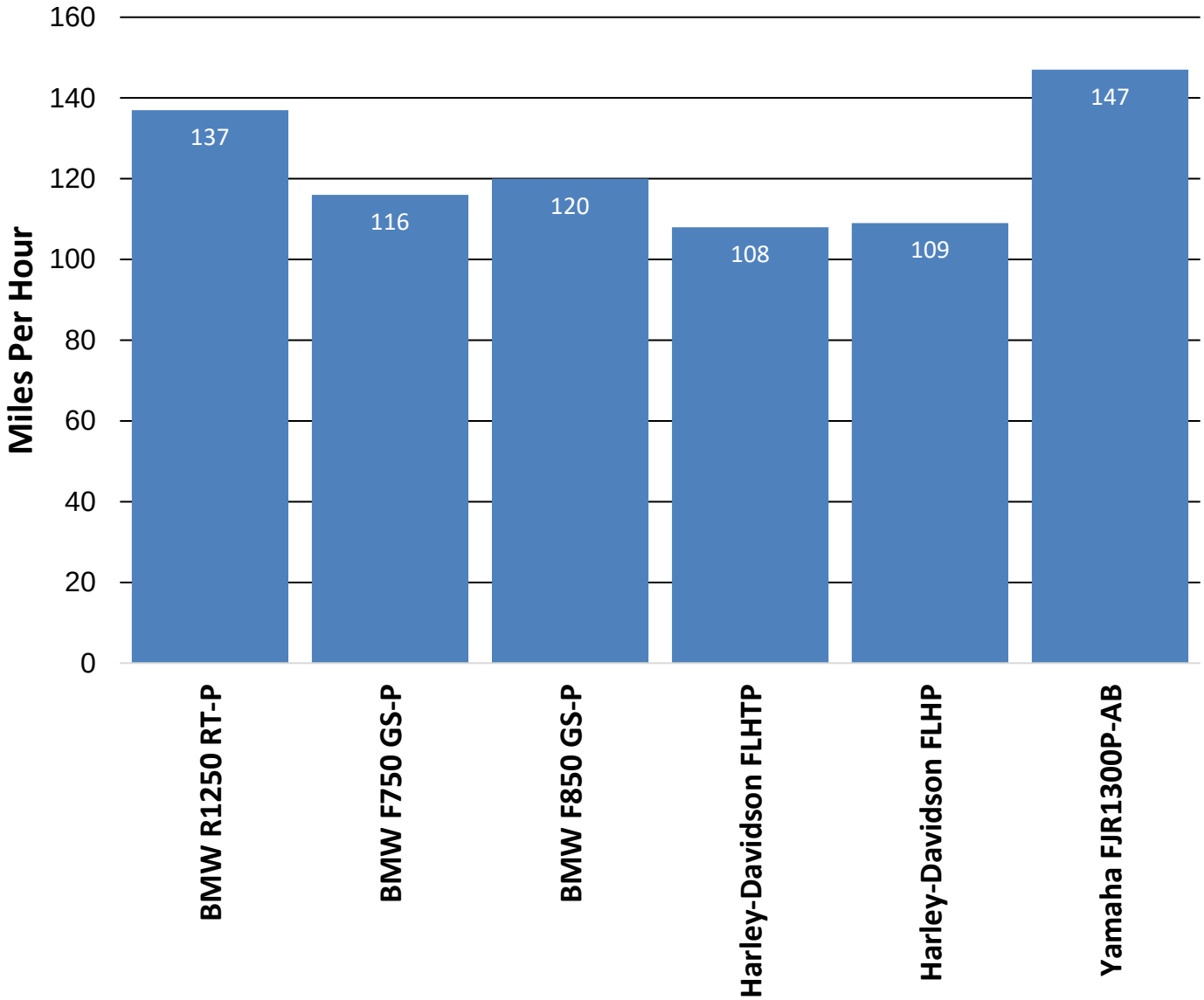
TOP SPEED ATTAINED: 147 mph

DISTANCE TO REACH TOP SPEED: 3.01 miles
TIME TO REACH TOP SPEED: 81.96 seconds

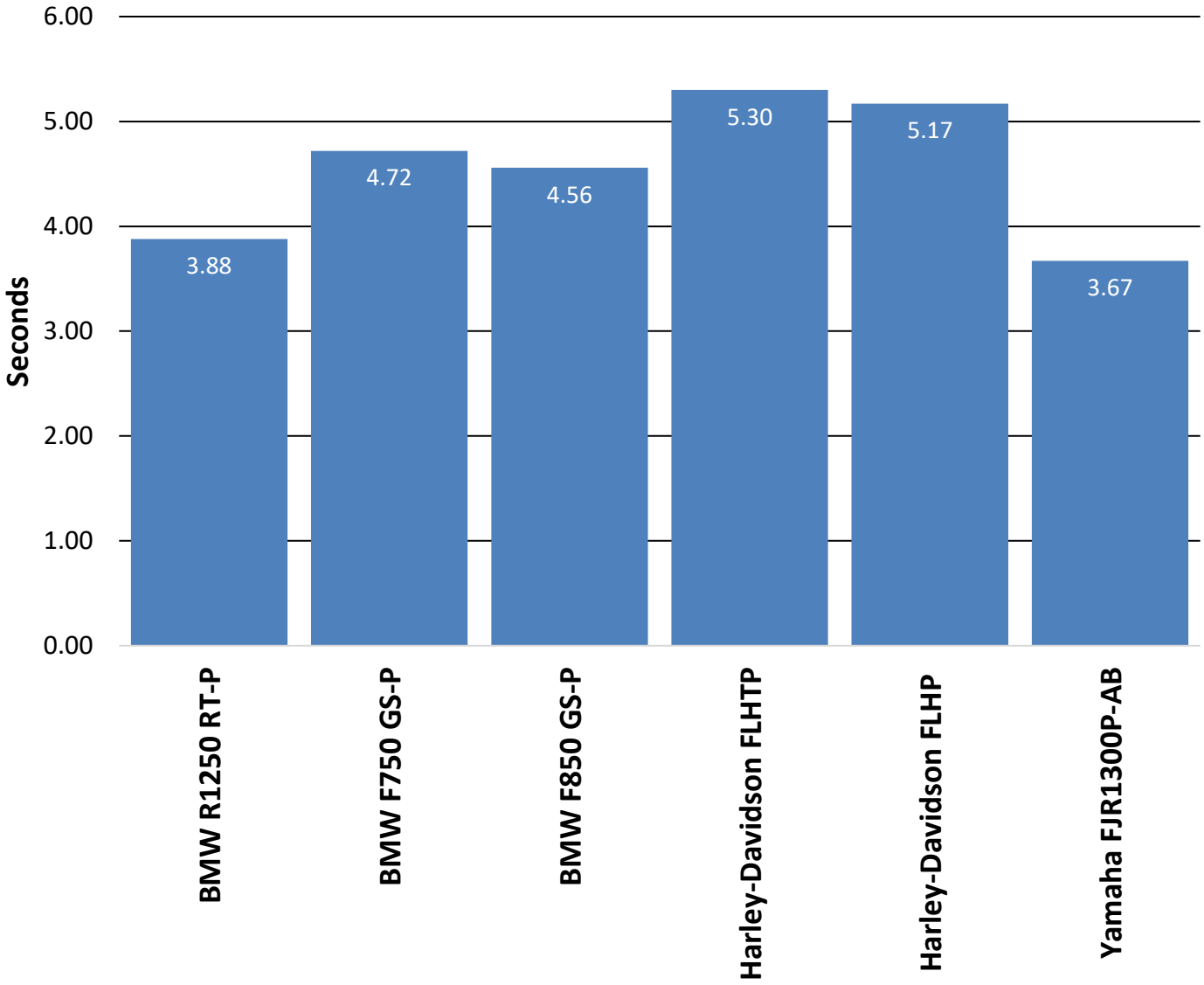
SUMMARY OF MOTORCYCLE ACCELERATION & TOP SPEED

	BMW R 1250 RT-P	BMW F 750 GS-P	BMW F 850 GS-P	Harley-Davidson FLHTP	Harley-Davidson FLHP	Yahama FJR1300 P-AB
ACCELERATION (seconds)						
0-20 mph	1.36	1.29	1.40	1.18	1.23	1.22
0-30 mph	1.94	1.98	2.09	1.82	1.82	1.82
0-40 mph	2.53	2.69	2.75	2.63	2.63	2.41
0-50 mph	3.15	3.58	3.57	3.96	3.90	2.98
0-60 mph	3.88	4.72	4.56	5.30	5.17	3.67
0-70 mph	4.85	6.14	5.90	7.08	6.91	4.57
0-80 mph	5.90	8.15	7.63	9.51	9.05	5.48
0-90 mph	7.20	10.94	9.97	12.90	12.34	6.75
0-100 mph	8.84	15.34	13.85	20.05	18.04	8.19
TOP SPEED (mph)	137	116.2	120.1	108.3	109.2	147
DISTANCE TO REACH (miles)						
100 mph	0.15	0.29	0.26	0.41	0.36	0.13
120 mph	0.33	N/A	1.60	N/A	N/A	0.28
Top Speed	2.27	1.78	1.60	0.79	0.67	3.01

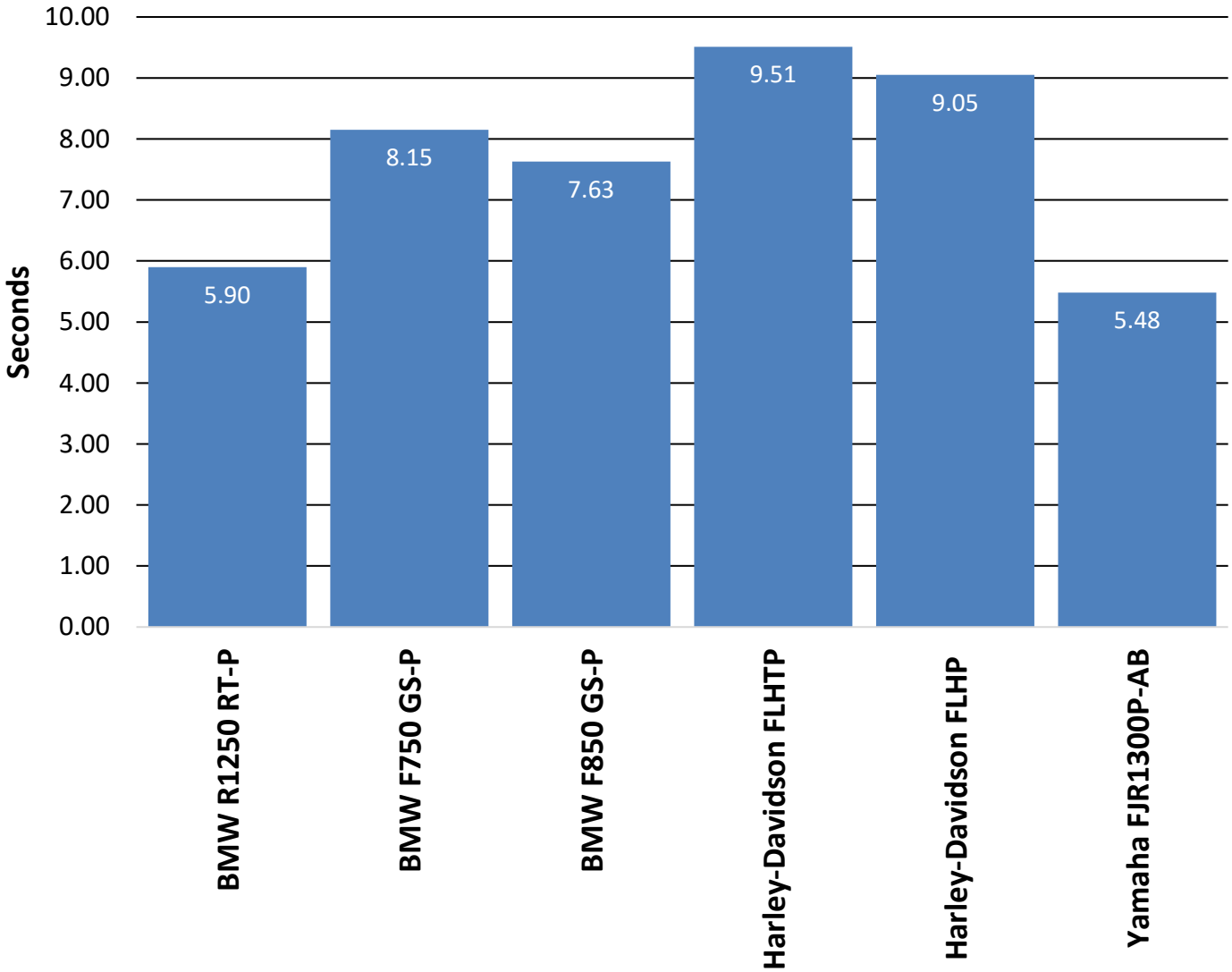
2020 Model Year
Motorcycle Top Speed Comparison
Top Speed Attained



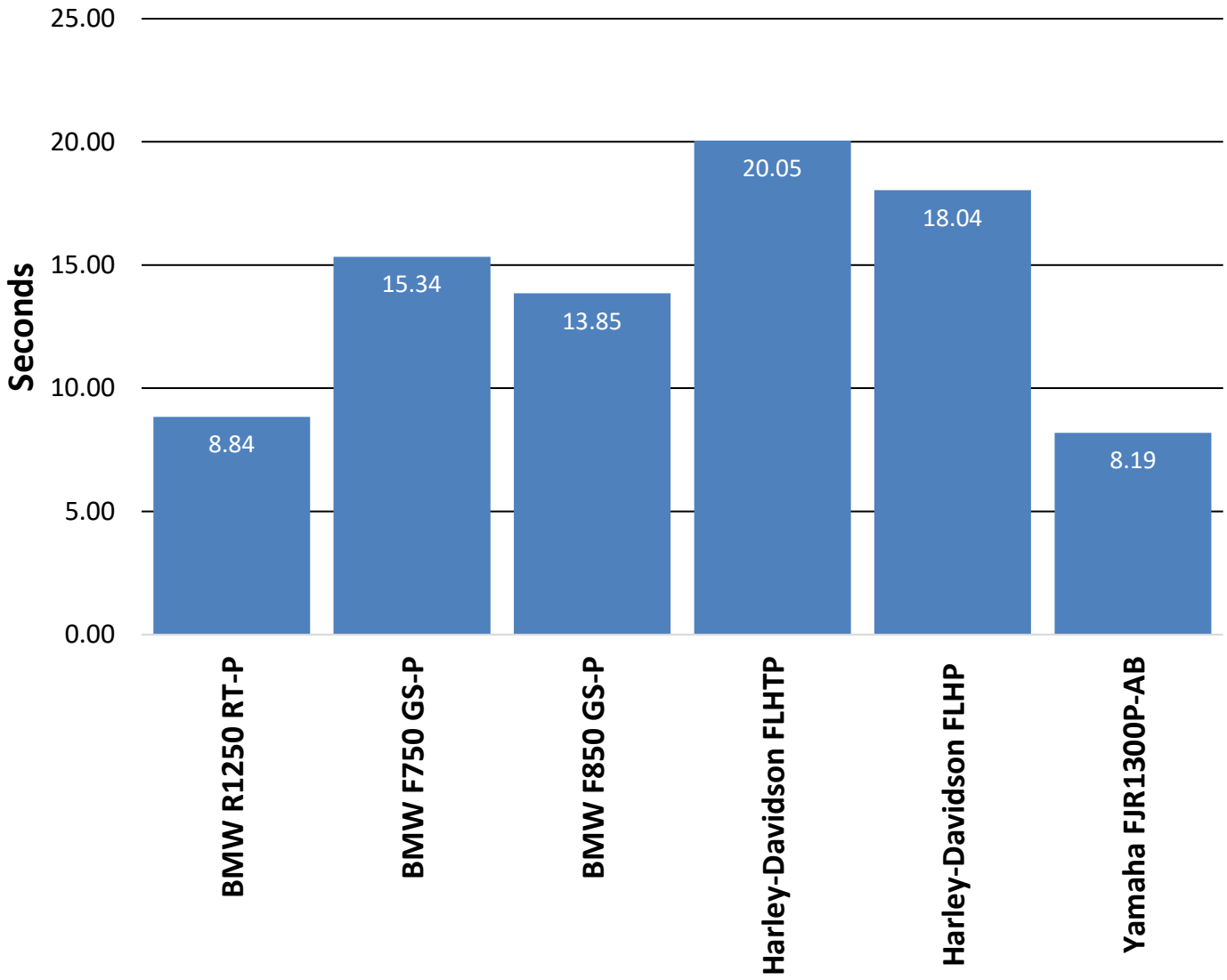
2020 Model Year
Motorcycle Acceleration Comparison
Acceleration Times
0-60 mph



2020 Model Year
Motorcycle Acceleration Comparison
Acceleration Times
0-80 mph



2020 Model Year
Motorcycle Acceleration Comparison
Acceleration Times
0-100




POLICE
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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

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

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.

BRAKE TESTING

BMW R1250 RT-P

TEST LOCATION: MSP Precision Drive Track	**DATE:** September 13, 2019	**BEGINNING TIME:** 1:38 p.m.

AIR TEMPERATURE: 78° F	**TRACK SURFACE TEMPERATURE:** 83° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	58.80	124.65	29.83
2	60.00	123.00	31.48
3	60.60	127.05	31.09
4	59.50	123.94	30.72
5	60.00	125.18	30.93
6	60.10	125.43	30.97
7	60.00	130.98	29.56
8	59.60	122.61	31.16
9	60.90	131.02	30.45
10	59.60	124.92	30.59
AVERAGE DECELERATION RATE:			**30.68 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	124.07	31.11
2	60.70	132.92	29.82
3	59.90	125.56	30.74
4	61.00	136.03	29.42
5	61.00	130.16	30.75
6	60.20	129.72	30.05
7	60.00	128.20	30.20
8	60.30	133.28	29.34
9	60.00	126.41	30.63
10	60.20	132.88	29.33
AVERAGE DECELERATION RATE:			**30.14 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**30.41 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**127.3 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*

BRAKE TESTING

BMW F750 GS-P

TEST LOCATION: MSP Precision Drive Track	**DATE:** September 13, 2019	**BEGINNING TIME:** 11:21 a.m.

AIR TEMPERATURE: 68° F	**TRACK SURFACE TEMPERATURE:** 70° 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	125.16	29.61
2	59.30	145.17	26.05
3	58.20	123.53	29.49
4	59.20	130.95	28.79
5	59.10	126.79	29.63
6	59.90	132.43	29.14
7	58.80	121.69	30.56
8	59.80	138.09	27.85
9	58.20	117.25	31.07
10	*Not recorded due to data collection error		
AVERAGE DECELERATION RATE:			**29.13 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	132.12	28.92
2	60.30	132.23	29.58
3	58.00	119.88	30.18
4	60.30	135.60	28.84
5	59.40	123.99	30.61
6	59.10	132.03	28.45
7	58.80	122.21	30.43
8	59.70	129.04	29.71
9	59.30	124.31	30.43
10	60.90	138.37	28.83
AVERAGE DECELERATION RATE:			**29.60 ft/s²**

Phase II

OVERALL AVERAGE DECELERATION RATE:	**29.38 ft/s²**

PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**131.8 feet**

Evidence of Severe Fading?	No
Motorcycle Stopped in Straight Line?	Yes
Motorcycle Stopped Within Correct Lane?	Yes

Refer to page 3 for further details*

All Motorcycles Tested are Equipped with Anti-Lock Brakes*

BRAKE TESTING

BMW F850 GS-P

TEST LOCATION: MSP Precision Drive Track	**DATE:** September 13, 2019	**BEGINNING TIME:** 11:42 a.m.

AIR TEMPERATURE: 69° F	**TRACK SURFACE TEMPERATURE:** 72° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	59.20	130.77	28.83
2	58.30	123.18	29.68
3	59.90	133.27	28.96
4	58.90	125.44	29.75
5	59.90	136.69	28.23
6	58.60	130.03	28.41
7	59.30	129.70	29.16
8	59.10	123.28	30.47
9	60.10	137.91	28.17
10	59.30	124.96	30.27
AVERAGE DECELERATION RATE:			**29.19 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	59.10	129.05	29.11
2	59.90	132.31	29.17
3	59.20	127.04	29.67
4	59.00	129.88	28.83
5	59.40	122.92	30.87
6	59.10	129.82	28.94
7	58.50	120.55	30.53
8	59.60	131.60	29.03
9	59.40	129.59	29.29
10	59.00	124.83	29.99
AVERAGE DECELERATION RATE:			**29.54 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**29.37 ft/s²**

PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**131.8 feet**

Evidence of Severe Fading?	No
Motorcycle Stopped in Straight Line?	Yes
Motorcycle Stopped Within Correct Lane?	Yes

Refer to page 3 for further details*

All Motorcycles Tested are Equipped with Anti-Lock Brakes*

BRAKE TESTING

Harley-Davidson FLHTP

TEST LOCATION: MSP Precision Drive Track	**DATE:** September 13, 2019	**BEGINNING TIME:** 10:11 a.m.

AIR TEMPERATURE: 70° F	**TRACK SURFACE TEMPERATURE:** 74° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	58.90	126.21	29.57
2	59.10	135.52	27.72
3	60.30	135.75	28.81
4	60.30	136.84	28.58
5	58.40	130.09	28.20
6	59.60	141.44	27.01
7	60.00	136.16	28.44
8	60.30	140.88	27.76
9	60.10	139.65	27.82
10	*Not recorded due to data collection error		
AVERAGE DECELERATION RATE:			**28.21 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	58.70	128.61	28.82
2	60.40	138.84	28.26
3	59.80	139.85	27.50
4	60.10	137.19	28.32
5	60.50	140.54	28.01
6	60.50	138.05	28.52
7	60.50	135.93	28.96
8	60.70	149.27	26.55
9	60.00	134.37	28.82
10	60.80	139.04	28.60
AVERAGE DECELERATION RATE:			**28.24 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**28.22 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**137.2 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*****

BRAKE TESTING

Harley-Davidson FLHP Stage 1

TEST LOCATION: MSP Precision Drive Track	**DATE:** September 13, 2019	**BEGINNING TIME:** 9:54 a.m.

AIR TEMPERATURE: 69° F	**TRACK SURFACE TEMPERATURE:** 72° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	59.50	132.01	28.85
2	59.70	134.57	28.49
3	59.90	138.22	27.92
4	59.00	136.02	27.53
5	59.30	136.53	27.70
6	59.00	132.94	28.16
7	59.60	143.10	26.70
8	58.50	128.18	28.72
9	60.10	144.58	26.87
10	58.70	133.98	27.66
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	58.00	131.47	27.52
2	58.50	133.14	27.65
3	58.30	132.69	27.55
4	59.40	138.52	27.40
5	59.00	134.32	27.88
6	58.90	133.50	27.95
7	57.60	125.86	28.35
8	59.60	137.35	27.82
9	59.40	139.57	27.19
10	59.30	140.64	26.89
AVERAGE DECELERATION RATE:			**27.62 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**27.74 ft/s²**

PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**139.6 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*****

BRAKE TESTING

Yamaha FJR1300P-AB

TEST LOCATION: MSP Precision Drive Track	**DATE:** September 13, 2019	**BEGINNING TIME:** 1:27 p.m.

AIR TEMPERATURE: 77° F	**TRACK SURFACE TEMPERATURE:** 74° 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	142.26	27.22
2	59.00	136.46	27.44
3	60.40	149.41	26.26
4	60.20	140.87	27.67
5	59.90	152.02	25.39
6	59.60	141.36	27.03
7	59.90	153.26	25.18
8	59.70	140.39	27.31
9	59.80	146.25	26.30
10	59.50	139.47	27.30
AVERAGE DECELERATION RATE:			**26.71 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	59.40	138.23	27.46
2	59.60	147.28	25.94
3	59.60	141.75	26.95
4	59.60	148.85	25.67
5	60.10	138.65	28.02
6	59.70	142.77	26.85
7	60.70	139.40	28.43
8	59.70	141.86	27.02
9	59.70	137.71	27.84
10	59.90	142.49	27.08
AVERAGE DECELERATION RATE:			**27.13 ft/s²**

Phase III

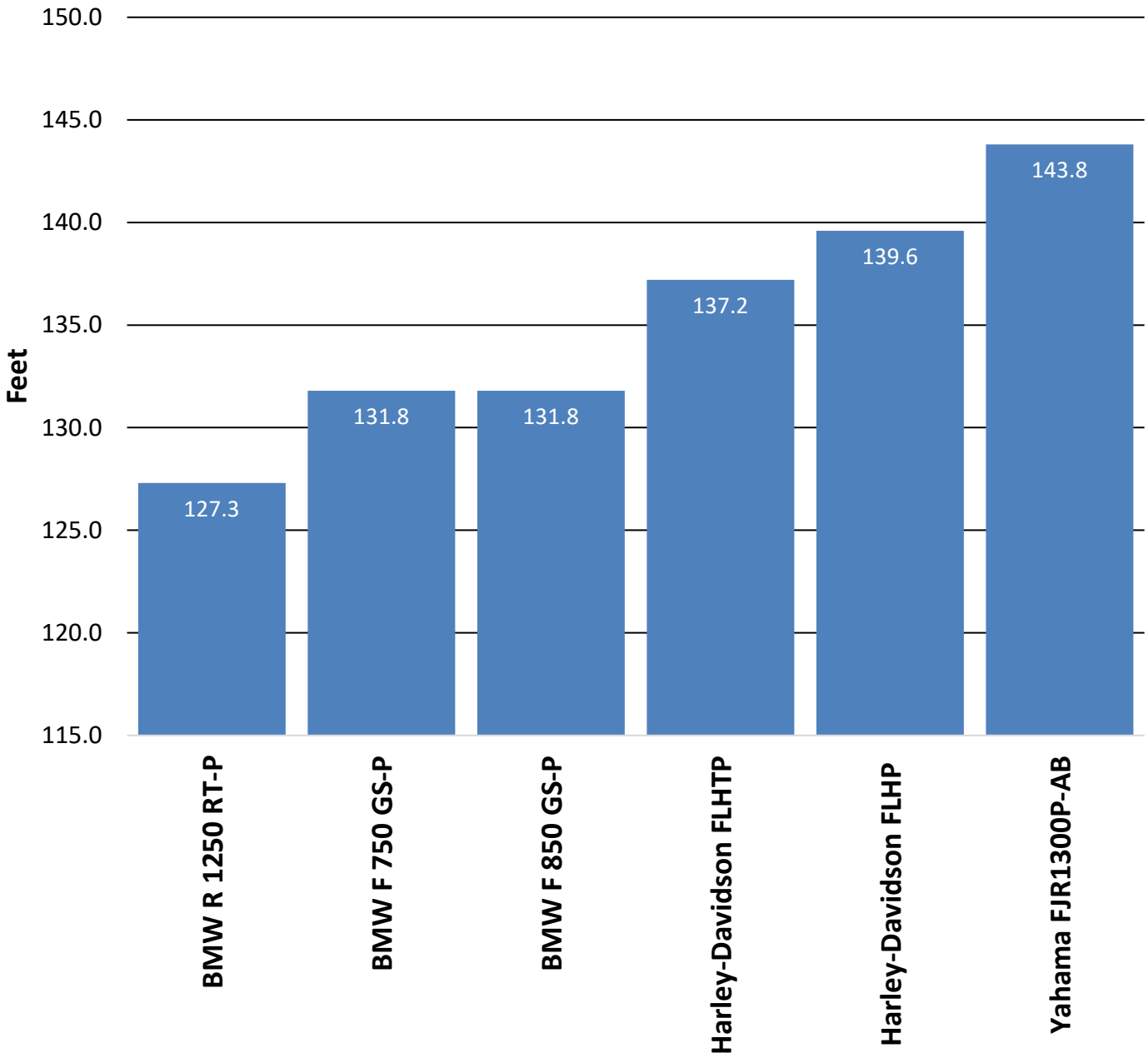
OVERALL AVERAGE DECELERATION RATE:	**26.92 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**143.8 feet**

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*****

2020 Motorcycle Brake Testing

Projected Stopping Distance



For Your Information

About the National Institute of Justice

NIJ — the research, development, and evaluation agency of the U.S. Department of Justice - is dedicated to improving knowledge and understanding of crime and justice issues through science. NIJ provides objective and independent knowledge and tools to inform the decision-making of the criminal justice community to reduce crime and advance justice, particularly at the state and local levels.

NIJ's pursuit of this mission is guided by the following principles:

- Research can make a difference in individual lives, in the safety of communities and in creating a more effective and fair justice system.
- Government-funded research must adhere to processes of fair and open competition guided by rigorous peer review.
- NIJ's research agenda must respond to the real-world needs of victims, communities, and criminal justice professionals.
- NIJ must encourage and support innovative and rigorous research methods that can provide answers to basic research questions as well as practical, applied solutions to crime.
- Partnerships with other agencies and organizations, public and private, are essential to NIJ's success.

The National Institute of Justice is committed to be a transformative force in the criminal justice field by meeting five strategic challenges:

1. **Fostering science-based criminal justice practice** - supporting rigorous scientific research to ensure the safety of families, neighborhoods, and communities.
2. **Translating knowledge to practice** - disseminating rigorous scientific research to criminal justice professionals to advance what works best in preventing and reducing crime.
3. **Advancing technology** - building a more effective, fair and efficient criminal justice system through technology.
4. **Working across disciplines** - connecting the physical, forensic and social sciences to reduce crime and promote justice.
5. **Bolstering the research infrastructure** - supporting young scholars, encouraging researchers from a broad array of disciplines to apply their work to criminal justice, and increasing the availability of research findings and data.
6. **Adopting a global perspective** - understanding crime in its social context within the U.S. and globally.

About the Standards and Testing Program

The NIJ Standards and Testing Program develops and publishes equipment standards that specifically address the needs of law enforcement, corrections, and other criminal justice agencies. The goal is to ensure to the degree possible that equipment is safe, reliable, and performs according to established minimum requirements.

NIJ standards are voluntary standards. Manufacturers are neither required nor mandated to follow them. They are also performance standards. They do not specify a solution, but rather define what a potential solution must accomplish.

Even though NIJ standards are not regulatory in nature, they are nevertheless influential because they articulate best practice. They obtain their influence from an agency's consideration of the legal or monetary penalties that may ensue because of a bad outcome resulting from not adopting a standard.

Having a standard provides the end user with performance information on key equipment characteristics, provides a level of confidence in a product's fitness for use and allows comparison of products based on standardized testing methods and minimum performance requirements.

NIJ standards are an articulation of the criminal justice practitioner's operational needs and associated performance levels regarding particular tools and technology. They reflect the practical experiences of the community in the field articulated in such a way as to enable testing in a valid and consistently replicable manner.

NIJ also supports testing programs based on the standards.

For more information, please visit the NIJ website at http://www.nij.gov/topics/technology/standards-testing/Pages/welcome.aspx, or JUSTNET, the website of the Justice Technology Information Center, at https://www.justnet.org/compliant/Learn-about-testing.html. JTIC manages the Compliance Testing Program for NIJ>