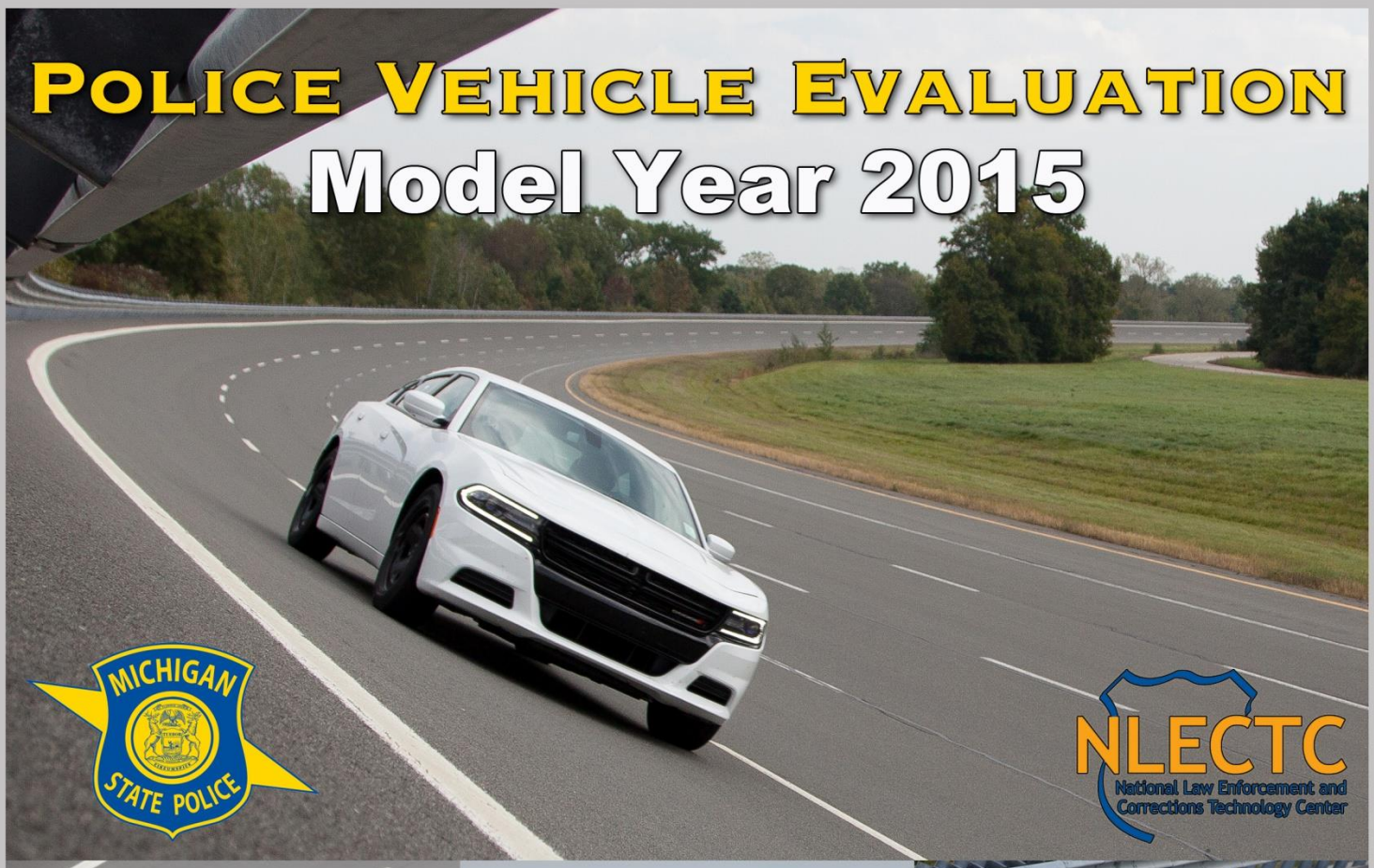
Police Vehicle Evaluation

Model Year 2015



MICHIGAN STATE POLICE

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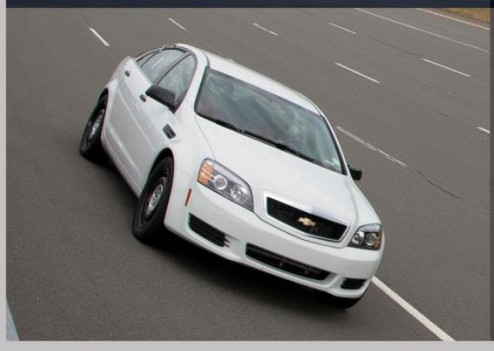

STATE OF MICHIGAN

Department of State Police

and

Department of Technology, Management and Budget

2015 Model Year

Police Vehicle Evaluation Program

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PREFACE

The Michigan State Police Vehicle Test Team is pleased to announce the results of the 2015 Model Year Police Vehicle Evaluation. This year we tested fourteen vehicles and seven motorcycles. We appreciate your continued support and encouragement. The vehicles evaluated this year included the following:

POLICE CATEGORY

Chevrolet Caprice 3.6L
Chevrolet Caprice 6.0L
Chevrolet Impala 3.6L
Chevrolet Tahoe 5.3L
Chevrolet Tahoe 5.3L 4WD
Dodge Charger 3.6L 2.62
Dodge Charger 3.6L 3.08
Dodge Charger 5.7L 2.62
Dodge Charger 5.7L 3.08 AWD
Ford PI Sedan 3.5L FWD
Ford PI Sedan 3.7L AWD
Ford PI Sedan 3.5L Ecoboost AWD
Ford PI Utility 3.7L AWD
Ford PI Utility 3.5L Ecoboost AWD

MOTORCYCLES

BMW R1200RTP
Harley Davidson FLHTP (Electra Glide)
Harley Davidson FLHP (Road King)
Harley Davidson FLHTP (Electra Glide) Special
Moto Guzzi California 1400
Moto Guzzi Norge 1200
Can-AM Spyder RTP

GENERAL INFORMATION

All the cars 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 of 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 Moto Guzzi chose to test their bikes with minimal equipment. BMW chose to test their bikes with the majority of the equipment installed. The Can AM Spyder made its first appearance to testing this year.

This year we allowed the manufacturer to submit a one-half page highlight of their vehicle. This 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 get you the most information about the vehicle.

Chrysler Proving Grounds - Acceleration, Top Speed, & Braking Tests

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

The Braking test is also performed at the Chrysler Proving Grounds. This 1.56 mile concrete straightaway is completely flat, taking into consideration the curvature of the earth.

We would like to thank Mr. James Rollison and Mr. Bill Castle for the assistance we received from the staff at the Chrysler Proving Grounds.

Grattan Raceway - Motorcycle Dynamics Test

Motorcycle Dynamics testing was performed at Grattan Raceway. This 2 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 Harley-Davidson, BMW, Can AM/BRP, and Moto Guzzi during testing. This was the eighth year of 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 2 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 General Motors, Ford Motor Company, and Chrysler Corporation during testing.

EVALUATION INFORMATION

MOTORCYCLES:

Grattan Raceway – Motorcycle Dynamics Test – Moto Guzzi California 1400

The Moto Guzzi California 1400 developed an issue due to lean angle contact with the rear brake pedal mount (right side). This caused the rear brake to stick. Moto Guzzi engineers adjusted the mount. After the second test rider, engineers also adjusted the riding "mode" from Turismo (touring) to Veloce (sport). The motorcycle completed the dynamics test without further incident.

VEHICLES:

Grattan Raceway – Vehicle Dynamics (High Speed Handling) RETEST – Chevrolet Tahoe

During the Michigan State Police Dynamics testing at Grattan Raceway, a 2015 Chevrolet Tahoe 4WD PPV was involved in an incident which caused the vehicle to leave the track. There were no injuries reported.

In conjunction with the Michigan State Police, General Motors has completed a thorough internal investigation which concluded that the unique nature of the testing on the track resulted in a temporary brake torque output difference. General Motors does not believe these conditions will occur in actual field use.

General Motor Company Proving Grounds – Top Speed RETEST – Chevrolet Caprice 6.0L

The Chevrolet Caprice 6.0L was retested for top speed. The test car submitted had the incorrect speed-limiting calibration and tested at 147 mph. When retested with the proper calibration, the vehicle reached 156 mph. Both results are shown in this book.

Ford Motor Company Proving Grounds – Acceleration RETEST – Ford PI Utility 3.7L AWD

The Ford PI Utility 3.7L AWD had poor acceleration numbers during test. The Ford engineers inspected the vehicle and found loose hose clamps which may have affected performance. This vehicle was retested and performance improved. Both results are shown in this book.

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's 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 ultimate goal: a safe, successful testing program that benefits the law enforcement community nationwide and beyond.

Colonel Kriste Kibbey Etue, Director, Michigan Department of State Police
Lt. Colonel W. Thomas Sands, Deputy Director, Field Services Bureau
Lt. Colonel Richard T. Arnold, Deputy Director, State Services Bureau
Lt. Colonel Gary M. Gorski, Deputy Director, Specialized Services Bureau
Mr. Shawn Sible, Deputy Director, Administrative Services Bureau
Personnel from the Michigan Department of Technology, Management and Budget, Vehicle and Travel Services

The National Institute of Justice, The National Law Enforcement and Corrections Technology Center, Mr. Lance Miller, Mr. Alex Sundstrom, Lockheed Martin Aspen Systems

Mr. James Rollison, Mr. Bill Castle and personnel from Chrysler Proving Grounds
Mr. Sam Faasen and personnel from Grattan Raceway Park

A very special “thank you” to Chrysler, Ford Motor Company, General Motors, BMW Motorrad USA, BRP, Harley-Davidson Motorcycles, and Moto Guzzi Motorcycles for their hard work in building and preparing the test cars and motorcycles. We are grateful for your dedication to law enforcement. Everyday law enforcement looks to these vehicles/motorcycles to do a list of varied 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 make a contribution to the law enforcement community.

Michigan State Police Vehicle Test Team:

Back Row: Sgt. Mike McCarthy. Ret. Sgt. David “Doc” Halliday, Sgt. Marcus Trammel, Sgt. Rob Schwalm, Tpr. Russ Lady, Tpr. Jeff Mercer, Sgt. Brian DeWyse, Sgt. Matt Rogers, Sgt. Matt Waters

Front Row: Sgt. Doug Schutter, Mrs. Debbie Schrauben. Mrs. Wendy Galbreath, Mrs. Tricia Steel, Tpr. Andy Douville, Ret. Sgt. Bob Ring, Lt. Ron Gromak, F/Lt. Jim Flegel, Tpr. Jay Sweetland

TEST EQUIPMENT

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

Kistler Company 39205 Country Club Drive Suite C20 Farmington Hills, MI 48331	• DLS Smart Sensor – Optical Non-Contact Speed & Distance Sensor • Kistler L-350 1 Axis Optical Sensor • Kistler CDS-GPS CGPSLA 100 hz Logger
Shoei Helmets 3002 Dow Avenue Suite 128 Tustin, CA 92780	• Motorcycle Helmet – Multi-Tech
AMB i.t. US-INC 1631 Phoenix Blvd. Suite 11 College Park, GA 30349	• AMB TranX 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 – WRC DES Composite
Motorola Solutions 1303 East Algonquin Road Schaumburg, IL 60196	• Mag One BPR 40 Two-Way Radios

TEST VEHICLE DESCRIPTIONS AND PHOTOGRAPHS

Chevrolet Caprice
3.6L

MAKE & MODEL	2015 Chevrolet Caprice (9C1)
SALES CODE	1EW19
POWERTRAIN INFORMATION	
CUBIC INCHES	217
LITERS	3.6
HORSEPOWER SAENET	301 @ 6700 RPM
ALTERNATOR	170 AMP
TORQUE	265 @ 4800 RPM
BATTERY	AGM 700 CCA (Auxiliary also 700 CCA)
TRANSMISSION	6-Speed Automatic (Column Shift)
AXLE RATIO	2.92:1 (Limited Slip, Rear-Wheel Drive)
STEERING	Electric Power-Assisted Rack-and-Pinion
TURNING CIRCLE (CURB TO CURB)	38 Feet
TIRE SIZE, LOAD & SPEED RATING	Goodyear RSA P235/50/R18, Load Rating 99, W Speed Rating
GROUND CLEARANCE, MINIMUM	6.0 inches
BRAKE SYSTEM	Power 4-Wheel anti-lock heavy duty disc, Police Calibration
FUEL CAPACITY	19.0 Gallons/72.0 Liters
GENERAL MEASUREMENTS	
WHEELBASE	118.5 inches
LENGTH	204.2 inches
CURB WEIGHT	4,043 lbs.
HEIGHT	58.7 inches
INTERIOR VOLUME	
FRONT	56.0 cu. ft.
REAR	56.0 cu. ft.
COMB	112 cu. ft
TRUNK	17.4 cu. ft. (includes full-size spare tire)
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,182 lbs.
EPA MILEAGE EST. (MPG)	
CITY	18
HIGHWAY	26
COMBINED	21

MANUFACTURER VEHICLE HIGHLIGHTS

The Chevrolet Caprice PPV is the ultimate police sedan available in today's market. When it comes to overall size, performance, and officer comfort, Caprice is in a class by itself.

Under the hood, Caprice offers two outstanding powertrains including our 3.6L SIDI DOHC V6, as well as our 6.0L V8 that comes as a no-cost option. The V6-powered Caprice produces just over 300 horsepower and returns up to 26 mpg on the highway, striking an excellent balance of power and efficiency. With its rear-wheel drive configuration, precise steering, and outstanding brakes, Caprice also has the dynamics to match the power up front.

Inside, Caprice boasts 112 cu. ft. of interior volume making it the largest sedan in the market. Officers will find a high level of comfort, connectivity, and safety behind the wheel as well. Standard Bluetooth[1] streaming audio and cell phone connectivity keep officers' eyes on the road, while an all-new standard Rear Vision Camera helps to improve visibility in backing situations and reduce collisions. And with the flip of a switch, the standard Surveillance Mode allows officers to turn the Caprice into a stealth-like cruiser with nearly all interior lighting completely darkened. Caprice also boasts an industry-exclusive, front-only head side curtain airbag and is the only police sedan to offer a factory-installed auxiliary battery.

Backed by a 5-year/100,000-mile limited powertrain warranty[2] and a 2-year/24,000-mile scheduled maintenance program[3], the Caprice cements itself as the elite choice for law enforcement.

[1] Go to gmtotalconnect.com to find out which phones are compatible with the vehicle.
[2] Whichever comes first. See dealer for limited warranty details.
[3] Covers only scheduled oil changes with filter, tire rotations and 27-point inspections according to your new vehicle's recommended maintenance schedule for up to 2 years or 24,000 miles, whichever comes first. Does not include air filters. Maximum of 4 service events. See participating dealer for other restrictions and complete details.

Chevrolet Caprice
6.0L

MAKE & MODEL	2015 Chevrolet Caprice (9C1)
SALES CODE	1EW19
POWERTRAIN INFORMATION	
CUBIC INCHES	364
LITERS	6.0
HORSEPOWER SAENET	355 @ 5300 RPM
ALTERNATOR	170 AMP
TORQUE	384 @ 4400 RPM
BATTERY	AGM 700 CCA (Optional Auxiliary 700 CCA)
TRANSMISSION	6-Speed Automatic (Column Shift)
AXLE RATIO	2.92:1 (Limited Slip, Rear-Wheel Drive)
STEERING	Electric Power-Assisted Rack-and-Pinion
TURNING CIRCLE (CURB TO CURB)	38 Feet
TIRE SIZE, LOAD & SPEED RATING	Goodyear RSA P235/50/R18, Load Rating 99, W Speed Rating
GROUND CLEARANCE, MINIMUM	6.0 inches
BRAKE SYSTEM	Power 4-Wheel anti-lock heavy duty disc, Police Calibration
FUEL CAPACITY	19.0 Gallons/72.0 Liters
GENERAL MEASUREMENTS	
WHEELBASE	118.5 inches
LENGTH	204.2 inches
CURB WEIGHT	4,162 lbs.
HEIGHT	58.7 inches
INTERIOR VOLUME	
FRONT	56.0 cu. ft.
REAR	56.0 cu. ft.
COMB	112 cu. ft
TRUNK	17.4 cu. ft. (includes full-size spare tire)
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,173 lbs.
EPA MILEAGE EST. (MPG)	
CITY	15
HIGHWAY	24
COMBINED	18

MANUFACTURER VEHICLE HIGHLIGHTS

The Chevrolet Caprice PPV is the ultimate police sedan available in today's market. When it comes to overall size, performance, and officer comfort, Caprice is in a class by itself.

Under the hood, Caprice offers two outstanding powertrains including our 3.6L SIDI DOHC V6, as well as our 6.0L V8 with 355 horsepower that comes as a no-cost option. The V8-powered Caprice achieved a top speed of 155 mph at the 2014 Michigan State Police Vehicle Evaluation making it the best of any police-rated product. With its rear-wheel drive configuration, precise steering, and outstanding brakes; Caprice also has the dynamics to match the power up front.

Inside, Caprice boasts 112 cu. ft. of interior volume making it the largest sedan in the market. Officers will find a high level of comfort, connectivity, and safety behind the wheel as well. Standard Bluetooth[1] streaming audio and cell phone connectivity keep officers' eyes on the road, while an all-new standard Rear Vision Camera helps to improve visibility in backing situations and reduce collisions. And with the flip of a switch, the standard Surveillance Mode allows officers to turn the Caprice into a stealth-like cruiser with nearly all interior lighting completely darkened. Caprice also boasts an industry-exclusive, front-only head side curtain airbag and is the only police sedan to offer a factory-installed auxiliary battery.

Backed by a 5-year/100,000-mile limited powertrain warranty[2] and a 2-year/24,000-mile scheduled maintenance program[3], the Caprice cements itself as the elite choice for law enforcement.

[1] Go to gmtotalconnect.com to find out which phones are compatible with the vehicle.
[2] Whichever comes first. See dealer for limited warranty details.
[3] Covers only scheduled oil changes with filter, tire rotations and 27-point inspections according to your new vehicle's recommended maintenance schedule for up to 2 years or 24,000 miles, whichever comes first. Does not include air filters. Maximum of 4 service events. See participating dealer for other restrictions and complete details.

Chevrolet Impala
3.6L

MAKE & MODEL	2015 Chevrolet Impala Limited (9C1)
SALES CODE	1WS19
POWERTRAIN INFORMATION	
CUBIC INCHES	217
LITERS	3.6
HORSEPOWER SAENET	302 @ 6800 RPM
ALTERNATOR	170 AMP
TORQUE	262 @ 5300 RPM
BATTERY	720 CCA
TRANSMISSION	6-Speed Automatic
AXLE RATIO	2.44:1 (Front-Wheel Drive)
STEERING	Power Rack-and-Pinion
TURNING CIRCLE (CURB TO CURB)	38 Feet
TIRE SIZE, LOAD & SPEED RATING	Goodyear A/S P235/55/R17, Load Rating 98, W Speed Rating
GROUND CLEARANCE, MINIMUM	6.5 inches
BRAKE SYSTEM	Power 4-Wheel anti-lock disc, H/D front pads with Police Calibration
FUEL CAPACITY	17.5 Gallons/66.2 Liters
GENERAL MEASUREMENTS	
WHEELBASE	110.5 inches
LENGTH	200.4 inches
CURB WEIGHT	3,736 lbs.
HEIGHT	58.7 inches
INTERIOR VOLUME	
FRONT	56.6 cu. ft.
REAR	48.2 cu. ft.
COMB	105 cu. ft
TRUNK	18.6 cu. ft. (15.9 cu. ft. with full-size spare)
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,140 lbs.
EPA MILEAGE EST. (MPG)	
CITY	17
HIGHWAY	28
COMBINED	21

MANUFACTURER VEHICLE HIGHLIGHTS

The Chevrolet Impala Limited Police Package (9C1) offers full-size car utility with mid-size agility. It features competitive interior roominess for officer comfort (105 cu. ft. of interior volume) and also a large trunk to accommodate a great deal of police equipment (up to 18.6 cu. ft. of trunk volume).

With its front-wheel drive configuration, Impala offers excellent all-weather traction to get officers through snow and rain. Impala also boasts tremendous efficiency with the best highway fuel economy of any police product with an EPA estimate of 28 mpg.

Performance is also very strong thanks to a 3.6L SIDI DOHC V6 with over 300 horsepower underneath the hood. That strong power yields outstanding acceleration and top speed. In fact, the Impala achieved a top speed of 149 mph at the 2014 Michigan State Police Vehicle Evaluation.

The Impala comes with a standard 5-year/100,000-mile limited powertrain warranty[1], and a standard 2-year/24,000-mile scheduled maintenance program[2]. Couple all of these attributes with the lowest MSRP of any police-rated product in the market, and Impala becomes an unbeatable value for any law enforcement agency. It is available in both marked and undercover patrol configurations.

[1]Whichever comes first. See dealer for limited warranty details.
[2]Covers only scheduled oil changes with filter, tire rotations and 27-point inspections according to your new vehicle's recommended maintenance schedule for up to 2 years or 24,000 miles, whichever comes first. Does not include air filters. Maximum of 4 service events. See participating dealer for other restrictions and complete details.

Chevrolet Tahoe
5.3L

MAKE & MODEL	2015 Chevrolet Tahoe 2WD (9C1)
SALES CODE	CC15706
POWERTRAIN INFORMATION	
CUBIC INCHES	325
LITERS	5.3
HORSEPOWER SAENET	355 @ 5600 RPM
ALTERNATOR	170 AMP
TORQUE	383 @ 4100 RPM
BATTERY	720 CCA Primary (730 CCA Auxiliary)
TRANSMISSION	6-Speed Automatic
AXLE RATIO	3.08:1 (Rear-Wheel Drive with Heavy-Duty Locking Rear Differential)
STEERING	Electric Power-Assisted Rack-and-Pinion
TURNING CIRCLE (CURB TO CURB)	39 Feet
TIRE SIZE, LOAD & SPEED RATING	Goodyear RSA P265/60/R17, All-season Load Rating 108, V Speed Rating
GROUND CLEARANCE, MINIMUM	8.0 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	5,224 lbs.
HEIGHT	72.4 inches
INTERIOR VOLUME	
FRONT	63.8 cu. ft.
REAR	56.9 cu. ft.
COMB	120.7 cu. ft
MAX CARGO AREA	111.8 cu. ft.
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,576 lbs. with 40/40 front seats (no center seat)
EPA MILEAGE EST. (MPG)	
CITY	16
HIGHWAY	23
COMBINED	18

MANUFACTURER VEHICLE HIGHLIGHTS

The Tahoe PPV remains the only full-size, body-on-frame, pursuit-rated cruiser in the market. It provides excellent officer comfort, visibility, cargo capacity, upfit capability, and true utility.

An all-new 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 backup sensors and Bluetooth[1] cell phone connectivity. Available are a Forward Collision Warning system, Lane Detection, and a Safety Alert Seat for the driver.

Just like before, the Tahoe PPV offers full pursuit capability with tremendous power, speed, braking, and agility. An all-new 5.3L EcoTec3 V8 is under the hood featuring direct injection, variable valve timing, and Active Fuel Management. It produces 355 horsepower (an increase of 35 over the last model) and 383 lb-ft of torque (an increase of 48 over the last model), all while yielding better gas mileage than the engine it replaced (up to 23 highway mpg). Also standard are dual batteries 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 all-new 2015 Tahoe PPV reaffirms that the SUV is thriving and ready to duty.

[1] Vehicle must be equipped with OnStar, but does not require OnStar subscription. Go to gmtotalconnect.com to find out which phones are compatible with the vehicle.
[2] Maximum trailer weight ratings are calculated assuming a properly equipped base vehicle, except for any option(s) necessary to achieve the rating, plus driver. The weight of other optional equipment, passengers, and cargo will reduce the maximum trailer weight your vehicle can tow.

Chevrolet Tahoe
5.3L 4WD

MAKE & MODEL	2015 Chevrolet Tahoe 4WD (9C1)
SALES CODE	CK15706
POWERTRAIN INFORMATION	
CUBIC INCHES	325
LITERS	5.3
HORSEPOWER SAENET	355 @ 5600 RPM
ALTERNATOR	170 AMP
TORQUE	383 @ 4100 RPM
BATTERY	720 CCA Primary (730 CCA Auxiliary)
TRANSMISSION	6-Speed Automatic
AXLE RATIO	3.08:1 (Driver- Selectable Two- or Four-Wheel Drive with Heavy Duty Locking Rear Differential)
STEERING	Electric Power-Assisted Rack-and-Pinion
TURNING CIRCLE (CURB TO CURB)	39 Feet
TIRE SIZE, LOAD & SPEED RATING	Goodyear RSA P265/60/R17, All-season Load Rating 108, V Speed Rating
GROUND CLEARANCE, MINIMUM	8.0 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	5,476 lbs.
HEIGHT	72.4 inches
INTERIOR VOLUME	
FRONT	63.8 cu. ft.
REAR	56.9 cu. ft.
COMB	120.7 cu. ft
MAX CARGO AREA	111.8 cu. ft.
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,624 lbs. with 40/40 front seats (no center seat)
EPA MILEAGE EST. (MPG)	
CITY	16
HIGHWAY	22
COMBINED	18

MANUFACTURER VEHICLE HIGHLIGHTS

Something big has changed! While pursuit capability was previously reserved only to Tahoes with 2WD, a new 4WD model for 2015 offers that same pursuit rating. Riding at the identical height as 2WD models with matching brakes and tires, the Tahoe PPV 4WD can travel wherever the pursuit takes you.

An all-new 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 backup sensors and Bluetooth[1] cell phone connectivity. Available are a Forward Collision Warning system, Lane Detection, and a Safety Alert Seat for the driver.

An all-new 5.3L EcoTec3 V8 is under the hood featuring direct injection, variable valve timing, and Active Fuel Management. It produces 355 horsepower (an increase of 35 over the last model) and 383 lb-ft of torque (an increase of 48 over the last model), all while yielding better gas mileage than the engine it replaced (up to 23 highway mpg). Also standard are dual batteries 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 new 2015 Tahoe PPV 4WD reaffirms that the SUV is thriving and ready to duty.

[1] Vehicle must be equipped with OnStar, but does not require OnStar subscription. Go to gmtotalconnect.com to find out which phones are compatible with the vehicle.
[2] Maximum trailer weight ratings are calculated assuming a properly equipped base vehicle, except for any option(s) necessary to achieve the rating, plus driver. The weight of other optional equipment, passengers, and cargo will reduce the maximum trailer weight your vehicle can tow.

Dodge Charger
3.6L 2.62

MAKE & MODEL	2015 Dodge Charger RWD
SALES CODE	27A, DMM
POWERTRAIN INFORMATION	
CUBIC INCHES	220
LITERS	3.6
HORSEPOWER SAENET	292 @ 6400 RPM
ALTERNATOR	220 AMP
TORQUE	260 @ 4400 RPM
BATTERY	800 CCA
TRANSMISSION	5-Speed Electronic Automatic
AXLE RATIO	2.62
STEERING	Rack-and-Pinion with Electric Power Assist
TURNING CIRCLE (CURB TO CURB)	37.7 ft.
TIRE SIZE, LOAD & SPEED RATING	Goodyear Eagle RSA P245/55/R18, Load Rating 103, V Speed Rating
GROUND CLEARANCE, MINIMUM	5.1 inches
BRAKE SYSTEM	Power, Dual Piston Front/Single Piston Rear, 4 Channel Anti-Lock
FUEL CAPACITY	18.5 Gallons/70.03 Liters
GENERAL MEASUREMENTS	
WHEELBASE	120.2 inches
LENGTH	198.4 inches
CURB WEIGHT	4,098 lbs.
HEIGHT	58.4 inches
INTERIOR VOLUME	
FRONT	55.6 cu. ft.
REAR	49.31 cu. ft.
COMB	104.7 cu. ft.
TRUNK	16.5 cu. ft.
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,190 lbs.
EPA MILEAGE EST. (MPG)	
CITY	17
HIGHWAY	26
COMBINED	20

MANUFACTURER VEHICLE HIGHLIGHTS

The newly redesigned 2015 Dodge Charger features a standard Ward's Automotive 10 Best Pentastar V6 engine with Decel Fuel Shut Off feature that provides a unique balance of pursuit-rated performance and V6 efficiency including Flex-Fuel capability.

Additional purpose-built upgrades include performance-tuned suspension, load-leveling shocks and heavy-duty purpose-built brakes. Inside, the Charger Pursuit features an I/P-mounted gear shifter that frees up the center console for police-specific controls and a laptop computer.

Also included in the 2015 Charger Pursuit are specially developed seats designed to accommodate belt-mounted gear, a new sport steering wheel with auxiliary buttons to control police equipment, a new gauge cluster with a seven-inch screen between the dials, a five-inch Uconnect infotainment screen with standard Bluetooth and an upgraded Vehicle System Interface Module to blend the functionality of the car with aftermarket police equipment.

Dodge Charger
3.6L 3.08

MAKE & MODEL	2015 Dodge Charger RWD
SALES CODE	27A, DMM
POWERTRAIN INFORMATION	
CUBIC INCHES	220
LITERS	3.6
HORSEPOWER SAENET	292 @ 6400 RPM
ALTERNATOR	220 AMP
TORQUE	260 @ 4400 RPM
BATTERY	800 CCA
TRANSMISSION	5-Speed Electronic Automatic
AXLE RATIO	3.08
STEERING	Rack-and-Pinion with Electric Power Assist
TURNING CIRCLE (CURB TO CURB)	37.7 ft.
TIRE SIZE, LOAD & SPEED RATING	Goodyear Eagle RSA P245/55/R18, Load Rating 103, V Speed Rating
GROUND CLEARANCE, MINIMUM	5.1 inches
BRAKE SYSTEM	Power, Dual Piston Front/Single Piston Rear, 4 Channel Anti-Lock
FUEL CAPACITY	18.5 Gallons/70.03 Liters
GENERAL MEASUREMENTS	
WHEELBASE	120.2 inches
LENGTH	198.4 inches
CURB WEIGHT	4,098 lbs.
HEIGHT	58.4 inches
INTERIOR VOLUME	
FRONT	55.6 cu. ft.
REAR	49.31 cu. ft.
COMB	104.7 cu. ft.
TRUNK	16.5 cu. ft.
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,190 lbs.
EPA MILEAGE EST. (MPG)	
CITY	17
HIGHWAY	26
COMBINED	20

MANUFACTURER VEHICLE HIGHLIGHTS

The newly redesigned 2015 Dodge Charger features a standard Ward's Automotive 10 Best Pentastar V6 engine with Decel Fuel Shut Off feature that provides a unique balance of pursuit-rated performance and V6 efficiency including Flex-Fuel capability.

Additional purpose-built upgrades include performance-tuned suspension, load-leveling shocks and heavy-duty purpose-built brakes. Inside, the Charger Pursuit features an I/P-mounted gear shifter that frees up the center console for police-specific controls and a laptop computer.

Also included in the 2015 Charger Pursuit are specially developed seats designed to accommodate belt-mounted gear, a new sport steering wheel with auxiliary buttons to control police equipment, a new gauge cluster with a seven-inch screen between the dials, a five-inch Uconnect infotainment screen with standard Bluetooth and an upgraded Vehicle System Interface Module to blend the functionality of the car with aftermarket police equipment.

Dodge Charger
5.7L 2.62

MAKE & MODEL	2015 Dodge Charger RWD
SALES CODE	29A, 5ZV
POWERTRAIN INFORMATION	
CUBIC INCHES	345
LITERS	5.7
HORSEPOWER SAENET	370 @ 5150 RPM
ALTERNATOR	220 AMP
TORQUE	397 @ 4250 RPM
BATTERY	800 CCA
TRANSMISSION	5-Speed Electronic Automatic
AXLE RATIO	2.62
STEERING	Rack-and-Pinion with Electric Power Assist
TURNING CIRCLE (CURB TO CURB)	37.7 ft.
TIRE SIZE, LOAD & SPEED RATING	Goodyear Eagle RSA P245/55/R18, Load Rating 103, V Speed Rating
GROUND CLEARANCE, MINIMUM	5.1 inches
BRAKE SYSTEM	Power, Dual Piston Front/Single Piston Rear, 4 Channel Anti-Lock
FUEL CAPACITY	18.5 Gallons/70.03 Liters
GENERAL MEASUREMENTS	
WHEELBASE	120.2 inches
LENGTH	198.4 inches
CURB WEIGHT	4,325 lbs.
HEIGHT	58.4 inches
INTERIOR VOLUME	
FRONT	55.6 cu. ft.
REAR	49.31 cu. ft.
COMB	104.7 cu. ft.
TRUNK	16.5 cu. ft.
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,200 lbs.
EPA MILEAGE EST. (MPG)	
CITY	15
HIGHWAY	25
COMBINED	18

MANUFACTURER VEHICLE HIGHLIGHTS

The newly redesigned 2015 Dodge Charger RWD boasts several key attributes to law enforcement fleets. The RWD design provides a greater sense of a nimble ride and controlled feel by mitigating weight shift, while allowing faster and more responsive acceleration, with outstanding handling and maneuverability from a more balanced center of gravity. The RWD model features a performance-tuned-suspension, load-leveling NIVOMAT shocks, heavy-duty antilock vented-disc brakes, front and rear-stabilizer bars and two-mode police-specific Electronic Stability Control (ESC). The 5.7L HEMI V8 RWD also possesses Variable Valve Timing (VVT) increasing power output without sacrificing fuel economy by constantly adjusting the camshaft tuning based upon the type of performance required. The large purpose built brakes enhance overall performance and durability.

Also included in the 2015 Charger Pursuit are specially developed seats designed to accommodate belt-mounted gear, a new sport steering wheel with auxiliary buttons to control police equipment, a new gauge cluster with a seven-inch screen between the dials, a five-inch Uconnect infotainment screen with standard Bluetooth and an upgraded Vehicle System Interface Module to blend the functionality of the car with aftermarket police equipment.

Dodge Charger
5.7L 3.08 AWD

MAKE & MODEL	2015 Dodge Charger AWD
SALES CODE	29A, 590
POWERTRAIN INFORMATION	
CUBIC INCHES	345
LITERS	5.7
HORSEPOWER SAENET	370 @ 5150 RPM
ALTERNATOR	220 AMP
TORQUE	397 @ 4250 RPM
BATTERY	800 CCA
TRANSMISSION	5-Speed Electronic Automatic
AXLE RATIO	3.08
STEERING	Rack-and-Pinion with Electric Power Assist
TURNING CIRCLE (CURB TO CURB)	38.7 ft.
TIRE SIZE, LOAD & SPEED RATING	Goodyear Eagle RSA P245/55/R18, Load Rating 103, V Speed Rating
GROUND CLEARANCE, MINIMUM	5.1 inches
BRAKE SYSTEM	Power, Dual Piston Front/Single Piston Rear, 4 Channel Anti-Lock
FUEL CAPACITY	18.5 Gallons/70.03 Liters
GENERAL MEASUREMENTS	
WHEELBASE	120.2 inches
LENGTH	198.4 inches
CURB WEIGHT	4,520 lbs.
HEIGHT	58.4 inches
INTERIOR VOLUME	
FRONT	55.6 cu. ft.
REAR	49.31 cu. ft.
COMB	104.7 cu. ft.
TRUNK	16.5 cu. ft.
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,000 lbs.
EPA MILEAGE EST. (MPG)	
CITY	15
HIGHWAY	23
COMBINED	18

MANUFACTURER VEHICLE HIGHLIGHTS

The newly redesigned 2015 Dodge Charger Pursuit is equipped with an advanced all-wheel-drive system that delivers maximum all-weather traction and fuel-efficiency. The segment-exclusive active transfer case and front-axle disconnect system automatically enables AWD for slick conditions, while maintaining impressive performance and handling inherent in a rear-wheel-drive vehicle. The 5.7L HEMI V8 AWD also possesses Variable Valve Timing (VVT), increasing power output without sacrificing fuel economy by constantly adjusting the camshaft tuning based upon the type of performance required. The large purpose built brakes enhance overall performance and durability.

Also included in the 2015 Charger Pursuit are specially developed seats designed to accommodate belt-mounted gear, a new sport steering wheel with auxiliary buttons to control police equipment, a new gauge cluster with a seven-inch screen between the dials, a five-inch Uconnect infotainment screen with standard Bluetooth and an upgraded Vehicle System Interface Module to blend the functionality of the car with aftermarket police equipment.

Ford P. I. Sedan
3.5L FWD

MAKE & MODEL	2015 Ford Police Interceptor Sedan FWD
SALES CODE	P2L, 998
POWERTRAIN INFORMATION	
CUBIC INCHES	214
LITERS	3.5
HORSEPOWER SAENET	288 @ 6500 RPM
ALTERNATOR	220 AMP
TORQUE	254 @ 4000 RPM
BATTERY	750 CCA
TRANSMISSION	6-Speed Electronic Automatic
AXLE RATIO	3.16:1
STEERING	Electric Power Assist Rack-and-Pinion
TURNING CIRCLE (CURB TO CURB)	38.4 ft.
TIRE SIZE, LOAD & SPEED RATING	Goodyear Eagle RSA P245/55/R18, Load Rating 103, V Speed Rating
GROUND CLEARANCE, MINIMUM	6.0 inches
BRAKE SYSTEM	Power, Dual Piston Front/Single Piston Rear, ABS
FUEL CAPACITY	19 Gallons/71.9 Liters
GENERAL MEASUREMENTS	
WHEELBASE	112.9 inches
LENGTH	202.9 inches
CURB WEIGHT	4, 212 lbs.
HEIGHT	61.3 inches
INTERIOR VOLUME	
FRONT	54.8 cu. ft.
REAR	48.1 cu. ft.
COMB	103.0 cu. ft.
TRUNK	16.6 cu. ft. (with standard full size spare)
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,280 lbs.
EPA MILEAGE EST. (MPG)	
CITY	18
HIGHWAY	26
COMBINED	21

MANUFACTURER VEHICLE HIGHLIGHTS

NEW FEATURES & CHANGES:

- VIN specific payload rating 1280lbs
- Auto Headlamps
- Pre-Drilled Spot Lamp Kit
- Bumper to frame rail bracket kit

SAFETY:

- Only police vehicle to be pursuit tested for three years in a row by MSP and LASD with Traction Control and Stability Control safety systems full on, as driven by officers in the real world
- Industry Exclusive 75mph Rear Crash
- 5-Star Crash Rating
- Ultra High Strength Boron Steel Safety Cell Construction
- Available Level III NIJ ballistic panels - Certified for LAPD special threat rounds
- Anti-Stab plates in seat backs

DURABILITY:

- Two times durability testing
- Proven real world durability results

Ford P. I. Sedan
3.7L AWD

MAKE & MODEL	2015 Ford Police Interceptor Sedan AWD
SALES CODE	P2M, 99K
POWERTRAIN INFORMATION	
CUBIC INCHES	226
LITERS	3.7
HORSEPOWER SAENET	305 @ 6500 RPM
ALTERNATOR	220 AMP
TORQUE	279 @ 4000 RPM
BATTERY	750 CCA
TRANSMISSION	6-Speed Electronic Automatic
AXLE RATIO	3.39:1 with All-Wheel Drive
STEERING	Electric Power Assist Rack-and-Pinion
TURNING CIRCLE (CURB TO CURB)	38.4 ft.
TIRE SIZE, LOAD & SPEED RATING	Goodyear Eagle RSA P245/55/R18, Load Rating 103, V Speed Rating
GROUND CLEARANCE, MINIMUM	6.0 inches
BRAKE SYSTEM	Power, Dual Piston Front/Single Piston Rear, ABS
FUEL CAPACITY	19 Gallons/71.9 Liters
GENERAL MEASUREMENTS	
WHEELBASE	112.9 inches
LENGTH	202.9 inches
CURB WEIGHT	4,311 lbs.
HEIGHT	61.3 inches
INTERIOR VOLUME	
FRONT	54.8 cu. ft.
REAR	48.1 cu. ft.
COMB	103.0 cu. ft.
TRUNK	16.6 cu. ft. (with standard full size spare)
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,340 lbs.
EPA MILEAGE EST. (MPG)	
CITY	18
HIGHWAY	25
COMBINED	21

MANUFACTURER VEHICLE HIGHLIGHTS

NEW FEATURES & CHANGES:

- VIN specific payload rating 1340lbs (BIC)
- Auto Headlamps
- Pre-Drilled Spot Lamp Kit
- Bumper to frame rail bracket kit

SAFETY:

- Only police vehicle to be pursuit tested for three years in a row by MSP and LASD with Traction Control and Stability Control safety systems full on, as driven by officers in the real world
- Industry Exclusive 75mph Rear Crash
- 5-Star Crash Rating
- Ultra High Strength Boron Steel Safety Cell Construction
- Available Level III NIJ ballistic panels - Certified for LAPD special threat rounds
- Anti-Stab plates in seat backs

DURABILITY:

- Two times durability testing
- Proven real world durability results

PERFORMANCE:

- Standard Full-Time AWD
- Best-In-Class Horsepower for Base V6 Sedan

Ford P. I. Sedan
3.5L Ecoboost AWD

MAKE & MODEL	2015 Ford Police Interceptor Sedan Ecoboost AWD
SALES CODE	P2M, 99T
POWERTRAIN INFORMATION	
CUBIC INCHES	214
LITERS	3.5
HORSEPOWER SAENET	365 @ 5500 RPM
ALTERNATOR	220 AMP
TORQUE	350 @ 1500-5250 RPM
BATTERY	750 CCA
TRANSMISSION	6-Speed Electronic Automatic
AXLE RATIO	3.16:1 with All-Wheel Drive
STEERING	Electric Power Assist Rack-and-Pinion
TURNING CIRCLE (CURB TO CURB)	38.4 ft.
TIRE SIZE, LOAD & SPEED RATING	Goodyear Eagle RSA P245/55/R18, Load Rating 103, V Speed Rating
GROUND CLEARANCE, MINIMUM	5.3 inches
BRAKE SYSTEM	Power, Dual Piston Front/Single Piston Rear, ABS
FUEL CAPACITY	19 Gallons/71.9 Liters
GENERAL MEASUREMENTS	
WHEELBASE	112.9 inches
LENGTH	202.9 inches
CURB WEIGHT	4,371 lbs.
HEIGHT	61.3 inches
INTERIOR VOLUME	
FRONT	54.8 cu. ft.
REAR	48.1 cu. ft.
COMB	103.0 cu. ft.
TRUNK	16.6 cu. ft. (with standard full size spare)
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,220 lbs.
EPA MILEAGE EST. (MPG)	
CITY	16
HIGHWAY	23
COMBINED	18

MANUFACTURER VEHICLE HIGHLIGHTS

NEW FEATURES & CHANGES:

- VIN specific payload rating 1220lbs
- Auto Headlamps
- Pre-Drilled Spot Lamp Kit
- Bumper to frame rail bracket kit

SAFETY:

- Only police vehicle to be pursuit tested for three years in a row by MSP and LASD with Traction Control and Stability Control safety systems full on, as driven by officers in the real world
- Industry Exclusive 75mph Rear Crash
- 5-Star Crash Rating
- Ultra High Strength Boron Steel Safety Cell Construction
- Available Level III NIJ ballistic panels - Certified for LAPD special threat rounds
- Anti-Stab plates in seat backs

DURABILITY:

- Two times durability testing
- Proven real world durability results

PERFORMANCE:

- Standard Full-Time AWD

Ford P. I. Utility
3.7L AWD

MAKE & MODEL	2015 Ford Police Interceptor Utility AWD
SALES CODE	K8A, 99R
POWERTRAIN INFORMATION	
CUBIC INCHES	226
LITERS	3.7
HORSEPOWER SAENET	304 @ 6250 RPM
ALTERNATOR	220 AMP
TORQUE	279 @ 4000 RPM
BATTERY	750 CCA
TRANSMISSION	6-Speed Electronic Automatic
AXLE RATIO	3.65:1 with All-Wheel Drive
STEERING	Electric Power Assist Rack-and-Pinion
TURNING CIRCLE (CURB TO CURB)	38.8 ft.
TIRE SIZE, LOAD & SPEED RATING	Goodyear Eagle RSA P245/55/R18, Load Rating 103, V Speed Rating
GROUND CLEARANCE, MINIMUM	6.5 inches
BRAKE SYSTEM	Power, Dual Piston Front/Single Piston Rear, ABS
FUEL CAPACITY	18.6 Gallons/70.4 Liters
GENERAL MEASUREMENTS	
WHEELBASE	112.6 inches
LENGTH	197.1 inches
CURB WEIGHT	4,672 lbs.
HEIGHT	69.2 inches without roof rack
INTERIOR VOLUME	
FRONT	59.7 cu. ft.
REAR	58.7 cu. ft.
COMB	118.4 cu. ft.
MAX CARGO AREA	85.1 cu. ft. (max cargo behind front seats)
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,620 lbs.
EPA MILEAGE EST. (MPG)	
CITY	16
HIGHWAY	21
COMBINED	18

MANUFACTURER VEHICLE HIGHLIGHTS

NEW FEATURES & CHANGES:

- VIN Specific payload rating of 1620lbs (BIC Pursuit-Rated)
- Spot Lamp Prep Pre-Drilled
- 18” Painted Aluminum Wheel Available (meets PI durability spec)
- Available Auto Headlamps
- Available Rear Quarter Glass Lights
- Rear Camera (SYNC Not Required)
- Dead Pedal Improvement for better ergonomics

SAFETY:

- Only police vehicle to be pursuit tested for three years in a row by MSP and LASD with Traction Control and Stability Control safety systems full on, as driven by officers in the real world
- Industry Exclusive 75mph Rear Crash
- 5-Star Crash Rating
- Ultra High Strength Boron Steel Safety Cell Construction
- Available Level III NIJ ballistic panels - Certified for LAPD special threat rounds
- Anti-Stab plates in seat backs

DURABILITY:

- Two times durability testing
- Proven real world durability results

PERFORMANCE:

- Standard Full-Time AWD

Ford P. I. Utility
3.5L Ecoboost AWD

MAKE & MODEL	2015 Ford Police Interceptor Utility Ecoboost AWD
SALES CODE	K8A, 99T
POWERTRAIN INFORMATION	
CUBIC INCHES	214
LITERS	3.5
HORSEPOWER SAENET	365 @ 5500 RPM
ALTERNATOR	220 AMP
TORQUE	350 @ 1500-2500 RPM
BATTERY	750 CCA
TRANSMISSION	6-Speed Electronic Automatic
AXLE RATIO	3.16:1 with All-Wheel Drive
STEERING	Electric Power Assist Rack-and-Pinion
TURNING CIRCLE (CURB TO CURB)	38.8 ft.
TIRE SIZE, LOAD & SPEED RATING	Goodyear Eagle RSA P245/55/R18, Load Rating 103, V Speed Rating
GROUND CLEARANCE, MINIMUM	6.4 inches
BRAKE SYSTEM	Power, Dual Piston Front/Single Piston Rear, ABS
FUEL CAPACITY	18.6 Gallons/70.4 Liters
GENERAL MEASUREMENTS	
WHEELBASE	112.6 inches
LENGTH	197.1 inches
CURB WEIGHT	4,775 lbs.
HEIGHT	69.2 inches without roof rack
INTERIOR VOLUME	
FRONT	59.7 cu. ft.
REAR	58.7 cu. ft.
COMB	118.4 cu. ft.
MAX CARGO AREA	85.1 cu. ft. (max cargo behind front seats)
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	1,510 lbs.
EPA MILEAGE EST. (MPG)	
CITY	15
HIGHWAY	20
COMBINED	17

MANUFACTURER VEHICLE HIGHLIGHTS

NEW FEATURES & CHANGES:

- VIN Specific payload rating of 1620lbs (BIC Pursuit-Rated)
- Spot Lamp Prep Pre-Drilled
- 18” Painted Aluminum Wheel Available (meets PI durability spec)
- Available Auto Headlamps
- Available Rear Quarter Glass Lights
- Rear Camera (SYNC Not Required)
- Dead Pedal Improvement for better ergonomics

SAFETY:

- Only police vehicle to be pursuit tested by MSP and LASD with Traction Control and Stability Control safety systems full on, as driven by officers in the real world
- Industry Exclusive 75mph Rear Crash
- 5-Star Crash Rating
- Ultra High Strength Boron Steel Safety Cell Construction
- Available Level III NIJ ballistic panels - Certified for LAPD special threat rounds
- Anti-Stab plates in seat backs

DURABILITY:

- Two times durability testing
- Proven real world durability results

PERFORMANCE:

- Standard Full-Time AWD
- Best-In-Class Horsepower

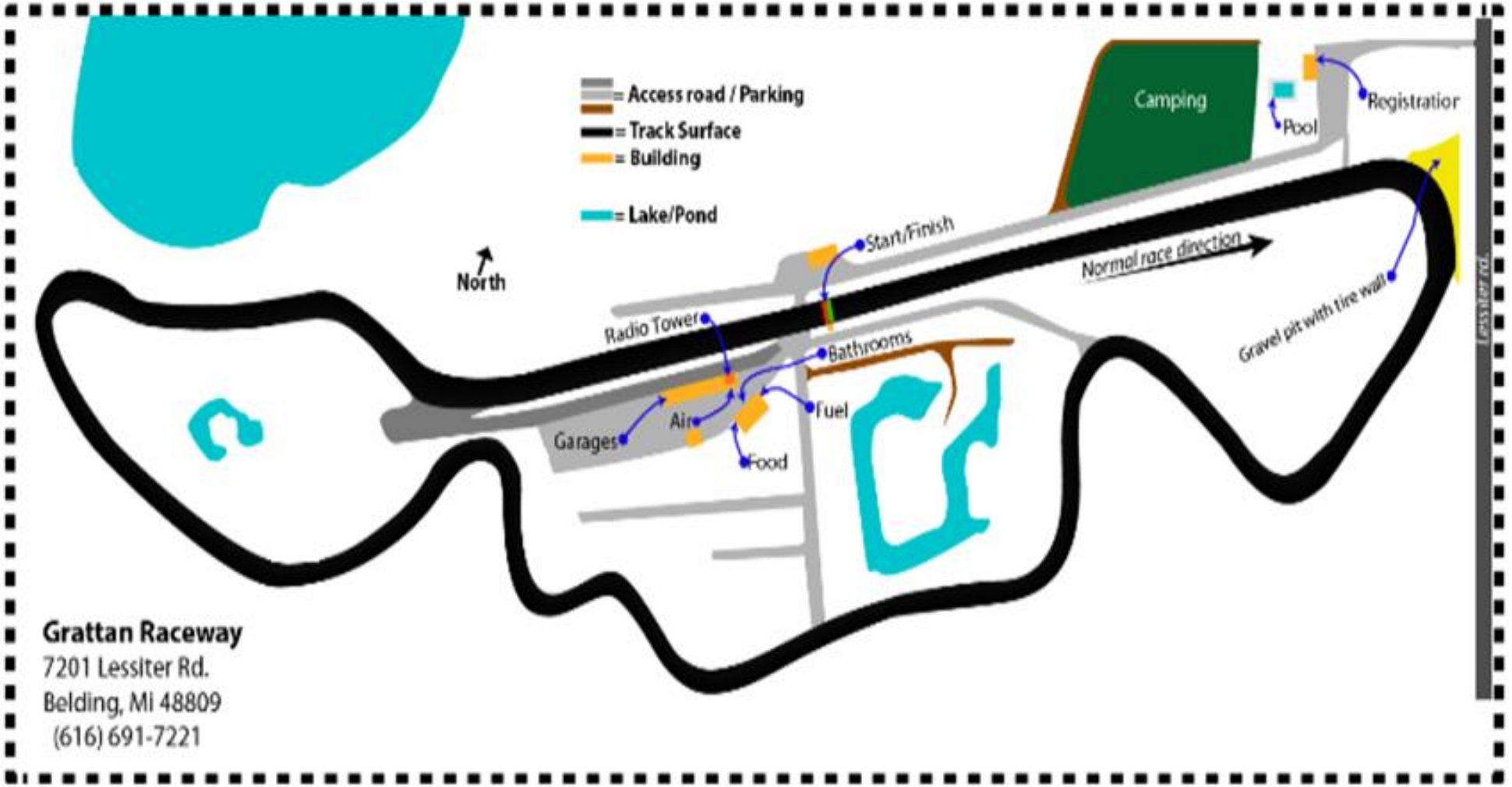
VEHICLE DYNAMICS TESTING

TEST 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.

TEST METHODOLOGY

Each vehicle is driven over the course a total of 32 timed laps, using four separate drivers, each driving an 8 lap series. The final score for the vehicle is the combined average (from the 4 drivers) of the 5 fastest laps for each driver during the 8 lap series.


= Access road / Parking
= Track Surface
= Building
= Lake/Pond
North
Start/Finish
Normal race direction
Camping
Pool
Registration
Radio Tower
Bathrooms
Fuel
Air
Garages
Food
Gravel pit with tire wall
Lessiter rd.
Grattan Raceway
7201 Lessiter Rd.
Belding, MI 48809
(616) 691-7221

VEHICLE DYNAMICS TESTING ON SEPTEMBER 22, 2014

Vehicles	Drivers	Lap 1	Lap 2	Lap 3	Lap 4	Lap 5	Average
Chevrolet Caprice 3.6L	MCCARTHY	01:36.28	01:36.47	01:36.61	01:36.77	01:36.88	01:36.60
	SCHUTTER	01:37.41	01:37.58	01:37.61	01:37.63	01:37.66	01:37.58
	LADY	01:36.12	01:36.12	01:36.17	01:36.26	01:36.56	01:36.25
	ROGERS	01:36.65	01:36.79	01:36.84	01:36.97	01:37.06	01:36.86
Overall Average							**01:36.82**
Chevrolet Caprice 6.0L	MCCARTHY	01:34.49	01:34.87	01:34.90	01:35.03	01:35.06	01:34.87
	SCHUTTER	01:35.51	01:35.63	01:35.80	01:35.89	01:36.03	01:35.77
	LADY	01:34.53	01:34.72	01:34.82	01:34.91	01:35.00	01:34.80
	ROGERS	01:34.69	01:34.76	01:34.91	01:35.00	01:35.16	01:34.90
Overall Average							**01:35.09**
Chevrolet Impala 3.6L	MCCARTHY	01:40.41	01:40.48	01:40.50	01:40.64	01:40.67	01:40.54
	SCHUTTER	01:40.98	01:41.57	01:41.62	01:41.83	01:42.11	01:41.62
	LADY	01:40.12	01:40.53	01:40.53	01:40.68	01:40.72	01:40.52
	ROGERS	01:39.92	01:39.93	01:39.96	01:40.20	01:40.37	01:40.08
Overall Average							**01:40.69**
Chevrolet Tahoe 5.3L	MCCARTHY	01:39.41	01:39.58	01:39.74	01:39.80	01:40.05	01:39.72
	SCHUTTER	01:40.38	01:40.55	01:40.64	01:40.82	01:40.82	01:40.64
	LADY	01:38.82	01:38.92	01:39.02	01:39.20	01:39.48	01:39.09
	ROGERS	01:39.42	01:39.51	01:39.58	01:39.66	01:39.73	01:39.58
Overall Average							**01:39.76**
Chevrolet Tahoe 5.3L 4WD	MCCARTHY	01:38.92	01:39.34	01:39.77	01:39.90	01:39.92	01:39.57
	SCHUTTER	-	-	-	-	-	-
	LADY	01:39.30	01:39.36	01:39.38	01:39.44	01:39.49	01:39.39
	ROGERS	-	-	-	-	-	-
Overall Average							**-**
Dodge Charger 3.6L 2.62	MCCARTHY	01:36.47	01:36.80	01:36.84	01:36.96	01:37.02	01:36.82
	SCHUTTER	01:36.93	01:36.97	01:37.34	01:37.41	01:37.46	01:37.22
	LADY	01:36.25	01:36.75	01:36.79	01:36.80	01:36.98	01:36.71
	ROGERS	01:36.77	01:36.82	01:36.84	01:36.91	01:37.56	01:36.98
Overall Average							**01:36.93**
Dodge Charger 3.6L 3.08	MCCARTHY	01:36.15	01:36.57	01:36.94	01:36.98	01:37.17	01:36.76
	SCHUTTER	01:36.76	01:37.10	01:37.36	01:37.42	01:37.53	01:37.23
	LADY	01:35.97	01:36.25	01:36.36	01:36.56	01:36.62	01:36.35
	ROGERS	01:35.99	01:36.13	01:36.14	01:36.18	01:36.21	01:36.13
Overall Average							**01:36.62**
Dodge Charger 5.7L 2.62	MCCARTHY	01:35.31	01:35.41	01:35.47	01:35.66	01:35.67	01:35.50
	SCHUTTER	01:35.21	01:36.30	01:36.59	01:36.60	01:36.95	01:36.33
	LADY	01:35.03	01:35.05	01:35.07	01:35.28	01:35.35	01:35.16
	ROGERS	01:34.58	01:34.69	01:34.71	01:34.80	01:34.85	01:34.73
Overall Average							**01:35.43**
Dodge Charger 5.7L 3.08 AWD	MCCARTHY	01:34.49	01:34.54	01:34.62	01:34.64	01:34.70	01:34.60
	SCHUTTER	01:34.84	01:34.87	01:34.89	01:35.12	01:35.19	01:34.98
	LADY	01:34.86	01:35.06	01:35.10	01:35.10	01:35.16	01:35.06
	ROGERS	01:34.27	01:34.55	01:34.56	01:34.70	01:34.73	01:34.56
Overall Average							**01:34.80**

VEHICLE DYNAMICS TESTING ON SEPTEMBER 22, 2014

Vehicles	Drivers	Lap 1	Lap 2	Lap 3	Lap 4	Lap 5	Average
Ford PI Sedan 3.5L FWD	MCCARTHY	01:37.67	01:38.00	01:38.03	01:38.09	01:38.09	01:37.98
	SCHUTTER	01:37.92	01:38.51	01:38.73	01:38.82	01:38.88	01:38.57
	LADY	01:37.44	01:37.50	01:37.77	01:37.80	01:37.96	01:37.69
	ROGERS	01:37.54	01:37.73	01:37.74	01:38.07	01:38.08	01:37.83
Overall Average							**01:38.02**
Ford PI Sedan 3.7L AWD	MCCARTHY	01:37.57	01:37.82	01:38.03	01:38.16	01:38.16	01:37.95
	SCHUTTER	01:37.12	01:37.29	01:37.43	01:37.43	01:37.64	01:37.38
	LADY	01:36.76	01:36.96	01:37.23	01:37.52	01:37.57	01:37.21
	ROGERS	01:37.18	01:37.20	01:37.25	01:37.34	01:37.35	01:37.26
Overall Average							**01:37.45**
Ford PI Sedan 3.5L Ecoboost AWD	MCCARTHY	01:34.48	01:34.79	01:34.87	01:34.88	01:34.88	01:34.78
	SCHUTTER	01:35.35	01:35.37	01:35.43	01:35.54	01:35.68	01:35.47
	LADY	01:34.91	01:35.05	01:35.28	01:35.32	01:35.37	01:35.19
	ROGERS	01:34.51	01:34.56	01:34.68	01:34.70	01:34.78	01:34.65
Overall Average							**01:35.02**
Ford PI Utility 3.7L AWD	MCCARTHY	01:39.20	01:39.27	01:39.30	01:39.41	01:39.48	01:39.33
	SCHUTTER	01:39.38	01:39.39	01:39.53	01:39.54	01:39.78	01:39.52
	LADY	01:39.20	01:39.23	01:39.35	01:39.45	01:39.78	01:39.40
	ROGERS	01:39.50	01:39.83	01:40.17	01:40.30	01:40.57	01:40.07
Overall Average							**01:39.58**
Ford PI Utility 3.5L Ecoboost AWD	MCCARTHY	01:36.80	01:36.97	01:37.01	01:37.13	01:37.17	01:37.02
	SCHUTTER	01:37.37	01:37.44	01:37.63	01:37.66	01:37.71	01:37.56
	LADY	01:37.58	01:37.63	01:37.71	01:37.75	01:37.81	01:37.70
	ROGERS	01:37.15	01:37.28	01:37.42	01:37.55	01:37.59	01:37.40
Overall Average							**01:37.42**

Chevrolet Tahoe 5.3L 4WD (RETEST 10/23/2014)	MCCARTHY	01:39.46	01:39.62	01:39.84	01:39.87	01:40.04	01:39.77
	SCHUTTER	01:39.67	01:39.81	01:39.84	01:40.24	01:40.41	01:40.00
	LADY	01:39.36	01:39.38	01:39.68	01:39.70	01:39.85	01:39.59
	ROGERS	01:39.05	01:39.08	01:39.20	01:39.29	01:39.35	01:39.19
Overall Average							**01:39.64**

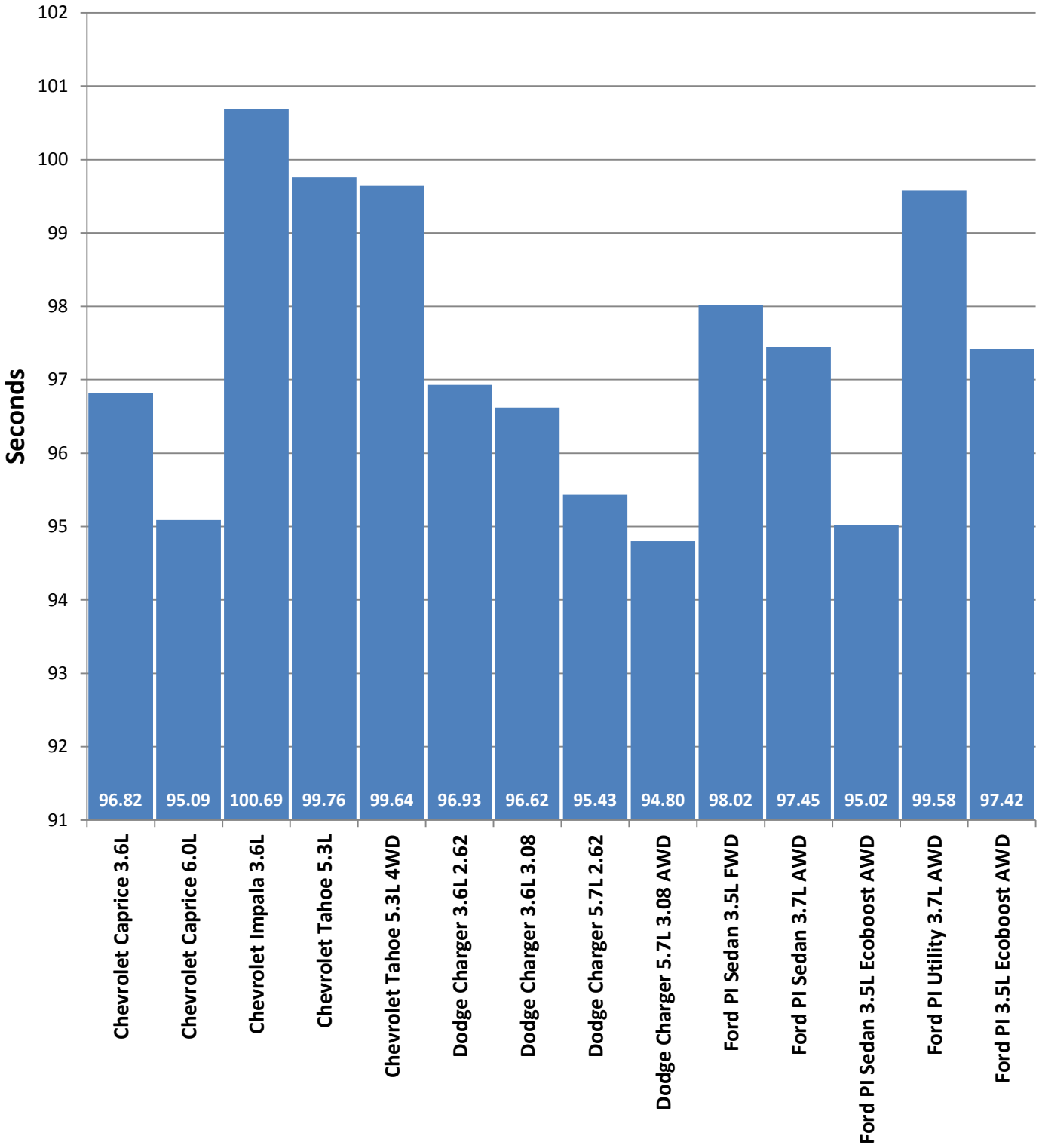
In an effort to maximize each vehicle's performance, we allowed each manufacturer to determine the state of their vehicles' traction and stability control modes while negotiating the vehicle dynamics testing at the Grattan Raceway.

Ford does not offer an option to alter the parameters of such controls and all of their vehicles were therefore tested in a fully activated mode.

Dodge elected to run their vehicles in a partial stability control mode which also deactivates traction control.

Chevrolet deactivated traction control on the Tahoe but ran with stability control full on. The Impala was run in partial stability control mode with traction control deactivated. The Caprice was run in the same mode as the Impala. The Caprice also offers a sport transmission mode which changes the shift points in the transmission to aid in power train braking. Sport mode was also activated during the dynamics testing.

2015 Model Year
Vehicle Dynamics



Lap Times in Seconds

****Chevrolet Tahoe 5.3L 4WD (RETEST AVERAGE)***

2015 Model Year

Vehicle Dynamics

ACCELERATION AND TOP SPEED TESTING

ACCELERATION TEST 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 110 mph and 120 mph.

ACCELERATION TEST METHODOLOGY

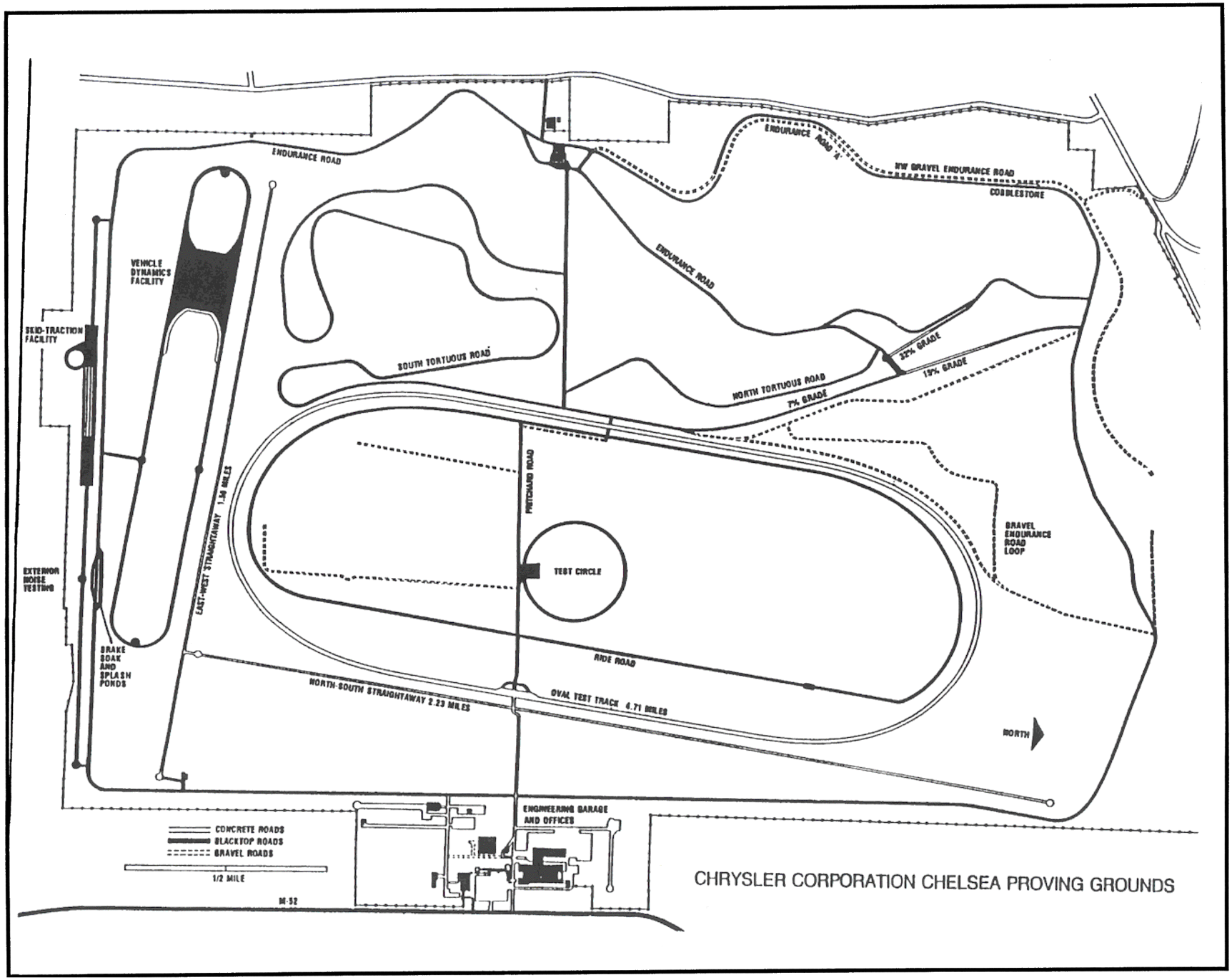
Using a DLS Smart Sensor – Optical non-contact Speed and Distance Sensor in conjunction with a lap top computer, each vehicle is driven through four acceleration sequences, two northbound and two southbound, to allow for wind direction. The four resulting times for each target speed are averaged and the average times are used to derive scores for acceleration.

TOP SPEED TEST OBJECTIVE

Determine the actual top speed attainable by each test vehicle within a distance of 14 miles from a standing start.

TOP SPEED TEST METHODOLOGY

Following the fourth acceleration run, each test vehicle continues 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 is the vehicle's score for top speed.


ENDURANCE ROAD
ENDURANCE ROAD
NW GRAVEL ENDURANCE ROAD
COBBLESTONE
VEHICLE DYNAMICS FACILITY
SKID-TRACTION FACILITY
SOUTH TORTUOUS ROAD
NORTH TORTUOUS ROAD
32% GRADE
19% GRADE
7% GRADE
PATCHARD ROAD
BRAVEL ENDURANCE ROAD LOOP
EXTERIOR NOISE TESTING
EAST-WEST STRAIGHTAWAY 1.54 MILES
TEST CIRCLE
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: Chrysler Proving Grounds **DATE:** September 20, 2014

Chevrolet Caprice 3.6L

BEGINNING TIME: 3:37 p.m. **TEMPERATURE:** 75.2° F
WIND VELOCITY: 8.9 mph **WIND DIRECTION:** 169°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	8.14	7.77	7.80	7.64	**7.84**
0 – 80	**14.9 sec.**	13.13	12.50	12.73	12.38	**12.69**
0 – 100	**24.6 sec.**	20.35	18.91	19.64	18.75	**19.41**

DISTANCE TO REACH 100 MPH: .34 mile
DISTANCE TO REACH 120 MPH: .72 mile

TOP SPEED ATTAINED: 147 mph

Chevrolet Caprice 6.0L

BEGINNING TIME: 12:20 p.m. **TEMPERATURE:** 71.4° F
WIND VELOCITY: 10.7 mph **WIND DIRECTION:** 180°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	6.19	6.16	6.37	5.97	**6.17**
0 – 80	**14.9 sec.**	9.99	9.87	10.22	9.66	**9.94**
0 – 100	**24.6 sec.**	14.98	14.35	15.23	14.19	**14.69**

DISTANCE TO REACH 100 MPH: .25 mile
DISTANCE TO REACH 120 MPH: .48 mile

TOP SPEED ATTAINED: 147 mph

RETESTED OCTOBER 7, 2014 FOR TOP SPEED

RETEST TOP SPEED ATTAINED: 156 mph

Chevrolet Impala 3.6L

BEGINNING TIME: 8:57 a.m. **TEMPERATURE:** 61.1° F
WIND VELOCITY: 4.2 mph **WIND DIRECTION:** 207°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	7.78	7.71	7.69	7.63	**7.70**
0 – 80	**14.9 sec.**	12.86	12.70	12.69	12.47	**12.68**
0 – 100	**24.6 sec.**	20.18	19.51	19.80	19.34	**19.71**

DISTANCE TO REACH 100 MPH: .35 mile
DISTANCE TO REACH 120 MPH: .72 mile

TOP SPEED ATTAINED: 150 mph

TEST LOCATION: Chrysler Proving Grounds **DATE:** September 20, 2014

Chevrolet Tahoe 5.3L

BEGINNING TIME: 10:48 a.m. **TEMPERATURE:** 66.6° F
WIND VELOCITY: 10.4 mph **WIND DIRECTION:** 163°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	7.44	7.26	7.40	7.15	**7.31**
0 – 80	**14.9 sec.**	12.72	12.06	12.57	12.01	**12.34**
0 – 100	**24.6 sec.**	19.77	18.34	19.44	18.39	**18.99**

DISTANCE TO REACH 100 MPH: .34 mile
DISTANCE TO REACH 120 MPH: .72 mile

TOP SPEED ATTAINED: 139 mph

Chevrolet Tahoe 5.3L 4WD

BEGINNING TIME: 1:25 p.m. **TEMPERATURE:** 75° F
WIND VELOCITY: 12.9 mph **WIND DIRECTION:** 180°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	8.06	7.80	7.91	7.63	**7.85**
0 – 80	**14.9 sec.**	13.68	12.86	13.55	12.89	**13.25**
0 – 100	**24.6 sec.**	21.57	19.72	20.88	19.72	**20.47**

DISTANCE TO REACH 100 MPH: .36 mile
DISTANCE TO REACH 120 MPH: .78 mile

TOP SPEED ATTAINED: 121 mph

Dodge Charger 3.6L 2.62

BEGINNING TIME: 9:42 a.m. **TEMPERATURE:** 61.7° F
WIND VELOCITY: 7 mph **WIND DIRECTION:** 176°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	8.14	8.16	8.02	7.90	**8.06**
0 – 80	**14.9 sec.**	13.05	12.91	13.07	12.65	**12.92**
0 – 100	**24.6 sec.**	21.16	20.08	20.80	19.83	**20.47**

DISTANCE TO REACH 100 MPH: .36 mile
DISTANCE TO REACH 120 MPH: .75 mile

TOP SPEED ATTAINED: 141 mph

TEST LOCATION: Chrysler Proving Grounds **DATE:** September 20, 2014

Dodge Charger 3.6L 3.08

BEGINNING TIME: 1:56 p.m. **TEMPERATURE:** 75.2° F
WIND VELOCITY: 4.1 mph **WIND DIRECTION:** 199°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	8.24	8.20	8.22	7.89	**8.14**
0 – 80	**14.9 sec.**	13.14	12.86	13.16	12.51	**12.92**
0 – 100	**24.6 sec.**	21.38	20.50	21.03	20.18	**20.77**

DISTANCE TO REACH 100 MPH: .37 mile
DISTANCE TO REACH 120 MPH: .72 mile

TOP SPEED ATTAINED: 141 mph

Dodge Charger 5.7L 2.62

BEGINNING TIME: 12:41 p.m. **TEMPERATURE:** 72.6° F
WIND VELOCITY: 8.3 mph **WIND DIRECTION:** 178°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	6.53	6.46	6.30	6.22	**6.38**
0 – 80	**14.9 sec.**	10.06	9.86	9.85	9.64	**9.85**
0 – 100	**24.6 sec.**	16.22	15.21	15.56	14.94	**15.48**

DISTANCE TO REACH 100 MPH: .27 mile
DISTANCE TO REACH 120 MPH: .48 mile

TOP SPEED ATTAINED: 148 mph

Dodge Charger 5.7L 3.08 AWD

BEGINNING TIME: 11:13 a.m. **TEMPERATURE:** 68.2° F
WIND VELOCITY: 9.7 mph **WIND DIRECTION:** 185°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	6.42	6.33	6.36	6.15	**6.32**
0 – 80	**14.9 sec.**	10.55	10.39	10.52	10.05	**10.38**
0 – 100	**24.6 sec.**	15.58	15.69	16.00	15.26	**15.63**

DISTANCE TO REACH 100 MPH: .27 mile
DISTANCE TO REACH 120 MPH: .55 mile

TOP SPEED ATTAINED: 149 mph

TEST LOCATION: Chrysler Proving Grounds **DATE:** September 20, 2014

Ford PI Sedan 3.5L FWD

BEGINNING TIME: 7:57 a.m. **TEMPERATURE:** 57.8° F
WIND VELOCITY: 4.1 mph **WIND DIRECTION:** 181°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	7.94	7.83	7.88	7.65	**7.83**
0 – 80	**14.9 sec.**	13.06	12.74	12.88	12.50	**12.80**
0 – 100	**24.6 sec.**	20.32	19.55	20.16	19.25	**19.82**

DISTANCE TO REACH 100 MPH: .35 mile
DISTANCE TO REACH 120 MPH: .89 mile

TOP SPEED ATTAINED: 132 mph

Ford PI Sedan 3.7L AWD

BEGINNING TIME: 10:13 a.m. **TEMPERATURE:** 63.9° F
WIND VELOCITY: 6.9 mph **WIND DIRECTION:** 174°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	8.06	7.81	7.97	7.53	**7.84**
0 – 80	**14.9 sec.**	13.01	12.37	12.73	12.22	**12.58**
0 – 100	**24.6 sec.**	20.60	19.28	20.08	18.83	**19.70**

DISTANCE TO REACH 100 MPH: .35 mile
DISTANCE TO REACH 120 MPH: .88 mile

TOP SPEED ATTAINED: 132 mph

Ford PI Sedan 3.5L Ecoboost AWD

BEGINNING TIME: 1:04 p.m. **TEMPERATURE:** 73.4° F
WIND VELOCITY: 9.2 mph **WIND DIRECTION:** 185°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	5.87	5.96	5.84	5.75	**5.86**
0 – 80	**14.9 sec.**	9.50	9.29	9.35	9.12	**9.32**
0 – 100	**24.6 sec.**	14.66	13.98	14.31	13.81	**14.19**

DISTANCE TO REACH 100 MPH: .25 mile
DISTANCE TO REACH 120 MPH: .49 mile

TOP SPEED ATTAINED: 149 mph

TEST LOCATION: Chrysler Proving Grounds **DATE:** September 20, 2014

Ford PI Utility 3.7L AWD

BEGINNING TIME: 2:59 p.m. **TEMPERATURE:** 73.7° F
WIND VELOCITY: 5.5 mph **WIND DIRECTION:** 196°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	8.65	8.56	8.63	8.43	**8.57**
0 – 80	**14.9 sec.**	14.05	13.77	13.99	13.66	**13.87**
0 – 100	**24.6 sec.**	23.13	22.51	23.35	22.14	**22.78**

DISTANCE TO REACH 100 MPH: .41 mile
DISTANCE TO REACH 120 MPH: 1.28 miles

TOP SPEED ATTAINED: 132 mph

RETESTED NOVEMBER 7, 2014 FOR ACCELERATION

BEGINNING TIME: 10:21 a.m. **TEMPERATURE:** 38.1° F
WIND VELOCITY: 7 mph **WIND DIRECTION:** SW

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	7.89	7.85	7.74	7.57	**7.76**
0 – 80	**14.9 sec.**	12.79	12.68	12.38	12.40	**12.56**
0 – 100	**24.6 sec.**	20.72	20.36	20.21	19.80	**20.27**

DISTANCE TO REACH 100 MPH: .36 mile

Ford PI Utility 3.5L Ecoboost AWD

BEGINNING TIME: 11:59 a.m. **TEMPERATURE:** 70.4° F
WIND VELOCITY: 11 mph **WIND DIRECTION:** 187°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	6.65	6.58	6.52	6.43	**6.55**
0 – 80	**14.9 sec.**	10.71	10.32	10.59	10.19	**10.45**
0 – 100	**24.6 sec.**	16.61	15.77	16.45	15.69	**16.13**

DISTANCE TO REACH 100 MPH: .28 mile
DISTANCE TO REACH 120 MPH: .61 mile

TOP SPEED ATTAINED: 132 mph

SUMMARY OF ACCELERATION AND TOP SPEED

CHEVROLET VEHICLES

	Chevrolet Caprice 3.6L	Chevrolet Caprice 6.0L	Chevrolet Impala 3.6L	Chevrolet Tahoe 5.3L	Chevrolet Tahoe 5.3L 4WD
ACCELERATION					
0 – 20 mph (seconds)	1.83	1.65	1.98	1.70	1.84
0 – 30 mph (seconds)	2.96	2.53	3.16	2.71	2.95
0 – 40 mph (seconds)	4.15	3.58	4.38	4.08	4.30
0 – 50 mph (seconds)	5.98	4.82	5.92	5.62	6.02
0 – 60 mph (seconds)	7.84	6.17	7.70	7.31	7.85
0 – 70 mph (seconds)	9.81	7.96	9.64	9.67	10.36
0 – 80 mph (seconds)	12.69	9.94	12.68	12.34	13.25
0 – 90 mph (seconds)	15.95	12.12	15.99	15.32	16.59
0 – 100 mph (seconds)	19.41	14.69	19.71	18.99	20.47
TOP SPEED (mph)	147	147	150	139	121
DISTANCE TO REACH					
100 mph (miles)	.34	.25	.35	.34	.36
120 mph (miles)	.72	.48	.72	.72	.78
QUARTER MILE					
Time (seconds)	16.00	14.67	16.02	15.74	16.16
Speed (mph)	90.39	100.08	90.03	91.47	88.85

SUMMARY OF ACCELERATION AND TOP SPEED

DODGE VEHICLES

	Dodge Charger 3.6L 2.62	Dodge Charger 3.6L 3.08	Dodge Charger 5.7L 2.62	Dodge Charger 5.7L 3.08 AWD
ACCELERATION				
0 – 20 mph (seconds)	1.93	1.95	1.60	1.49
0 – 30 mph (seconds)	3.33	3.25	2.60	2.45
0 – 40 mph (seconds)	4.72	4.52	3.59	3.46
0 – 50 mph (seconds)	6.14	6.07	4.85	4.85
0 – 60 mph (seconds)	8.06	8.14	6.38	6.32
0 – 70 mph (seconds)	10.44	10.29	7.97	8.07
0 – 80 mph (seconds)	12.92	12.92	9.85	10.38
0 – 90 mph (seconds)	15.71	16.77	12.61	12.88
0 – 100 mph (seconds)	20.47	20.77	15.48	15.63
TOP SPEED (mph)	141	141	148	149
DISTANCE TO REACH				
100 mph (miles)	.36	.37	.27	.27
120 mph (miles)	.75	.72	.48	.55
QUARTER MILE				
Time (seconds)	16.23	16.23	14.77	14.82
Speed (mph)	91.46	88.58	97.89	97.17

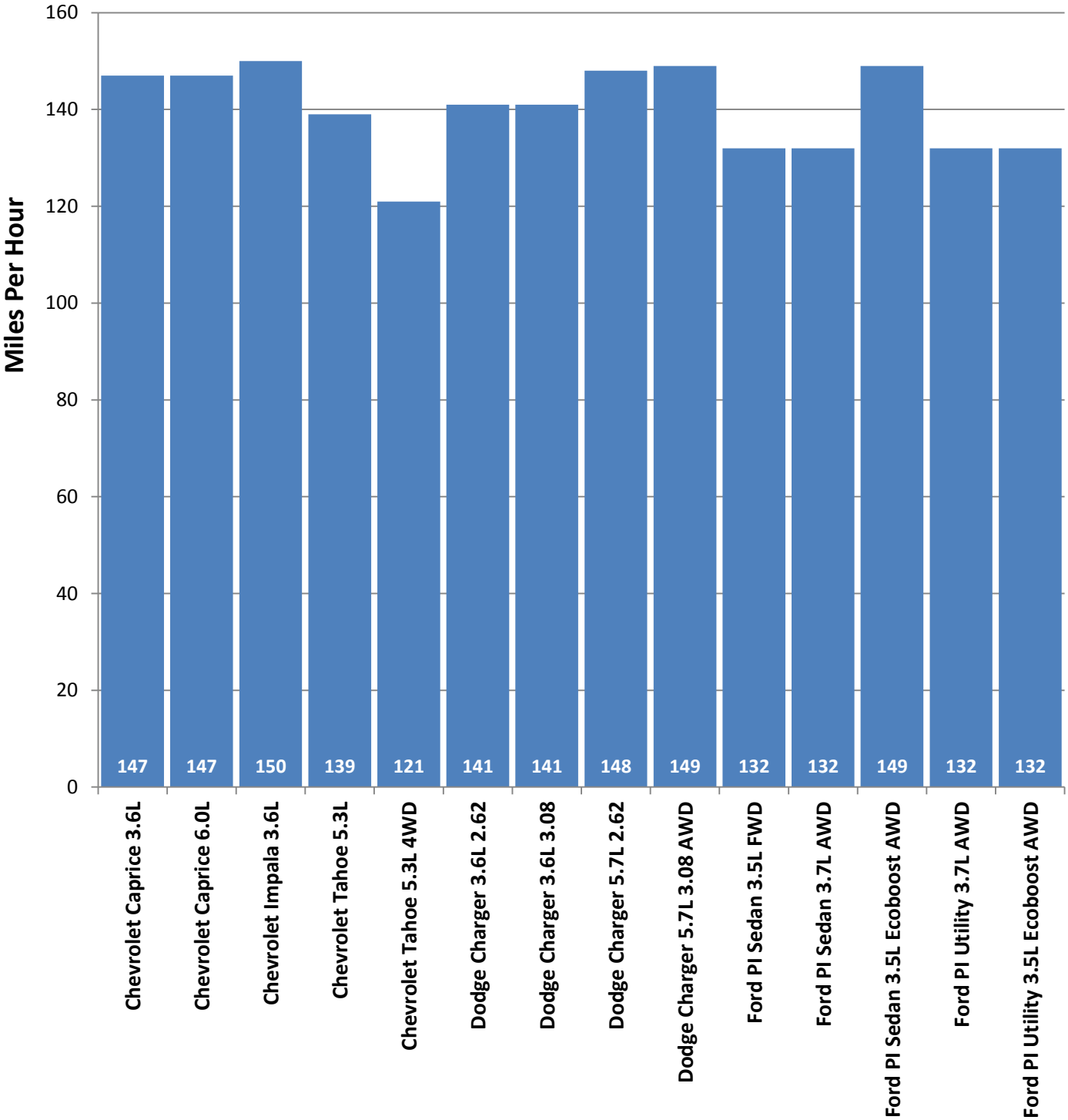
SUMMARY OF ACCELERATION AND TOP SPEED

FORD VEHICLES

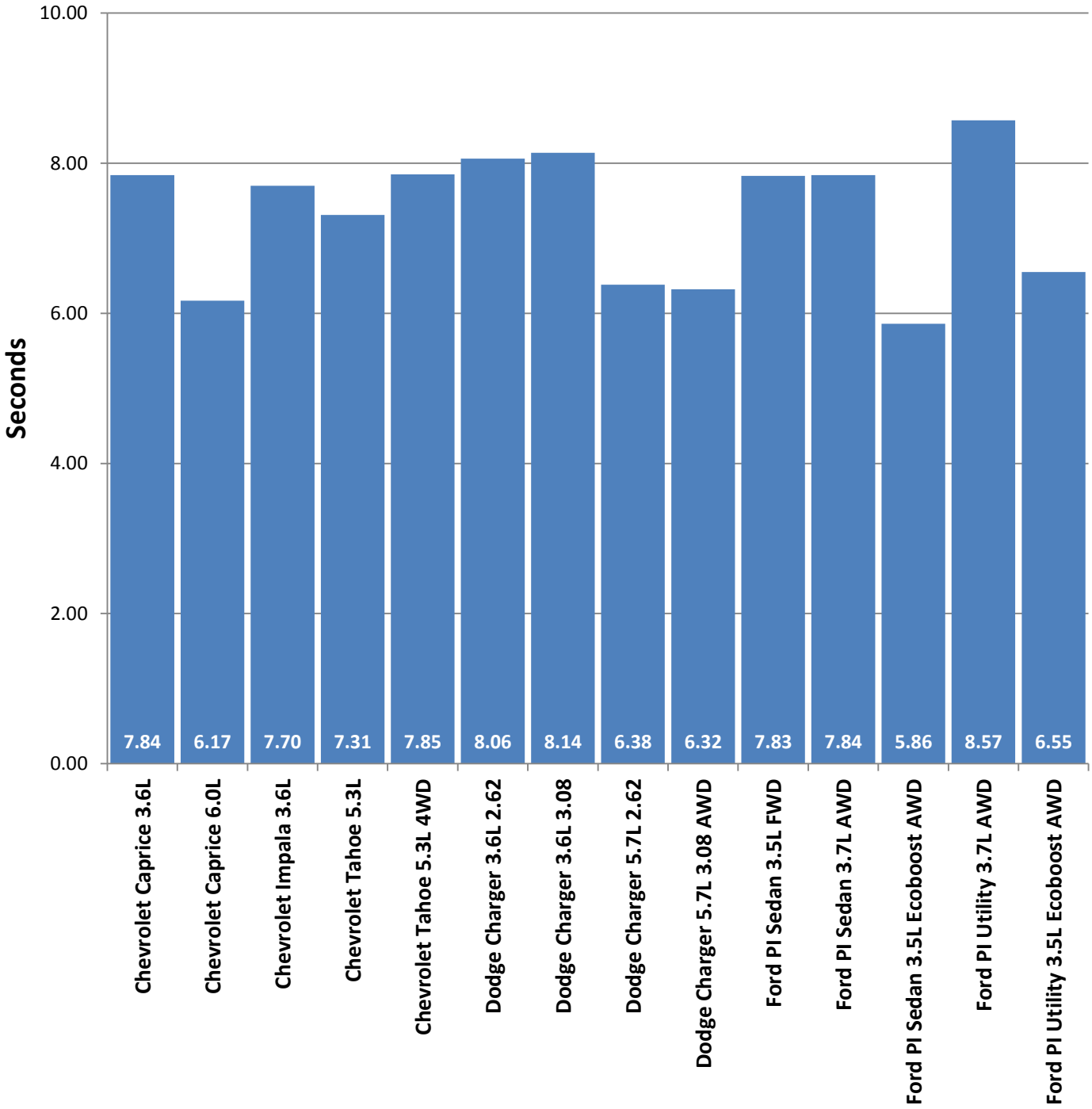
	Ford PI Sedan 3.5L FWD	Ford PI Sedan 3.7L AWD	Ford PI Sedan 3.5L Ecoboost AWD	Ford PI Utility 3.7L AWD		Ford PI Utility 3.5L Ecoboost AWD
ACCELERATION						
0 – 20 mph (seconds)	2.05	1.94	1.54	1.96	1.87	1.69
0 – 30 mph (seconds)	3.10	2.94	2.30	3.07	2.86	2.55
0 – 40 mph (seconds)	4.43	4.30	3.23	4.55	4.20	3.57
0 – 50 mph (seconds)	5.94	5.77	4.30	6.18	5.68	4.77
0 – 60 mph (seconds)	7.83	7.84	5.86	8.57	7.76	6.55
0 – 70 mph (seconds)	10.28	10.08	7.51	10.95	9.94	8.37
0 – 80 mph (seconds)	12.80	12.58	9.32	13.87	12.56	10.45
0 – 90 mph (seconds)	15.75	15.71	11.73	17.68	15.85	13.11
0 – 100 mph (seconds)	19.82	19.70	14.19	22.78	20.27	16.13
TOP SPEED (mph)	132	132	149	132	-	132
DISTANCE TO REACH						
100 mph (miles)	.35	.35	.25	.41	.36	.28
120 mph (miles)	.89	.88	.49	1.28	-	.61
QUARTER MILE						
Time (seconds)	16.13	16.00	14.35	16.50	15.96	14.95
Speed (mph)	91.20	90.85	100.58	87.14	90.29	96.55

Data in red represents data collected from the acceleration retest of the Ford PI Utility 3.7L AWD. This vehicle was retested on November 7, 2014

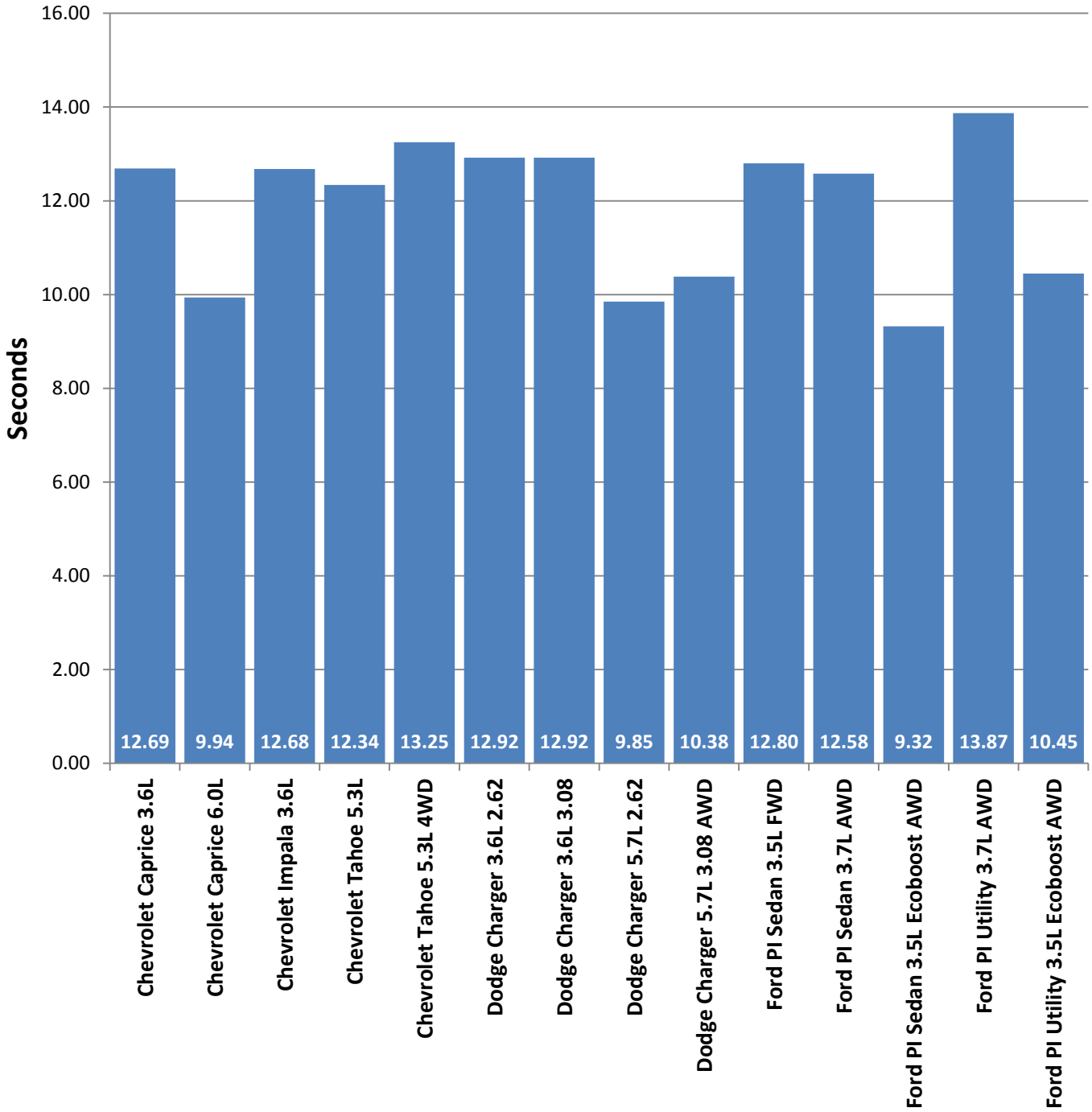
2015 Model Year
Top Speed Comparison
Top Speed Attained



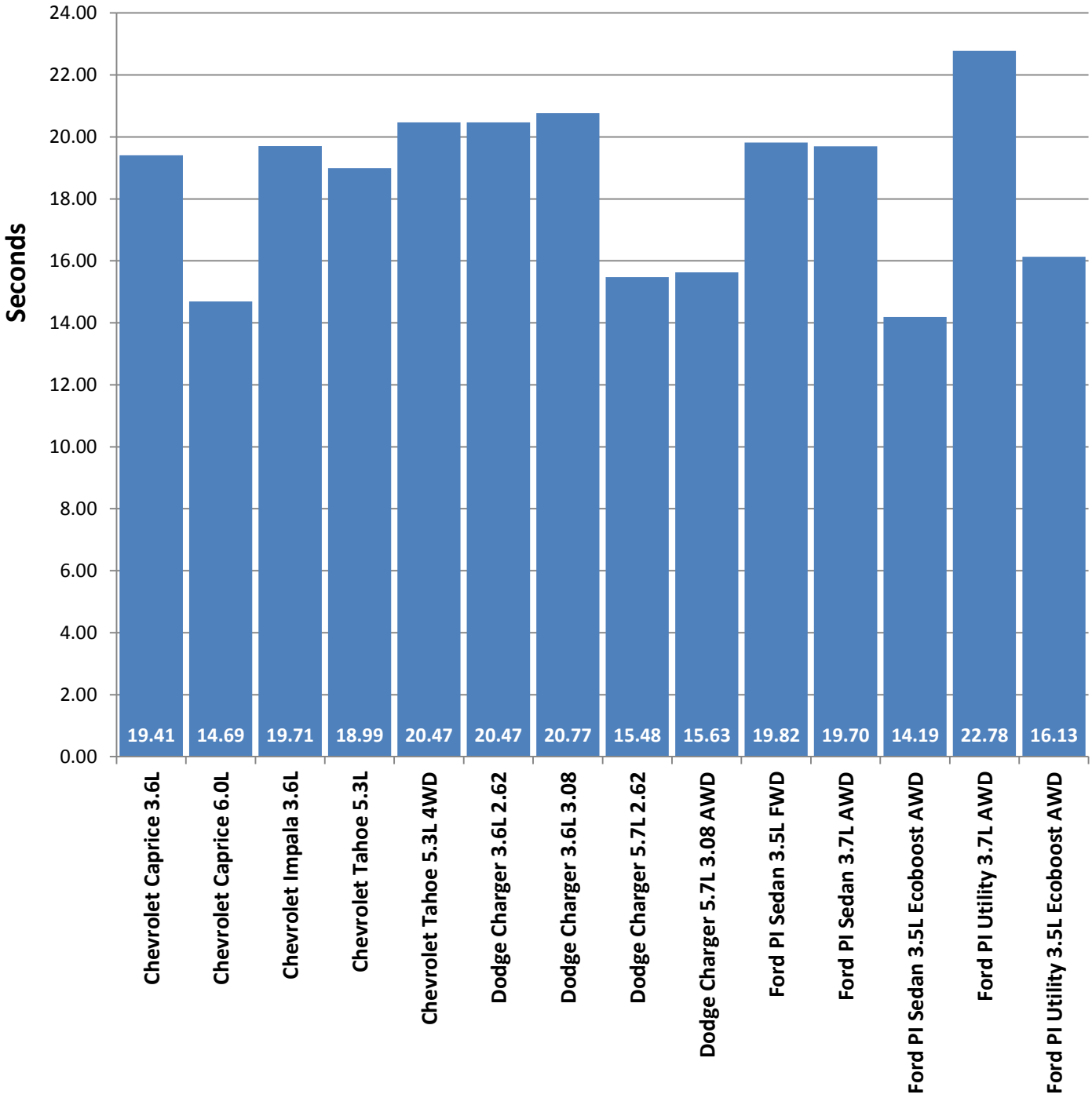
2015 Model Year
Acceleration Comparison
Acceleration Times
0-60 mph



2015 Model Year
Acceleration Comparison
Acceleration Times
0-80 mph



2015 Model Year
Acceleration Comparison
Acceleration Times
0-100 mph



BRAKE TESTING

BRAKE TEST 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 TEST METHODOLOGY

Each vehicle is taken to the 1.6 mile east/west straightaway and started from the beginning of the straightaway with "cold" brakes. The vehicle then begins its sequence of stops heading in a westerly direction. Within the 1.6 miles, the vehicle is stopped 5 times at pre-determined points on the roadway (.3 miles apart). The vehicle is then turned around and stops an additional 5 times again at pre-determined points on the roadway in an easterly direction. After the 10 stops, the vehicle drives the length of the straightaway (down and back) at 45 mph. This is done in an effort to cool the brakes before the second sequence. After the down and back lap, the 10 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.

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

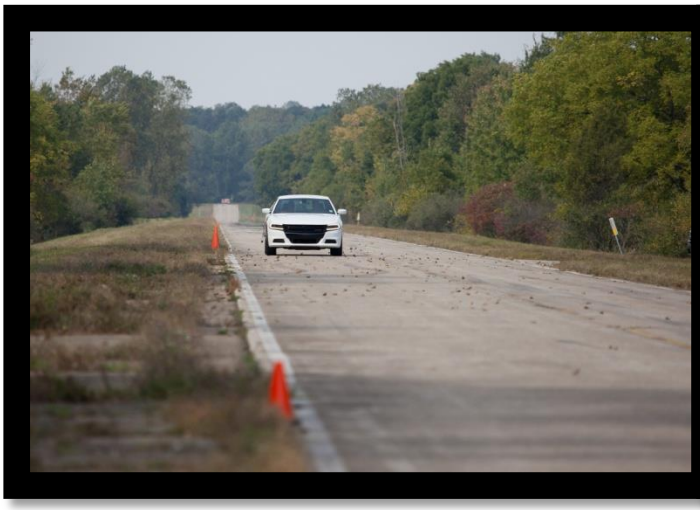
Once a vehicle's average deceleration rate has been determined, it is possible to calculate the stopping distance from any given speed by utilizing the following formula:

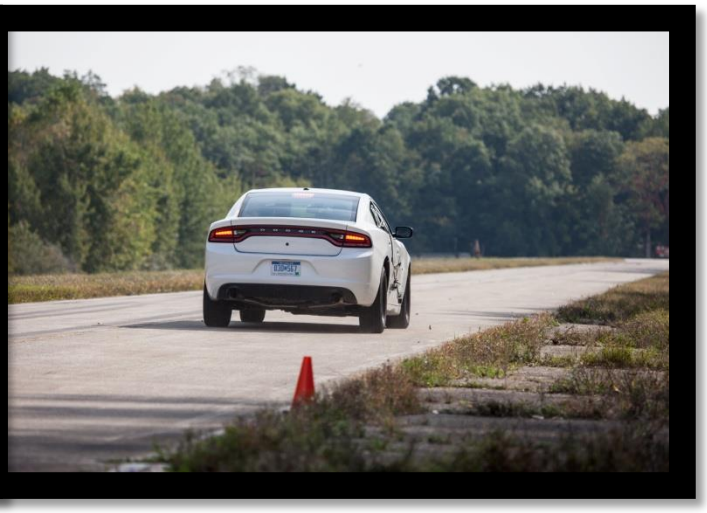
Select a speed; translate that speed into feet per second; square the feet per second figure by multiplying it by itself; divide the resultant figure by 2; divide the remaining figure by the average deceleration rate of the vehicle in question.

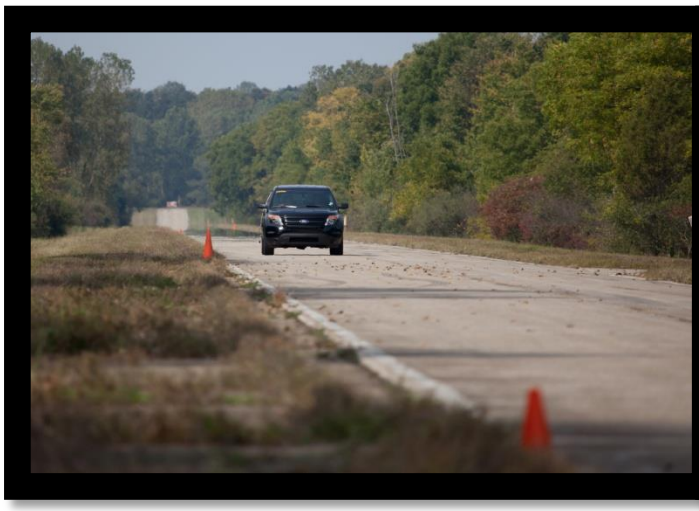
EXAMPLE:

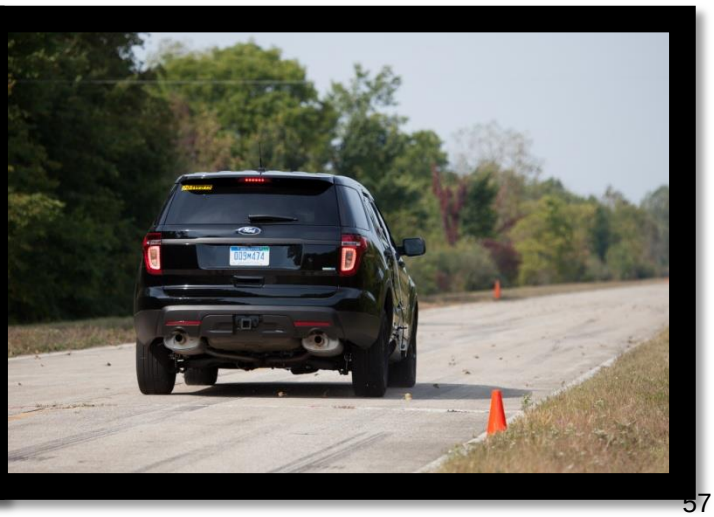
60 mph = 88.002 ft/s x 88.002 = 7744.352 / 2 = 3872.176 / 23.198 ft/s^2 = 166.9 ft.

*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 Caprice 3.6L

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 1:26 p.m.	**TEMPERATURE:** 75° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s^2)*
1	59.60	126.24	30.27
2	60.30	130.39	29.99
3	60.06	131.28	29.55
4	59.90	130.37	29.60
5	59.90	128.89	29.94
6	60.22	131.51	29.66
7	60.54	132.41	29.77
8	59.80	127.95	30.06
9	59.75	127.42	30.13
10	59.78	126.62	30.35
AVERAGE DECELERATION RATE:			**29.93 ft/s^2**

(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/s^2)*
1	59.84	131.72	29.24
2	60.37	128.52	30.50
3	59.49	129.81	29.33
4	59.31	127.56	29.66
5	59.87	131.42	29.34
6	59.78	127.75	30.09
7	59.70	129.06	29.70
8	60.04	130.44	29.73
9	60.09	129.38	30.02
10	60.15	131.18	29.67
AVERAGE DECELERATION RATE:			**29.73 ft/s^2**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**29.83 ft/s^2**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**129.8 feet**

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

All Vehicles Tested are Equipped with Anti-Lock Brakes*

BRAKE TESTING

Chevrolet Caprice 6.0L

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 8:48 a.m.	**TEMPERATURE:** 60.4° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.22	128.82	30.28
2	60.04	124.07	31.25
3	59.72	126.53	30.31
4	60.25	127.90	30.52
5	60.02	125.86	30.78
6	60.06	128.84	30.11
7	60.29	127.47	30.67
8	60.30	128.27	30.48
9	60.00	125.74	30.80
10	60.01	126.79	30.54
AVERAGE DECELERATION RATE:			**30.57 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	60.05	127.25	30.48
2	59.63	124.37	30.75
3	60.03	129.43	29.95
4	59.85	125.49	30.70
5	60.01	129.77	29.84
6	59.91	123.42	31.27
7	59.83	125.80	30.60
8	59.88	127.32	30.29
9	59.83	124.08	31.03
10	60.11	129.12	30.09
AVERAGE DECELERATION RATE:			**30.50 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**30.54 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**126.8 feet**

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

All Vehicles Tested are Equipped with Anti-Lock Brakes*

BRAKE TESTING

Chevrolet Impala 3.6L

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 2:29 p.m.	**TEMPERATURE:** 74.5° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.08	135.54	28.65
2	59.69	133.39	28.73
3	60.14	135.06	28.80
4	59.48	132.42	28.73
5	59.90	136.04	28.37
6	60.26	135.13	28.90
7	60.10	136.62	28.43
8	59.95	131.44	29.41
9	60.10	136.64	28.44
10	60.31	135.13	28.95
AVERAGE DECELERATION RATE:			**28.74 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	60.17	136.29	28.57
2	60.08	134.57	28.85
3	60.26	135.33	28.86
4	59.80	134.61	28.58
5	60.07	137.77	28.17
6	59.47	131.08	29.02
7	59.95	134.73	28.69
8	59.51	132.12	28.83
9	59.95	133.31	29.00
10	60.25	137.92	28.30
AVERAGE DECELERATION RATE:			**28.69 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**28.72 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**134.8 feet**

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

*****All Vehicles Tested are Equipped with Anti-Lock Brakes*****

BRAKE TESTING

Chevrolet Tahoe 5.3L

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 5:06 p.m.	**TEMPERATURE:** 69° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	59.40	127.57	29.75
2	60.75	135.81	29.22
3	60.05	136.67	28.37
4	60.36	135.80	28.85
5	60.24	135.82	28.74
6	60.03	133.91	28.95
7	60.15	134.03	29.04
8	60.15	134.84	28.86
9	60.43	137.24	28.62
10	60.11	138.77	28.00
AVERAGE DECELERATION RATE:			**28.84 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	59.78	135.04	28.47
2	60.37	135.91	28.84
3	60.17	141.68	27.48
4	60.21	137.21	28.41
5	60.52	143.11	27.52
6	59.68	134.65	28.45
7	60.28	135.60	28.82
8	59.79	135.86	28.30
9	60.08	140.05	27.72
10	60.01	136.57	28.36
AVERAGE DECELERATION RATE:			**28.24 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**28.54 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**135.7 feet**

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

*****All Vehicles Tested are Equipped with Anti-Lock Brakes*****

BRAKE TESTING

Chevrolet Tahoe 5.3L 4WD

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 10:55 a.m.	**TEMPERATURE:** 67.1° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.20	136.89	28.48
2	60.46	131.86	29.81
3	60.40	137.76	28.49
4	60.06	134.90	28.76
5	60.26	134.96	28.94
6	60.16	135.64	28.70
7	60.15	135.61	28.69
8	60.04	137.11	28.28
9	60.10	135.04	28.77
10	60.08	137.72	28.19
AVERAGE DECELERATION RATE:			**28.71 ft/s²**

(One cool down lap at 45 mph)

Phase II

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.45	136.90	28.71
2	60.01	134.61	28.78
3	60.64	137.62	28.74
4	59.63	133.29	28.69
5	59.96	137.61	28.10
6	60.11	138.04	28.15
7	60.27	136.80	28.56
8	59.65	133.24	28.72
9	60.34	140.40	27.89
10	60.22	140.62	27.74
AVERAGE DECELERATION RATE:			**28.41 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**28.56 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**135.6 feet**

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

*****All Vehicles Tested are Equipped with Anti-Lock Brakes*****

BRAKE TESTING

Dodge Charger 3.6L 2.62

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 4:05 p.m.	**TEMPERATURE:** 76.3° 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	127.90	30.38
2	59.82	123.65	31.13
3	59.66	125.66	30.46
4	59.63	124.87	30.62
5	60.43	126.89	30.96
6	59.98	124.12	31.17
7	60.27	129.19	30.24
8	59.64	126.73	30.19
9	60.22	126.81	30.76
10	59.84	128.25	30.03
AVERAGE DECELERATION RATE:			**30.59 ft/s²**

(One cool down lap at 45 mph)

Phase II

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	59.79	126.91	30.30
2	59.78	127.49	30.15
3	60.21	128.09	30.44
4	59.74	131.57	29.17
5	60.32	131.14	29.84
6	60.12	129.28	30.07
7	60.13	127.59	30.48
8	59.93	127.09	30.40
9	59.73	128.92	29.77
10	60.09	127.59	30.44
AVERAGE DECELERATION RATE:			**30.11 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**30.35 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**127.6 feet**

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

*****All Vehicles Tested are Equipped with Anti-Lock Brakes*****

BRAKE TESTING

Dodge Charger 3.6L 3.08

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 11:31 a.m.	**TEMPERATURE:** 68.3° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	59.99	126.88	30.51
2	59.95	122.89	31.45
3	59.78	124.71	30.82
4	60.47	126.99	30.97
5	59.71	122.86	31.21
6	60.15	123.05	31.62
7	60.13	123.94	31.37
8	60.23	128.54	30.35
9	60.08	124.43	31.20
10	60.02	125.06	30.98
AVERAGE DECELERATION RATE:			**31.05 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	59.77	123.49	31.12
2	60.37	123.98	31.62
3	59.39	124.61	30.44
4	60.38	126.98	30.88
5	60.26	125.82	31.04
6	59.38	122.87	30.86
7	59.95	123.20	31.38
8	60.15	126.36	30.79
9	60.18	125.36	31.08
10	60.44	126.75	30.99
AVERAGE DECELERATION RATE:			**31.02 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**31.04 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**124.7 feet**

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

*****All Vehicles Tested are Equipped with Anti-Lock Brakes*****

BRAKE TESTING

Dodge Charger 5.7L 2.62

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 9:40 a.m.	**TEMPERATURE:** 61.6° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	59.70	121.79	31.47
2	60.35	124.41	31.49
3	59.54	120.23	31.71
4	60.13	123.67	31.45
5	59.94	128.76	30.01
6	60.60	126.36	31.25
7	60.07	124.19	31.25
8	60.07	123.82	31.35
9	60.39	124.99	31.39
10	59.93	128.76	30.00
AVERAGE DECELERATION RATE:			**31.14 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	125.15	30.84
2	60.26	124.09	31.47
3	60.54	128.25	30.74
4	60.15	128.05	30.39
5	59.76	126.56	30.35
6	60.19	128.89	30.23
7	60.18	124.11	31.38
8	60.26	127.59	30.61
9	60.14	126.84	30.67
10	60.19	125.86	30.96
AVERAGE DECELERATION RATE:			**30.76 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**30.95 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**125.1 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

Dodge Charger 5.7L 3.08 AWD

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 4:31 p.m.	**TEMPERATURE:** 74.9° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.05	134.11	28.92
2	60.55	135.04	29.20
3	59.81	128.42	29.96
4	60.95	136.67	29.24
5	60.71	132.63	29.89
6	59.73	125.69	30.53
7	59.96	129.56	29.84
8	60.19	130.28	29.91
9	60.54	130.43	30.23
10	60.29	135.19	28.92
AVERAGE DECELERATION RATE:			**29.66 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	60.13	131.46	29.58
2	60.08	131.96	29.42
3	60.09	133.73	29.04
4	59.77	134.21	28.63
5	60.00	129.32	29.94
6	60.01	130.44	29.69
7	59.35	126.40	29.97
8	59.85	136.95	28.13
9	60.15	133.35	29.18
10	60.36	135.47	28.92
AVERAGE DECELERATION RATE:			**29.25 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**29.46 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**131.4 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

Ford Police Interceptor Sedan 3.5L FWD

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 1:54 p.m.	**TEMPERATURE:** 75.2° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.19	138.12	28.21
2	60.45	136.66	28.76
3	59.93	136.54	28.30
4	59.91	133.71	28.87
5	59.97	138.44	27.94
6	60.11	131.19	29.62
7	59.60	129.24	29.57
8	60.85	135.92	29.30
9	59.89	127.81	30.18
10	59.98	132.35	29.24
AVERAGE DECELERATION RATE:			**29.00 ft/s²**

(One cool down lap at 45 mph)

Phase II

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	59.87	132.68	29.06
2	60.50	133.02	29.60
3	60.40	136.41	28.76
4	59.62	134.62	28.40
5	59.40	137.19	27.66
6	60.02	132.24	29.30
7	60.16	134.80	28.88
8	59.82	131.81	29.20
9	60.06	131.52	29.50
10	60.04	134.91	28.74
AVERAGE DECELERATION RATE:			**28.91 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**28.96 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**133.7 feet**

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

All Vehicles Tested are Equipped with Anti-Lock Brakes*

BRAKE TESTING

Ford Police Interceptor Sedan 3.7L AWD

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 4:38 p.m.	**TEMPERATURE:** 74.9° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	59.83	135.50	28.41
2	60.24	134.80	28.95
3	59.91	135.27	28.54
4	59.75	132.54	28.97
5	59.74	131.44	29.20
6	60.09	132.92	29.21
7	60.38	130.90	29.95
8	60.26	134.44	29.05
9	60.87	135.45	29.42
10	60.18	136.18	28.60
AVERAGE DECELERATION RATE:			**29.03 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	59.58	130.55	29.24
2	60.17	129.41	30.09
3	60.06	135.23	28.69
4	59.82	135.75	28.35
5	60.16	133.69	29.12
6	59.92	132.03	29.25
7	60.42	135.09	29.06
8	60.21	131.43	29.66
9	60.16	132.58	29.36
10	59.96	134.38	28.77
AVERAGE DECELERATION RATE:			**29.16 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**29.10 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**133.1 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 Sedan 3.5L Ecoboost AWD

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 10:14 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	59.89	132.48	29.12
2	60.07	130.69	29.69
3	60.68	133.13	29.74
4	60.02	134.85	28.73
5	60.45	135.13	29.08
6	60.24	133.41	29.25
7	60.08	128.40	30.24
8	60.16	131.05	29.70
9	60.00	131.34	29.48
10	60.20	133.77	29.13
AVERAGE DECELERATION RATE:			**29.42 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	59.64	129.37	29.57
2	59.85	128.51	29.98
3	60.30	134.30	29.12
4	59.46	129.00	29.48
5	59.74	134.27	28.59
6	60.33	133.97	29.22
7	59.83	129.23	29.79
8	60.31	132.25	29.58
9	60.34	131.19	29.85
10	60.23	132.36	29.48
AVERAGE DECELERATION RATE:			**29.47 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 Police Interceptor Utility 3.7L AWD

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 12:06 p.m.	**TEMPERATURE:** 70.6° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.40	143.22	27.40
2	60.25	134.43	29.05
3	60.87	138.63	28.74
4	60.11	134.54	28.89
5	60.44	139.28	28.21
6	59.80	131.01	29.36
7	60.30	133.66	29.26
8	59.99	132.38	29.24
9	60.20	135.38	28.79
10	59.78	129.51	29.68
AVERAGE DECELERATION RATE:			**28.86 ft/s²**

(One cool down lap at 45 mph)

Phase II

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.14	132.71	29.31
2	60.26	132.59	29.46
3	59.77	133.38	28.81
4	60.45	137.43	28.60
5	59.74	130.52	29.41
6	60.50	136.38	28.87
7	59.65	130.28	29.37
8	59.79	131.18	29.31
9	60.14	132.08	29.45
10	60.31	136.19	28.73
AVERAGE DECELERATION RATE:			**29.13 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**29.00 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**133.5 feet**

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

*****All Vehicles Tested are Equipped with Anti-Lock Brakes*****

BRAKE TESTING

Ford Police Interceptor Utility 3.5L Ecoboost AWD

TEST LOCATION: Chrysler Proving Grounds	**DATE:** September 20, 2014
BEGINNING TIME: 11:03 a.m.	**TEMPERATURE:** 67.8° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	59.35	132.31	28.63
2	59.97	132.56	29.18
3	59.88	134.78	28.62
4	60.00	132.05	29.32
5	60.04	130.55	29.69
6	59.87	131.41	29.34
7	60.13	129.86	29.94
8	59.96	131.99	29.29
9	59.78	126.78	30.32
10	60.65	139.98	28.26
AVERAGE DECELERATION RATE:			**29.26 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	60.28	132.70	29.45
2	60.31	135.34	28.91
3	60.53	135.57	29.06
4	59.39	130.40	29.10
5	60.54	134.37	29.33
6	59.91	132.56	29.12
7	60.07	135.69	28.60
8	59.78	131.55	29.21
9	60.64	132.07	29.95
10	59.95	133.14	29.03
AVERAGE DECELERATION RATE:			**29.18 ft/s²**

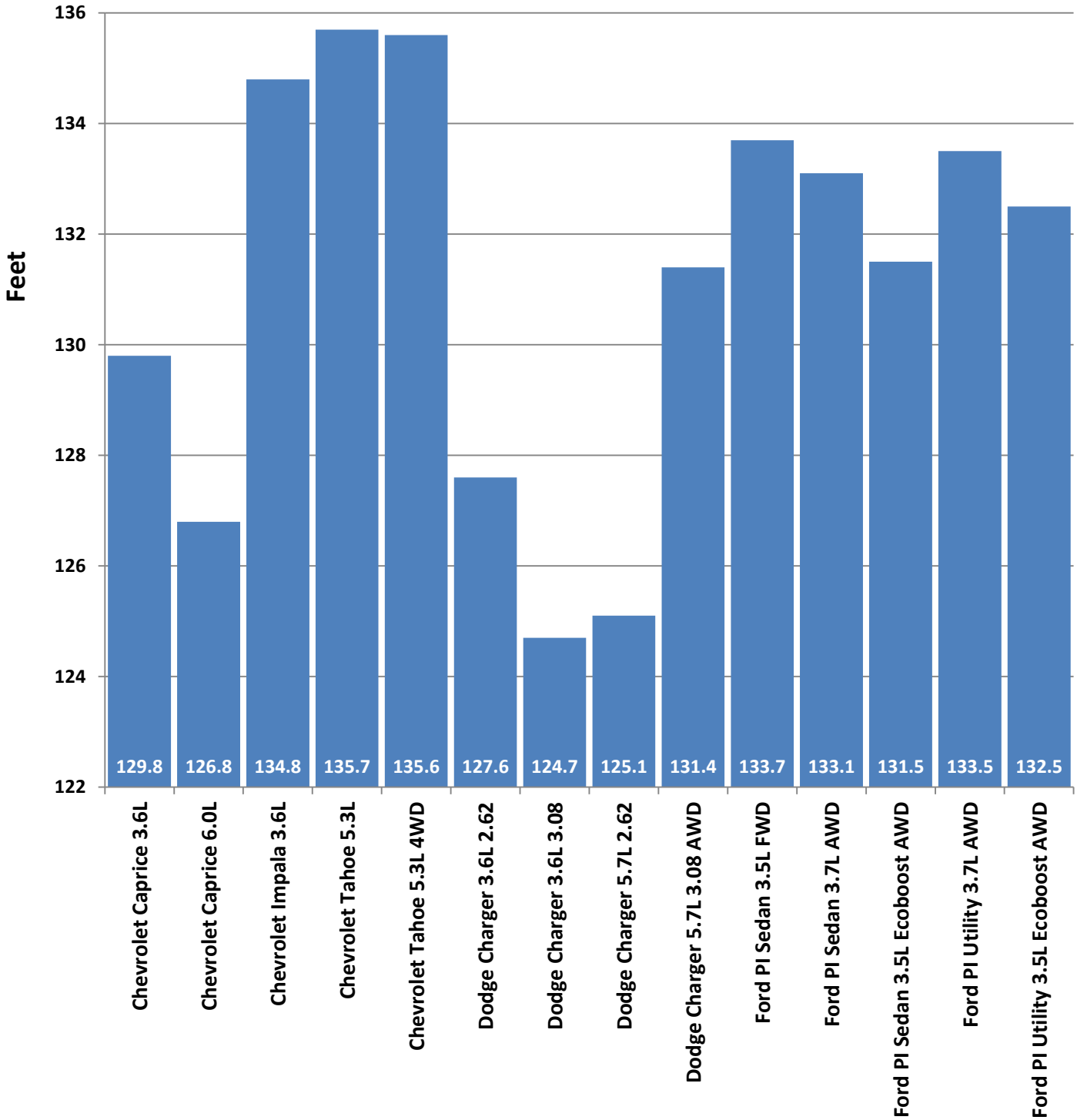
Phase III

OVERALL AVERAGE DECELERATION RATE:	**29.22 ft/s²**
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**132.5 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*****

2015 Model Year
Brake Testing
Projected Stopping Distance



ERGONOMICS AND COMMUNICATIONS

TEST 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.

TEST METHODOLOGY

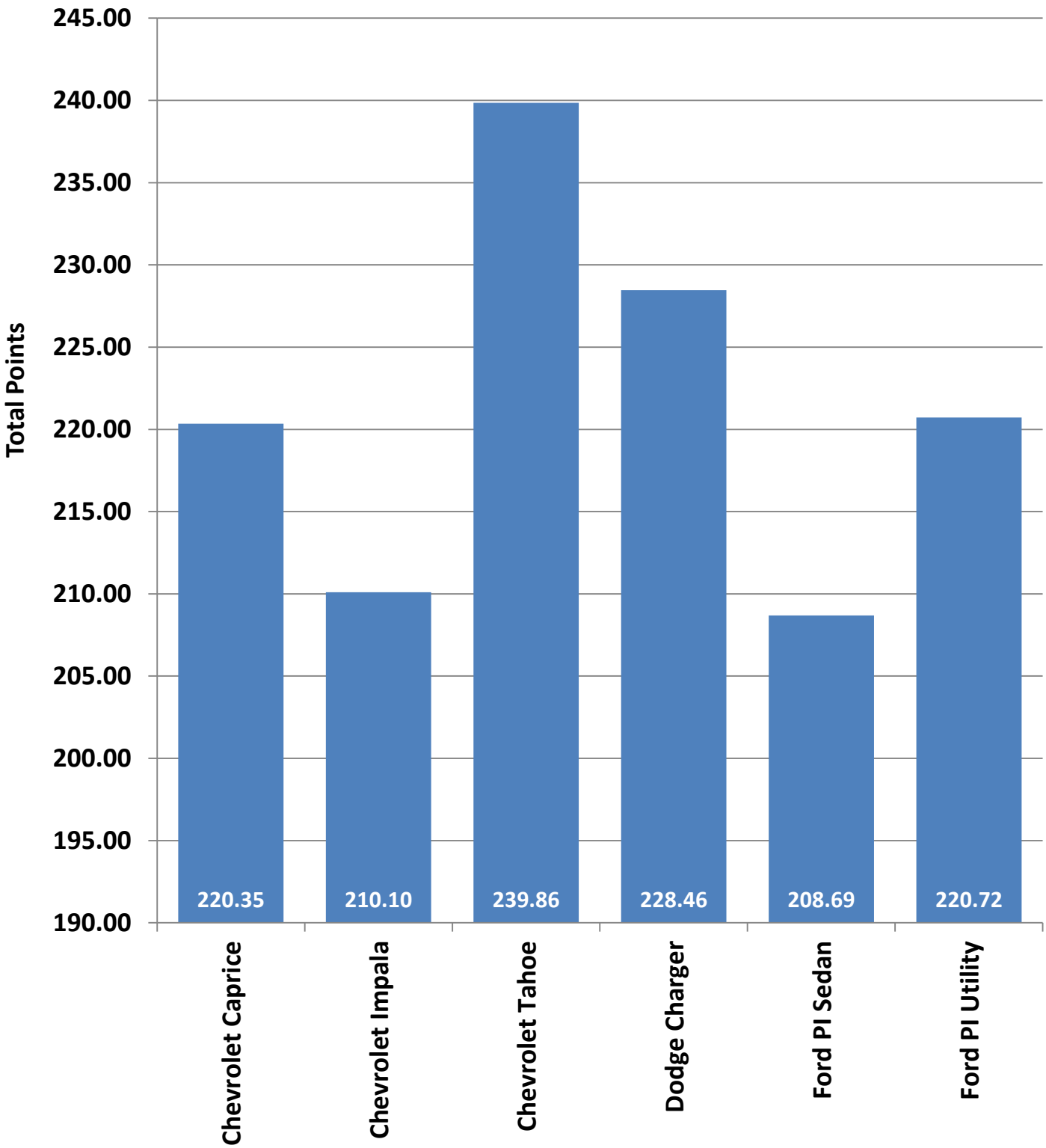
Utilizing the ergonomics portion of the form, a minimum of four officers (in this case 14) individually and independently compare and score each test vehicle on the various comfort, instrumentation, and visibility items. The installation and communications portion of the evaluation is conducted by personnel from DIT Communications, based upon the relative difficulty of the necessary installations. Each factor is graded on a 1 to 10 scale, with 1 representing "totally unacceptable," 5 representing "average," and 10 representing "superior." The scores are averaged to minimize personal prejudice for or against any given vehicle.

ERGONOMICS AND COMMUNICATIONS

	Chevrolet Caprice	Chevrolet Impala	Chevrolet Tahoe	Dodge Charger	Ford Police Interceptor	Ford Police Interceptor Utility
FRONT SEAT						
Padding	7.57	7.86	8.29	7.79	7.50	7.43
Depth of Bucket Seat	7.93	7.50	8.29	7.71	6.71	6.71
Adjustability – Front to Rear	7.36	8.07	8.57	8.50	8.29	8.21
Upholstery	8.57	6.57	8.71	8.21	8.43	8.43
Bucket Seat Design	7.93	7.07	8.14	8.00	7.21	7.21
Headroom	7.93	7.57	9.86	8.00	8.29	9.14
Seatbelts	7.93	8.21	8.71	8.43	8.64	8.79
Ease of Entry and Exit	7.57	7.00	9.43	7.79	6.43	8.71
Overall Comfort Rating	7.64	7.29	8.79	8.14	7.29	8.00
REAR SEAT						
Leg room – Front seat back	8.21	5.64	8.64	6.50	5.36	7.57
Ease of Entry and Exit	7.43	5.93	8.71	5.86	4.71	7.64
INSTRUMENTATION						
Clarity	8.29	8.14	9.14	9.00	7.86	7.79
Placement	8.43	7.71	8.93	9.14	8.43	8.36
VEHICLE CONTROLS						
Pedals, Size, and Position	8.14	8.14	8.93	8.71	7.86	7.86
Power Window Switch	8.36	8.14	9.14	9.14	8.50	8.50
Inside Door Release	7.69	7.38	8.23	8.54	7.46	7.77
Automatic Door Lock Switch	8.33	7.08	8.58	8.85	7.42	8.00
Outside Mirror Controls	7.21	7.00	9.00	8.57	8.43	8.43
Steering Wheel, Size, Tilt Release, and Surface	8.43	7.57	8.29	9.07	8.07	7.71
Heat/AC Vent Placement and Adjustability	7.93	8.00	8.86	8.50	8.29	8.07
VISIBILITY						
Front (Windshield)	8.36	8.50	8.79	8.07	7.86	8.36
Rear (Back Window)	7.86	7.86	7.71	7.50	5.86	6.57
Left Rear Quarter	7.29	7.57	6.79	7.21	7.07	7.00
Right Rear Quarter	7.64	7.71	6.86	7.36	7.00	7.36
Outside Rear View Mirrors	6.79	6.64	8.57	8.07	7.50	7.79
COMMUNICATIONS						
Dashboard Accessibility	8.11	8.00	8.45	8.83	8.11	8.17
Trunk Accessibility	8.09	8.17	8.67	8.75	7.33	7.92
Engine Compartment	7.33	7.78	8.78	8.22	6.78	7.22
TOTAL SCORES	**220.35**	**210.10**	**239.86**	**228.46**	**208.69**	**220.72**

2015 Ergonomics/Communications

Vehicle Scores



FUEL ECONOMY

TEST OBJECTIVE

To determine the fuel economy potential of all vehicles being evaluated. The data used for scoring are both valid and reliable in a comparison sense, while not necessarily being an accurate predictor of actual fuel economy in police patrol service.

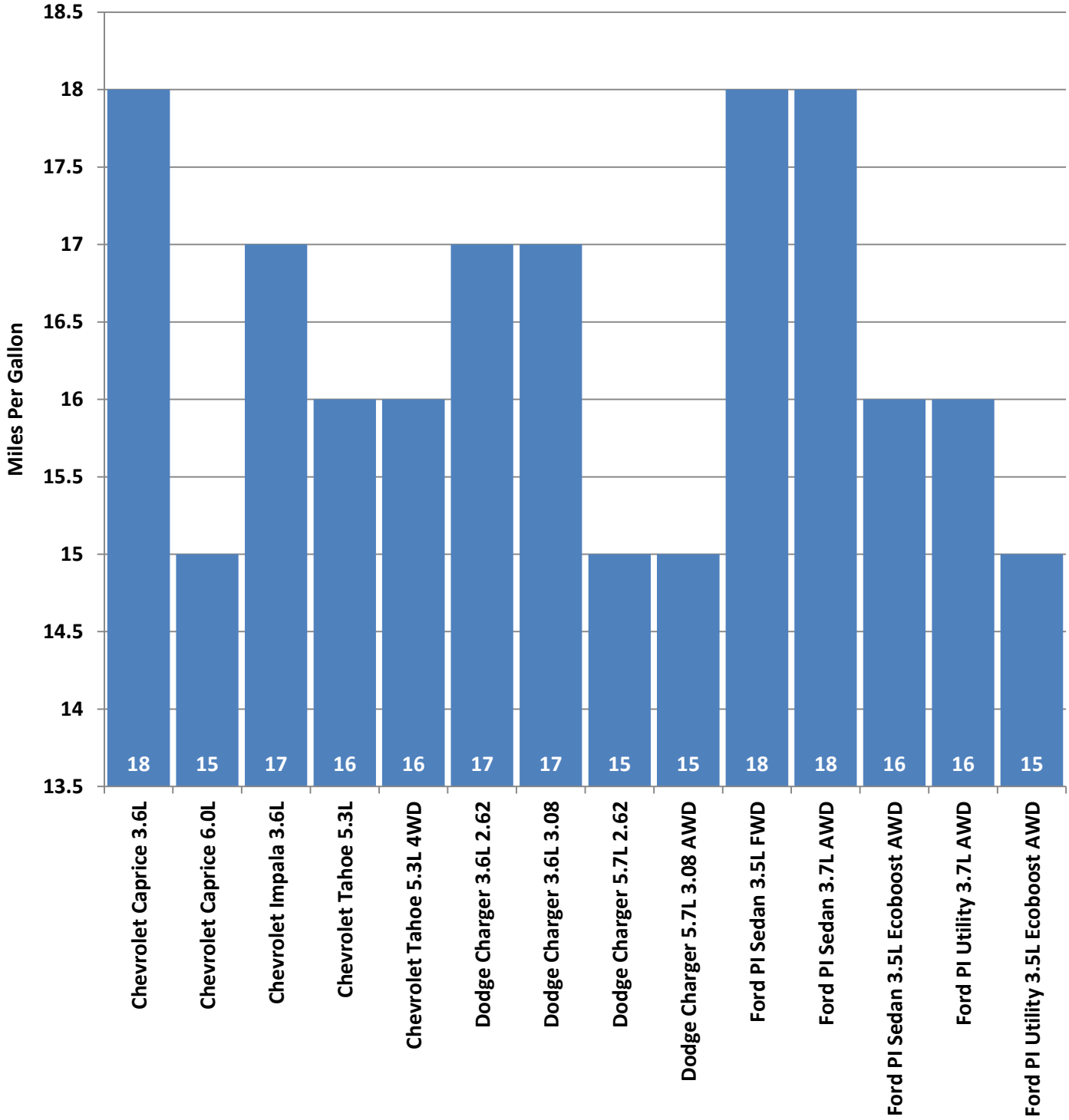
TEST METHODOLOGY

The vehicles will be scored based on estimates for city fuel economy developed from data supplied by the vehicle manufacturer and certified by the Environmental Protection Agency.

Vehicles Make/Model/Engine	E.P.A. Miles Per Gallon		
	City Label	Highway Label	Combined Label
Chevrolet Caprice 3.6L	18	26	21
Chevrolet Caprice 6.0L	15	24	18
Chevrolet Impala 3.6L	17	28	21
Chevrolet Tahoe 5.3L	16	23	18
Chevrolet Tahoe 5.3L 4WD	16	22	18
Dodge Charger 3.6L 2.62	17	26	20
Dodge Charger 3.6L 3.08	17	26	20
Dodge Charger 5.7L 2.62	15	25	18
Dodge Charger 5.7L 3.08 AWD	15	23	18
Ford PI Sedan 3.5L FWD	18	26	21
Ford PI Sedan 3.7L AWD	18	25	21
Ford PI Sedan 3.5L Ecoboost AWD	16	23	18
Ford PI Utility 3.7L AWD	16	21	18
Ford PI Utility 3.5L Ecoboost AWD	15	20	17

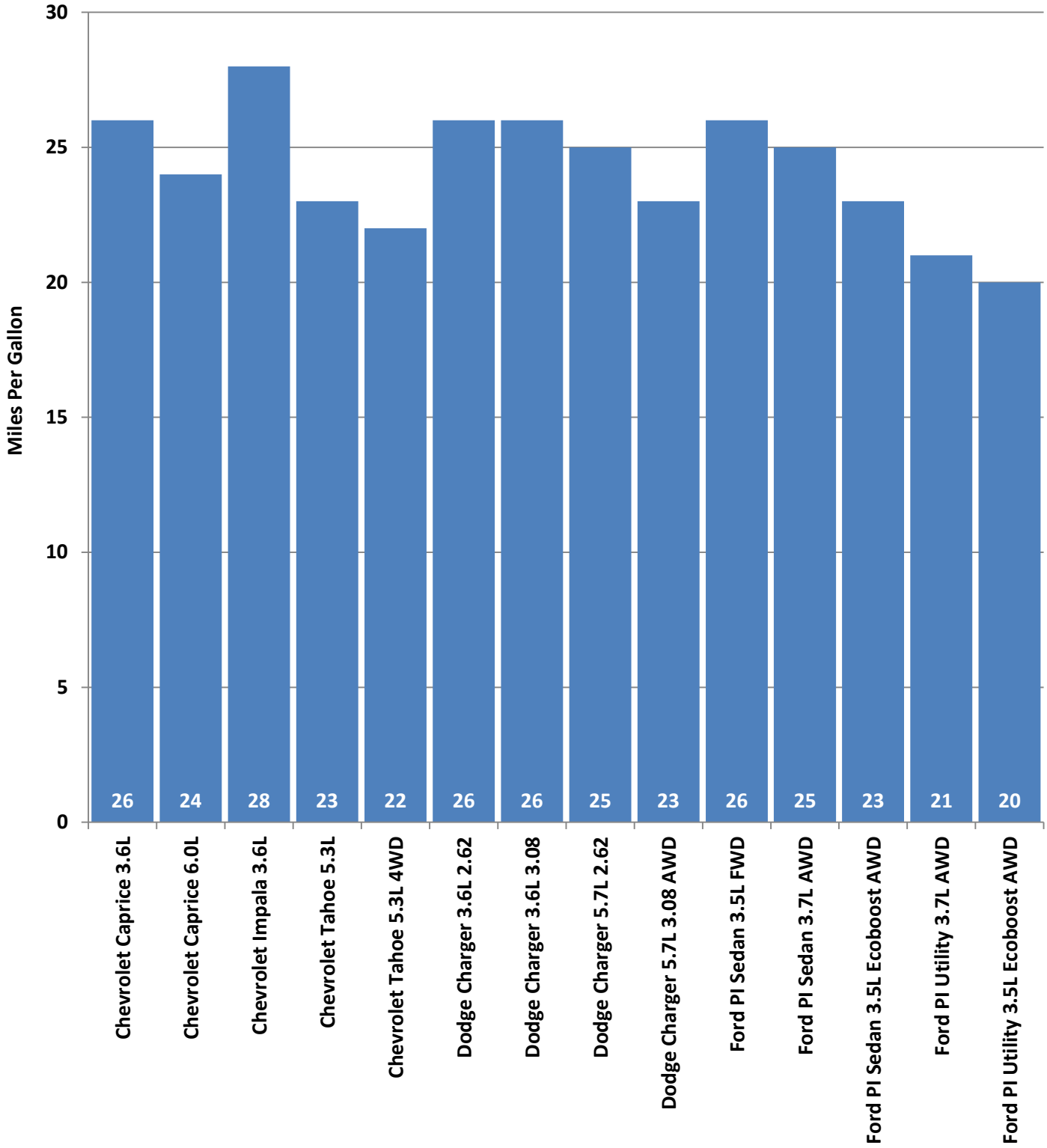
2015 FUEL ECONOMY COMPARISON

"CITY" EPA ESTIMATES



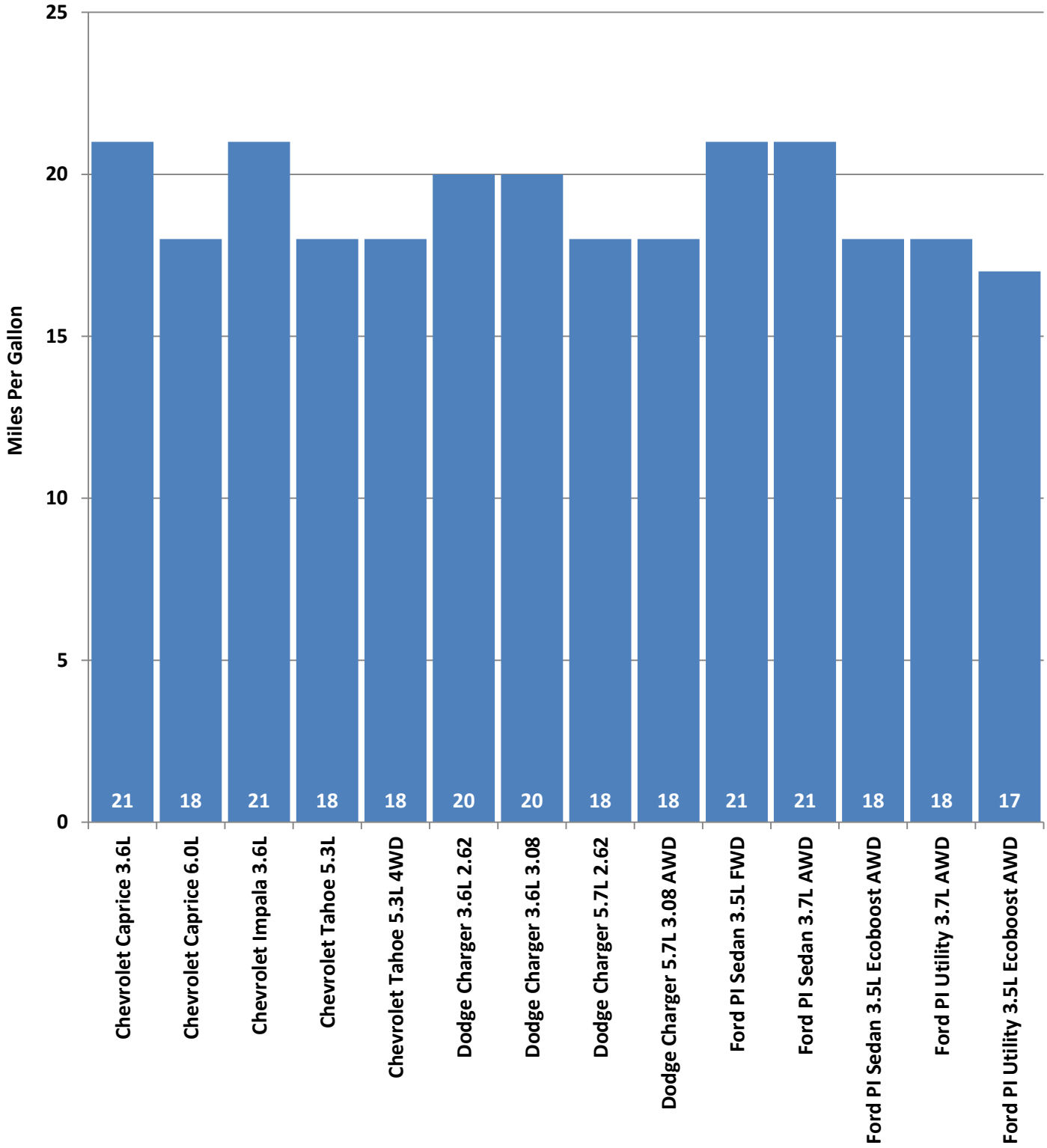
2015 FUEL ECONOMY COMPARISON

"HIGHWAY" EPA ESTIMATES



2015 FUEL ECONOMY COMPARISON

"COMBINED" EPA ESTIMATES



MOTORCYCLES

Like many law enforcement agencies, the Michigan State Police used motorcycles until late 1941 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. We would like to thank BMW, Harley-Davidson, Moto Guzzi, and Can AM/BRP 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.

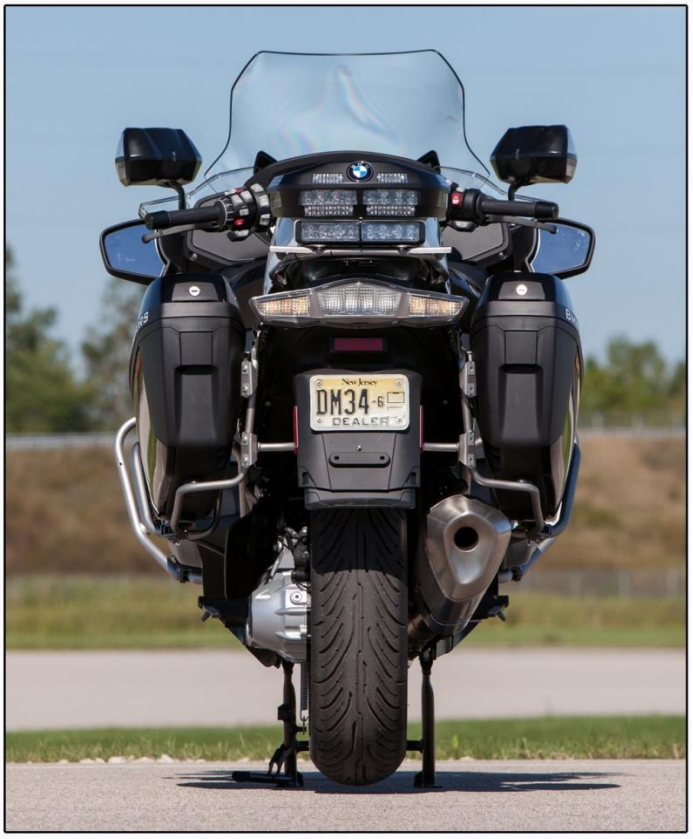
This year we conducted motorcycle brake testing on our track at the Precision Driving Unit in Lansing. Our facility provides a very flat and consistent surface for this type of testing. Thus, better information is provided to the reader as to the braking capabilities of each motorcycle.

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 motorcycles high speed handling characteristics during pursuit and emergency response riding. See the motorcycle dynamics test objectives for further information.

Harley Davidson introduced an additional entry this year. This was a FLHTP model with a factory supported performance modification. In this report, it will be referred to as "Harley Davidson FLHTP Special".

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 R1200RTP



MAKE & MODEL	BMW R 1200 RTP
SALES CODE	15RP
POWERTRAIN INFORMATION	
CUBIC INCHES	71.4
LITERS	1.170
HORSEPOWER SAENET	125 bhp @ 7,750 RPM
ALTERNATOR	540W
TORQUE	92 @ 6,500 RPM
BATTERY	2 x 16 Ah (AGM no-maintenance batteries)
TRANSMISSION	Constant Mesh 6-Speed with 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
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)	1,091 lbs.
EPA MILEAGE EST. (MPG)	
CITY	60 MPG (@ 44 mph)
HIGHWAY	44 MPG (@ 75 mph)
COMBINED	Not Provided by Manufacturer

MANUFACTURER HIGHLIGHTS

The R 1200 RTP is the new generation police motor derived from the K52 platform, inheriting all of the platform improvements of the civilian model.

The new generation contains a multi-plate self-adjusting wet clutch, completely new lighting system, handlebar switch system, power management system for all authority accessories, plus a host of special conveniences including electronic radio box latch release, electronic cruise control, 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 is equipped with Dynamic ESA and Ride Modes Pro, so you should select Dynamic driving mode for performance testing. The test motorcycle is also equipped with Gear Shift Assist Pro, which allows you to shift up or down once the motorcycle is in motion (clearly to be used when appropriate) by just relaxing the throttle. Test motorcycle is also equipped with Hill Start Control, which allows the braking system to hold the rear brakes on a hill (up or down) and then release the brake as you release the clutch.

Harley-Davidson Electra Glide FLHTP

MAKE & MODEL	Harley-Davidson FLHTP (Electra Glide)
SALES CODE	Not Provided by Manufacturer
POWERTRAIN INFORMATION	
CUBIC INCHES	103 CID
LITERS	1690 CC
HORSEPOWER SAENET	Not Provided by Manufacturer
ALTERNATOR	50 Amp
TORQUE	104.7 @ 3250 RPM
BATTERY	12VDC, 28 Amp/Hour, 270 CCA
TRANSMISSION	6 Speed Manual / Wet 9 Plate Clutch
SUSPENSION TYPE (FRONT)	Hydraulic 49 mm Telescopic Forks
SUSPENSION TYPE (REAR)	Swing Arm with Air Adjustable Shocks
TURNING CIRCLE (CURB TO CURB)	<17'
TIRE SIZE, LOAD & SPEED RATING	Dunlop D408F 130/80B17 (65H) (Front) Dunlop D407T 180/65B16 (81H) (Rear)
GROUND CLEARANCE, MINIMUM	5.3 inches
BRAKE SYSTEM	Hydraulic Disc/Reflex™ Electronically Linked with ABS (Dual Front Floating Rotors – Single Fixed Rear)
FUEL CAPACITY	6.0 Gallons/22.71 Liters
GENERAL MEASUREMENTS	
WHEELBASE	64 inches
LENGTH	96.5 inches
TEST WEIGHT	826 lbs.
HEIGHT	56.3 inches
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	GVWR – 1,360 lbs. / Payload – 534 lbs.
EPA MILEAGE EST. (MPG)	
CITY	Not provided by manufacturer
HIGHWAY	Not provided by manufacturer
COMBINED	42 MPG

MANUFACTURER HIGHLIGHTS

The Harley-Davidson Police Motorcycle FLHTP features:

- 1690cc High Output Twin Cam 103 model (6% more horsepower & 4% increase in torque).
- Reflex Linked Brake System with ABS that coordinates the front and rear brakes above 25 mph.
- Daymaker ™ LED headlight providing 916 lumens of daylight-quality light for the FLHTP.
- A batwing fairing on the Police Electra Glide incorporates the Splitstream™ vent. More storage with larger saddlebags & One-Touch latches for quick access.
- Engine Oil Cooler
- Polycarbonate Windshield designed to breakaway with minimal impact force
- Dunlop Multi-Tread Bead Retention Tires
- Long Stem True Vision Mirrors
- A redesigned hand control system to include speed capture, cruise control, push-to-talk, and more are all controlled with one-touch buttons. The Digital Speed Readout displays speed capture and gear position. Emergency lighting can be controlled independently and an Accessory mode allows you to run emergency lights and equipment power for 30 minutes, even with the ignition off or locked. A "Stealth Mode" switch allows you to instantly turn off all exterior lighting (except instruments and brakes) allowing the element of surprise.

Value:

- The largest dealer network for support and the highest residual value in the industry
- University accredited operator and instructor motorcycle rider training programs available and Police motorcycle technical training programs available.
- 2 Year Unlimited Mileage OE Warranty

Harley-Davidson Road King FLHP

MAKE & MODEL	Harley-Davidson FLHP (Road King)
SALES CODE	Not Provided by Manufacturer
POWERTRAIN INFORMATION	
CUBIC INCHES	103 CID
LITERS	1690 CC
HORSEPOWER SAENET	Not Provided by Manufacturer
ALTERNATOR	50 Amp
TORQUE	104.7 @ 3250 RPM
BATTERY	12VDC, 28 Amp/Hour, 270 CCA
TRANSMISSION	6 Speed Manual / Wet 9 Plate Clutch
SUSPENSION TYPE (FRONT)	Hydraulic 49 mm Telescopic Forks
SUSPENSION TYPE (REAR)	Swing Arm with Air Adjustable Shocks
TURNING CIRCLE (CURB TO CURB)	<17'
TIRE SIZE, LOAD & SPEED RATING	Dunlop D408F 130/80B17 (65H) (Front) Dunlop D407T 180/65B16 (81H) (Rear)
GROUND CLEARANCE, MINIMUM	5.3 inches
BRAKE SYSTEM	Hydraulic Disc/Reflex™ Electronically Linked with ABS (Dual Front Floating Rotors – Single Fixed Rear)
FUEL CAPACITY	6.0 Gallons/22.71 Liters
GENERAL MEASUREMENTS	
WHEELBASE	64 inches
LENGTH	96.5 inches
TEST WEIGHT	821 lbs.
HEIGHT	56.3 inches
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	GVWR – 1,360 lbs. / Payload – 539 lbs.
EPA MILEAGE EST. (MPG)	
CITY	Not provided by manufacturer
HIGHWAY	Not provided by manufacturer
COMBINED	42 MPG

MANUFACTURER HIGHLIGHTS

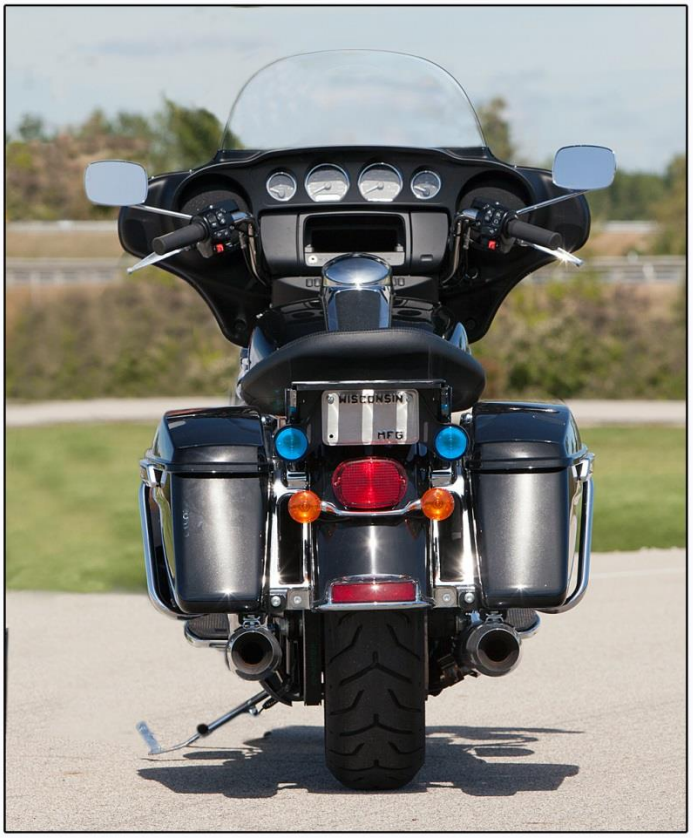
The Harley-Davidson Police Motorcycle Road King features:

- 1690cc High Output Twin Cam 103 model (6% more horsepower & 4% increase in torque).
- Reflex Linked Brake System with ABS that coordinates the front and rear brakes above 25 mph.
- A dual-halogen setup which offers a 546 lumen low beam and a whopping 1,460 lumen high beam to project visibility far down the road.
- A redesigned hand control system to include speed capture, cruise control, push-to-talk, and more are all controlled with one-touch buttons. The Digital Speed Readout displays speed capture and gear position. Emergency lighting can be controlled independently and an Accessory mode allows you to run emergency lights and equipment power for 30 minutes, even with the ignition off or locked. A "Stealth Mode" switch allows you to instantly turn off all exterior lighting (except instruments and brakes) allowing the element of surprise.

Value:

- One of the lowest in initial purchase cost
- The lowest in ongoing maintenance costs
- The highest residual value in the industry
- The largest dealer network for support and the highest residual value in the industry
- University accredited operator and instructor motorcycle rider training programs available and Police motorcycle technical training programs available.
- 2 Year Unlimited Mileage OE Warranty

Harley-Davidson Electra Glide FLHTP Special



MAKE & MODEL	Harley-Davidson FLHTP (Electra Glide) Street Performance Stage 4
SALES CODE	Not Provided by Manufacturer
POWERTRAIN INFORMATION	
CUBIC INCHES	103 CID Stage 4
LITERS	1690 CC Stage 4
HORSEPOWER SAENET	103 (approximate)
ALTERNATOR	50 Amp
TORQUE	110 (approximate)
BATTERY	12VDC, 28 Amp/Hour, 270 CCA
TRANSMISSION	6 Speed Manual / Wet 9 Plate Clutch
SUSPENSION TYPE (FRONT)	Hydraulic 49 mm Telescopic Forks
SUSPENSION TYPE (REAR)	Swing Arm with Air Adjustable Shocks
TURNING CIRCLE (CURB TO CURB)	<17'
TIRE SIZE, LOAD & SPEED RATING	Dunlop D408F 130/80B17 (65H) (Front) Dunlop D407T 180/65B16 (81H) (Rear)
GROUND CLEARANCE, MINIMUM	5.3 inches
BRAKE SYSTEM	Hydraulic Disc/Reflex™ Electronically Linked with ABS (Dual Front Floating Rotors – Single Fixed Rear)
FUEL CAPACITY	6.0 Gallons/22.71 Liters
GENERAL MEASUREMENTS	
WHEELBASE	64 inches
LENGTH	96.5 inches
TEST WEIGHT	826 lbs.
HEIGHT	56.3 inches
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	GVWR – 1,360 lbs. / Payload – 534 lbs.
EPA MILEAGE EST. (MPG)	
CITY	Not provided by manufacturer
HIGHWAY	Not provided by manufacturer
COMBINED	Not provided by manufacturer

MANUFACTURER HIGHLIGHTS

The Harley-Davidson Police Motorcycle FLHTP/FLHP Option features:

- Harley-Davidson offers a Stage 4 Authorized H-D Dealer Installed Engine Performance Upgrade Kit with Part # 92500011. The kit contains 10.5-1 Compression Ratio Pistons, SE-259E Cams, Perfect Fit Pushrods, and CNC Ported Cylinder Heads; 58mm Throttle Body and all required Engine Gaskets.
- The H-D High Flow Air Cleaner for 58mm Throttle Body (Part # 29400039) and H-D Digital Technician Stage 4 Street Performance Download-50 State Legal (Speed Limited-115 mph).
- **When Installed by an authorized H-D Dealer at the time of new vehicle delivery, these kits do not impact the vehicle's limited warranty.**

Value:

- The highest residual value in the industry
- The largest dealer network for support and the highest residual value in the industry
- University accredited operator and instructor motorcycle rider training programs available and Police motorcycle technical training programs available.
- 2 Year Unlimited Mileage OE Warranty

Moto Guzzi California 1400

MAKE & MODEL	Moto Guzzi California 1400
SALES CODE	Not Provided by Manufacturer
POWERTRAIN INFORMATION	
CUBIC CENTIMETERS	1,380 CC
HORSEPOWER SAENET	Not Provided by Manufacturer
ALTERNATOR	12V – 550W
TORQUE	87 lb/ft.
BATTERY	12V – 18Ah
TRANSMISSION	6 Speed
SUSPENSION TYPE (FRONT)	Not Provided by Manufacturer
SUSPENSION TYPE (REAR)	Swing Arm with Double Shock Absorber with Adjustable Spring Preload and Rebound Damping
TURNING CIRCLE (CURB TO CURB)	Not Provided by Manufacturer
TIRE SIZE, LOAD & SPEED RATING	130/70/R18 (Front) 200/60/R16 (Rear)
GROUND CLEARANCE, MINIMUM	6.4 inches
BRAKE SYSTEM	Dual 320 mm Stainless Steel Floating Discs, Brembo Radial Calipers with four horizontally opposed pistons (Front) 282 mm Stainless Steel Fixed Disc, Brembo Floating Caliper with two parallel pistons (Rear)
FUEL CAPACITY	5.4 Gallons/20.5 Liters
GENERAL MEASUREMENTS	
WHEELBASE	66.3 inches
LENGTH	96.2 inches
TEST WEIGHT	799 lbs.
HEIGHT	57.4 inches
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	Not Provided by Manufacturer
EPA MILEAGE EST. (MPG)	
CITY	32.1 MPG
HIGHWAY	38.3 MPG
COMBINED	37.6 MPG

MANUFACTURER HIGHLIGHTS
Not Provided by Manufacturer

Moto Guzzi Norge 1200

MAKE & MODEL	Moto Guzzi California 1400
SALES CODE	Not Provided by Manufacturer
POWERTRAIN INFORMATION	
CUBIC CENTIMETERS	1,151 CC
HORSEPOWER SAENET	Not Provided by Manufacturer
ALTERNATOR	12V – 540W
TORQUE	90 CV @ 7500 RPM
BATTERY	12V – 18Ah
TRANSMISSION	6 Speed
SUSPENSION TYPE (FRONT)	Not Provided by Manufacturer
SUSPENSION TYPE (REAR)	Single Sided with Progressive Linkage, Single Shock Absorber with Adjustable Rebound and Adjustable Preload Settings
TURNING CIRCLE (CURB TO CURB)	Not Provided by Manufacturer
TIRE SIZE, LOAD & SPEED RATING	120/70/ZR17 (Front) 180/55/ZR17 (Rear)
GROUND CLEARANCE, MINIMUM	Not Provided by Manufacturer
BRAKE SYSTEM	Dual 320 mm Stainless Steel Floating Disc Brakes, Four Paired Differentiated Calipers (Front) 282 mm Stainless Steel Brake, Parallel Dual Calipers (Rear)
FUEL CAPACITY	6.0 Gallons/23 Liters
GENERAL MEASUREMENTS	
WHEELBASE	58.9 inches
LENGTH	86.4 inches
TEST WEIGHT	673 lbs.
HEIGHT	55.3 inches
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	Not Provided by Manufacturer
EPA MILEAGE EST. (MPG)	
CITY	28.1 MPG
HIGHWAY	39.3 MPG
COMBINED	37.6 MPG

MANUFACTURER HIGHLIGHTS
Not Provided by Manufacturer

Spyder RTP

POLICE
EMERGENCY
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POLICE

POLICE
39161E

MAKE & MODEL	Can-AM Spyder RTP
SALES CODE	B2EE
POWERTRAIN INFORMATION	
CUBIC CENTIMETERS	1,330 CC
HORSEPOWER SAENET	Not Provided by Manufacturer
ALTERNATOR	100 Amps
TORQUE	96 ft/lbs. @ 5,000 RPM
BATTERY	12V – 21 Ah
TRANSMISSION	6 Speed
SUSPENSION TYPE (FRONT)	Fixed Shocks
SUSPENSION TYPE (REAR)	Adjustable Air Shock
TURNING CIRCLE (CURB TO CURB)	Not Provided by Manufacturer
TIRE SIZE, LOAD & SPEED RATING	165/55/R15 (Front) 225/50/R15 (Rear)
GROUND CLEARANCE, MINIMUM	4.5 inches
BRAKE SYSTEM	Dual 270 mm Discs with Brembo Four Piston Fixed Calipers (Front) Single 270 mm Disc with Brembo Single Piston Floating Caliper (Rear)
FUEL CAPACITY	10.7 Gallons/40.5 Liters
GENERAL MEASUREMENTS	
WHEELBASE	67.5 inches
LENGTH	105 inches
TEST WEIGHT	1,020 lbs.
HEIGHT	59.4 inches
MAXIMUM PAYLOAD CAPACITY (INCLUDING PASSENGERS)	Not Provided by Manufacturer
EPA MILEAGE EST. (MPG)	
CITY	Not Provided by Manufacturer
HIGHWAY	23.3 MPG
COMBINED	Not Provided by Manufacturer

MANUFACTURER HIGHLIGHTS
Not Provided by Manufacturer

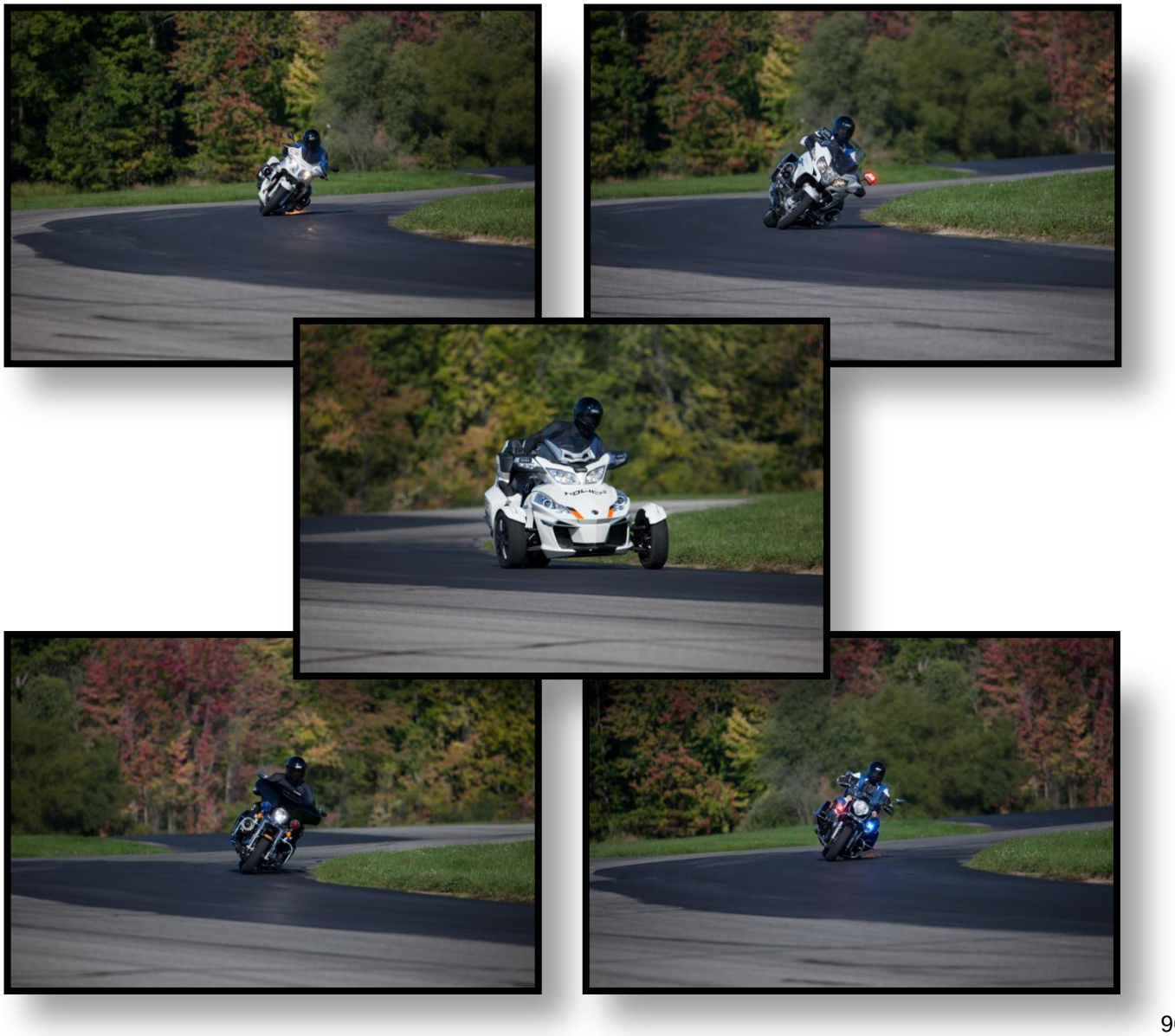
MOTORCYCLE DYNAMICS TESTING

MOTORCYCLE DYNAMICS TEST 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 TEST METHODOLOGY

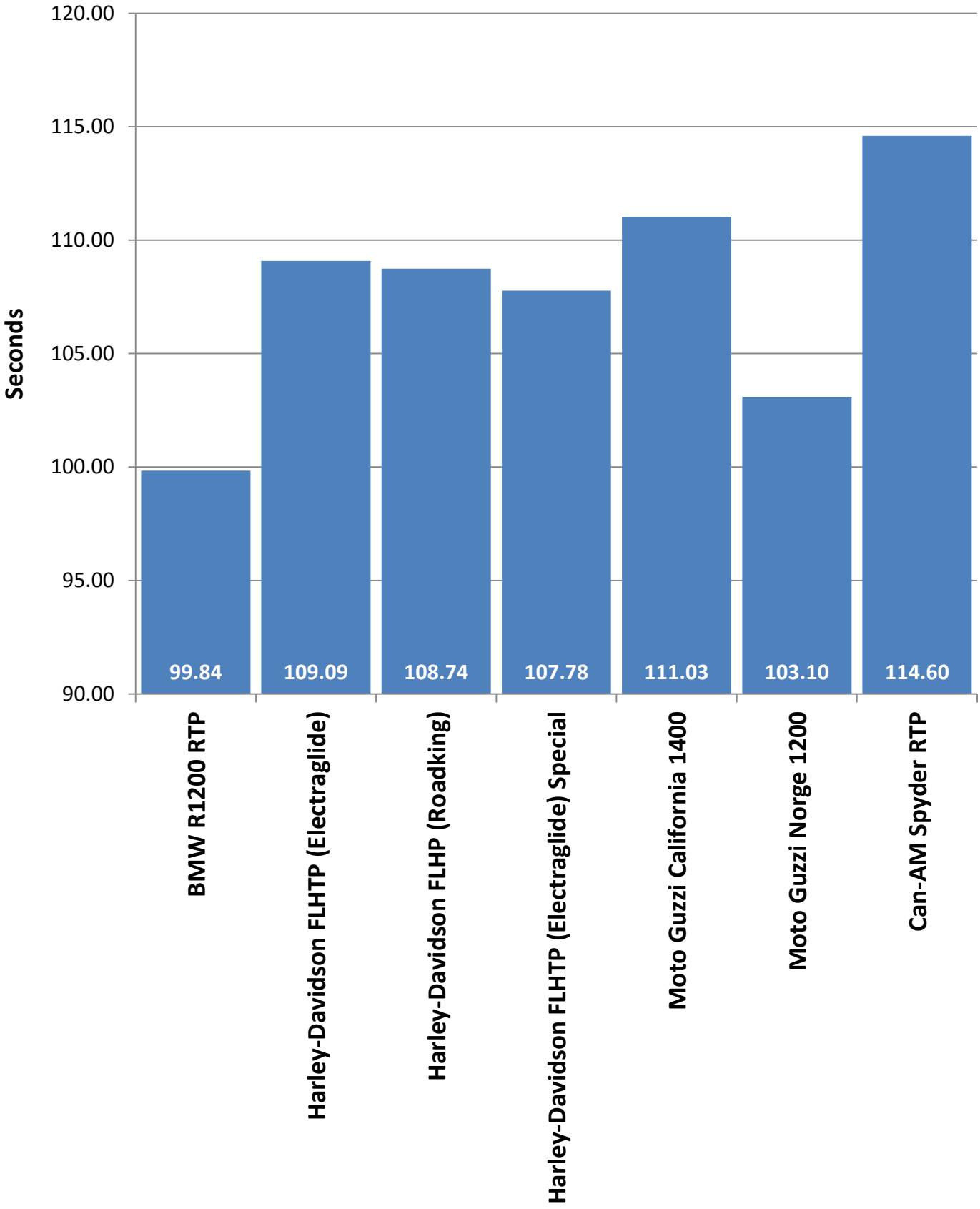
Each motorcycle is ridden over the course a total of 32 timed laps using four separate riders, each riding an 8 lap series. The final score for the motorcycle is the combined average (from the four riders) of the 5 fastest laps for each rider during the 8 lap series.



MOTORCYCLE DYNAMICS TESTING ON SEPTEMBER 17, 2014

Vehicles	Drivers	Lap 1	Lap 2	Lap 3	Lap 4	Lap 5	Average
BMW R1200 RTP	SCHWALM	01:41.51	01:42.06	01:42.46	01:43.00	01:43.11	01:42.43
	ROGERS	01:36.42	01:36.79	01:36.89	01:37.28	01:37.98	01:37.07
	TRAMMEL	01:41.02	01:41.10	01:41.20	01:41.31	01:41.58	01:41.24
	JOHNSON	01:38.26	01:38.35	01:38.56	01:38.77	01:39.20	01:38.63
Overall Average							**01:39.84**
Harley Davidson FLHTP (Electraglide)	SCHWALM	01:52.04	01:52.20	01:52.21	01:52.24	01:52.61	01:52.26
	ROGERS	01:47.77	01:47.90	01:47.90	01:47.98	01:48.03	01:47.92
	TRAMMEL	01:49.46	01:49.70	01:49.88	01:49.93	01:49.99	01:49.79
	JOHNSON	01:45.88	01:46.25	01:46.55	01:46.63	01:46.67	01:46.40
Overall Average							**01:49.09**
Harley Davidson FLHP (Roadking)	SCHWALM	01:50.83	01:51.13	01:51.19	01:51.61	01:51.91	01:51.33
	ROGERS	01:47.35	01:47.75	01:47.79	01:47.82	01:47.96	01:47.73
	TRAMMEL	01:48.75	01:49.00	01:49.00	01:49.21	01:49.25	01:49.04
	JOHNSON	01:46.37	01:46.40	01:47.17	01:47.19	01:47.19	01:46.86
Overall Average							**01:48.74**
Harley Davidson FLHTP (Electraglide) Special	SCHWALM	01:49.53	01:49.67	01:49.79	01:49.82	01:50.33	01:49.83
	ROGERS	01:46.48	01:46.68	01:46.74	01:46.75	01:46.92	01:46.71
	TRAMMEL	01:49.05	01:49.29	01:49.41	01:49.57	01:49.57	01:49.38
	JOHNSON	01:44.99	01:45.04	01:45.13	01:45.18	01:45.69	01:45.21
Overall Average							**01:47.78**
Moto Guzzi California 1400	SCHWALM	01:53.06	01:53.51	01:53.58	01:53.95	01:54.14	01:53.65
	ROGERS	01:49.44	01:49.80	01:50.24	01:50.32	01:50.34	01:50.03
	TRAMMEL	01:51.41	01:51.48	01:51.58	01:51.84	01:51.85	01:51.63
	JOHNSON	01:48.27	01:48.63	01:48.82	01:49.10	01:49.20	01:48.80
Overall Average							**01:51.03**
Moto Guzzi Norge 1200	SCHWALM	01:45.65	01:45.66	01:45.70	01:45.94	01:46.80	01:45.95
	ROGERS	01:41.51	01:41.61	01:41.70	01:41.96	01:42.78	01:41.91
	TRAMMEL	01:43.92	01:44.00	01:44.28	01:44.30	01:44.47	01:44.19
	JOHNSON	01:39.91	01:40.09	01:40.39	01:40.46	01:40.96	01:40.36
Overall Average							**01:43.10**
Can-AM Spyder RTP	SCHWALM	01:56.04	01:56.81	01:56.83	01:57.43	01:57.44	01:56.91
	ROGERS	01:53.02	01:53.39	01:53.51	01:53.79	01:53.80	01:53.50
	TRAMMEL	01:52.95	01:53.07	01:53.16	01:53.39	01:53.64	01:53.24
	JOHNSON	01:54.07	01:54.51	01:54.79	01:54.92	01:55.49	01:54.76
Overall Average							**01:54.60**

2015 Motorcycle Dynamics



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 Kistler CDS-GPS-CGPLSA 100 hz Logger, 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.

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 the vehicle's score on the competitive test for top speed.

TEST LOCATION: Chrysler Proving Grounds **DATE:** September 20, 2014

BMW R1200 RTP

BEGINNING TIME: 11:09 a.m. **TEMPERATURE:** 68.2° F
WIND VELOCITY: 10.1 mph **WIND DIRECTION:** 190°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	4.17	3.90	3.89	3.98	**3.99**
0 – 80	**14.9 sec.**	6.50	5.82	5.88	5.98	**6.05**
0 – 100	**24.6 sec.**	10.09	8.74	8.85	8.89	**9.14**

DISTANCE TO REACH 100 MPH: .15 mile

TOP SPEED ATTAINED: 141 mph

Harley Davidson FLHTP (Electra Glide)

BEGINNING TIME: 9:31 a.m. **TEMPERATURE:** 61.3° F
WIND VELOCITY: 5.5 mph **WIND DIRECTION:** 183°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	5.70	5.47	5.64	5.65	**5.62**
0 – 80	**14.9 sec.**	10.04	9.24	9.96	9.41	**9.66**
0 – 100	**24.6 sec.**	22.54	16.78	21.89	16.14	**19.34**

DISTANCE TO REACH 100 MPH: .38 miles

TOP SPEED ATTAINED: 113 mph

Harley Davidson FLHP (Roadking)

BEGINNING TIME: 8:01 a.m. **TEMPERATURE:** 58.1° F
WIND VELOCITY: 6.9 mph **WIND DIRECTION:** 180°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	5.12	5.59	5.87	5.37	**5.49**
0 – 80	**14.9 sec.**	9.37	9.95	10.01	9.01	**9.59**
0 – 100	**24.6 sec.**	23.02	22.83	18.59	15.98	**20.11**

DISTANCE TO REACH 100 MPH: .40 miles

TOP SPEED ATTAINED: 113 mph

TEST LOCATION: Chrysler Proving Grounds **DATE:** September 20, 2014

Harley-Davidson FLHTP (Electra Glide) Special

BEGINNING TIME: 1:15 p.m. **TEMPERATURE:** 73.9° F
WIND VELOCITY: 9 mph **WIND DIRECTION:** 174°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	5.14	5.28	5.17	5.47	**5.27**
0 – 80	**14.9 sec.**	8.77	8.66	8.93	8.88	**8.81**
0 – 100	**24.6 sec.**	15.64	14.76	16.46	15.07	**15.48**

DISTANCE TO REACH 100 MPH: .29 miles

TOP SPEED ATTAINED: 110 mph

Moto Guzzi California 1400

BEGINNING TIME: 2:50 p.m. **TEMPERATURE:** 73.5° F
WIND VELOCITY: 5.2 mph **WIND DIRECTION:** 181°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	4.97	4.90	4.91	4.97	**4.94**
0 – 80	**14.9 sec.**	8.47	8.12	8.49	8.33	**8.35**
0 – 100	**24.6 sec.**	15.45	14.05	15.74	14.80	**15.01**

DISTANCE TO REACH 100 MPH: .28 miles

TOP SPEED ATTAINED: 117 mph

TEST LOCATION: Chrysler Proving Grounds **DATE:** September 20, 2014

Moto Guzzi Norge 1200

BEGINNING TIME: 10:40 a.m. **TEMPERATURE:** 66.3° F
WIND VELOCITY: 8.8 mph **WIND DIRECTION:** 164°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	4.72	4.58	4.85	4.62	**4.69**
0 – 80	**14.9 sec.**	7.81	7.75	7.54	7.40	**7.63**
0 – 100	**24.6 sec.**	13.42	13.11	11.68	11.83	**12.51**

DISTANCE TO REACH 100 MPH: .22 mile

TOP SPEED ATTAINED: 127 mph

Can-AM Spyder RTP

BEGINNING TIME: 1:52 p.m. **TEMPERATURE:** 75.1° F
WIND VELOCITY: 4 mph **WIND DIRECTION:** 206°

SPEEDS	TIME REQUIREMENTS	RUN 1	RUN 2	RUN 3	RUN 4	AVERAGE
0 – 60	**9.0 sec.**	6.55	6.45	6.57	6.63	**6.55**
0 – 80	**14.9 sec.**	10.60	10.25	10.91	10.53	**10.57**
0 – 100	**24.6 sec.**	22.71	18.56	22.67	18.30	**20.56**

DISTANCE TO REACH 100 MPH: .39 miles

TOP SPEED ATTAINED: 114 mph

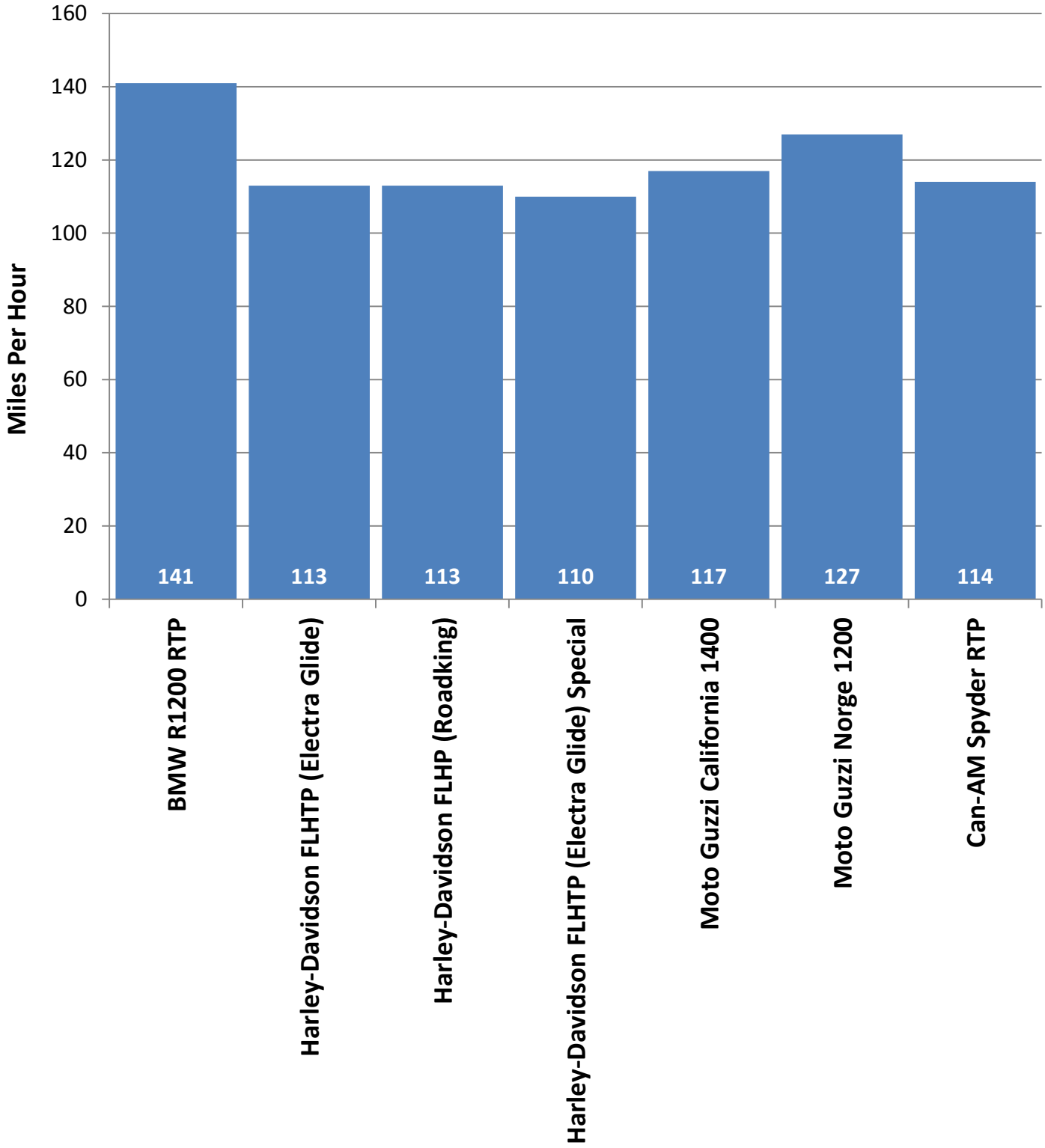
SUMMARY OF MOTORCYCLE ACCELERATION & TOP SPEED

	BMW R1200 RTP	Harley Davidson FLHTP (Electra Glide)	Harley Davidson FLHP (Roadking)	Harley Davidson FLHTP (Electraglide) Special
0-20 mph (sec)	1.37	1.45	1.38	1.39
0-30 mph (sec)	1.96	2.19	2.14	2.20
0-40 mph (sec)	2.50	3.06	3.07	3.03
0-50 mph (sec)	3.23	4.17	4.10	4.13
0-60 mph (sec)	3.99	5.62	5.49	5.27
0-70 mph (sec)	4.96	7.24	7.21	6.94
0-80 mph (sec)	6.05	9.66	9.59	8.81
0-90 mph (sec)	7.48	12.73	12.73	11.63
0-100 mph (sec)	9.14	19.34	20.11	15.48
TOP SPEED (mph)	141 mph	113 mph	113 mph	110 mph
QUARTER MILE (sec)	12.51 seconds	14.44 seconds	14.15 seconds	14.39 seconds
SPEED (mph)	116.08 mph	94.70 mph	98.00 mph	89.32 mph

	Moto Guzzi California 1400	Moto Guzzi Norge 1200	Can-AM Spyder RTP
0-20 mph (sec)	1.47	1.38	1.95
0-30 mph (sec)	2.19	2.14	2.97
0-40 mph (sec)	2.91	2.82	3.94
0-50 mph (sec)	3.88	3.72	4.97
0-60 mph (sec)	4.94	4.69	6.55
0-70 mph (sec)	6.40	5.96	8.34
0-80 mph (sec)	8.35	7.63	10.57
0-90 mph (sec)	11.08	9.75	14.11
0-100 mph (sec)	15.01	12.51	20.56
TOP SPEED (mph)	117 mph	127 mph	114 mph
QUARTER MILE (sec)	13.84 seconds	13.29 seconds	15.11 seconds
SPEED (mph)	99.33 mph	107.07 mph	96.00 mph

2015 Motorcycle Top Speed Comparison

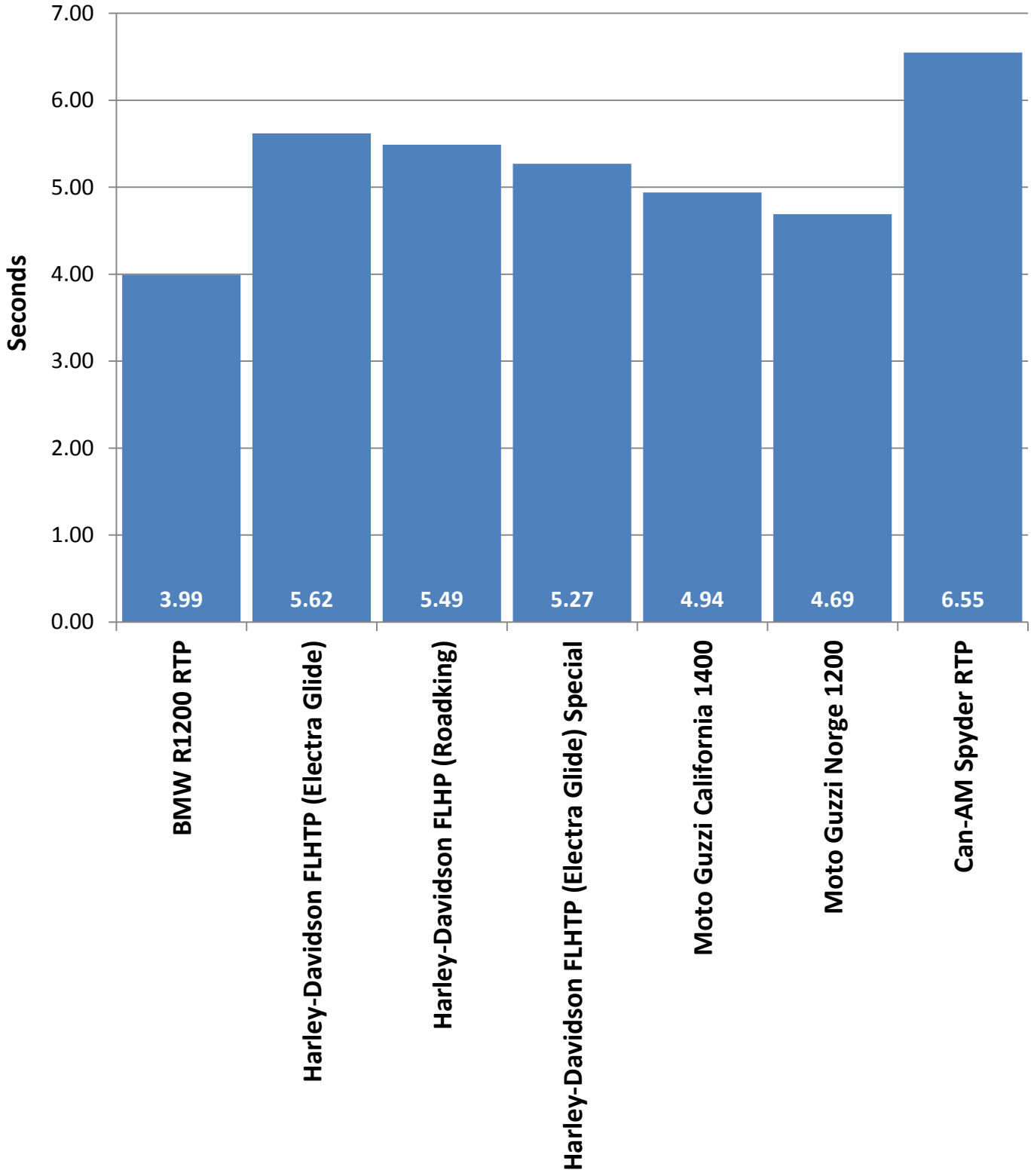
Top Speed Attained



2015 Motorcycle Acceleration Comparison

Acceleration Times

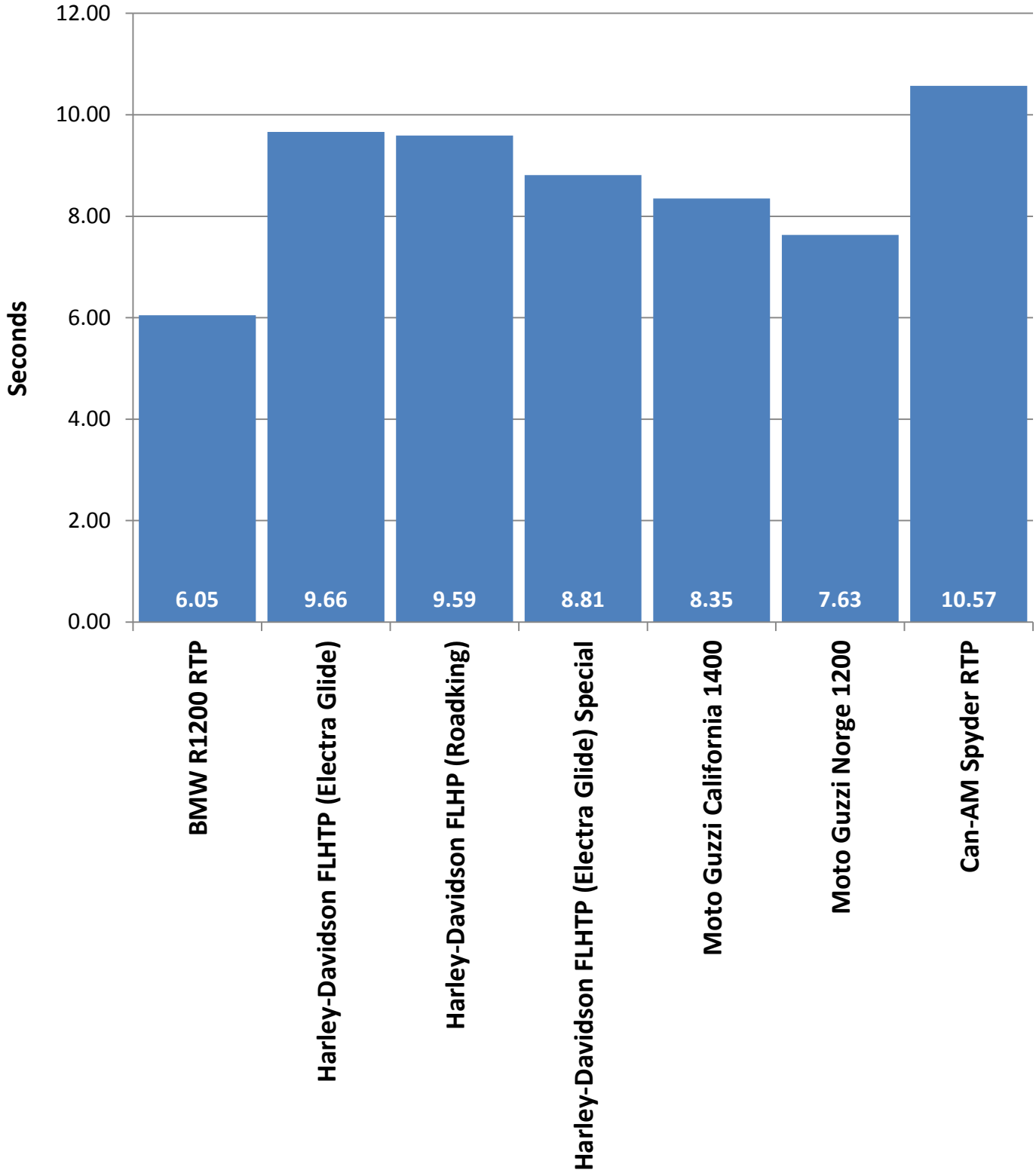
0-60 mph



2015 Motorcycle Acceleration Comparison

Acceleration Times

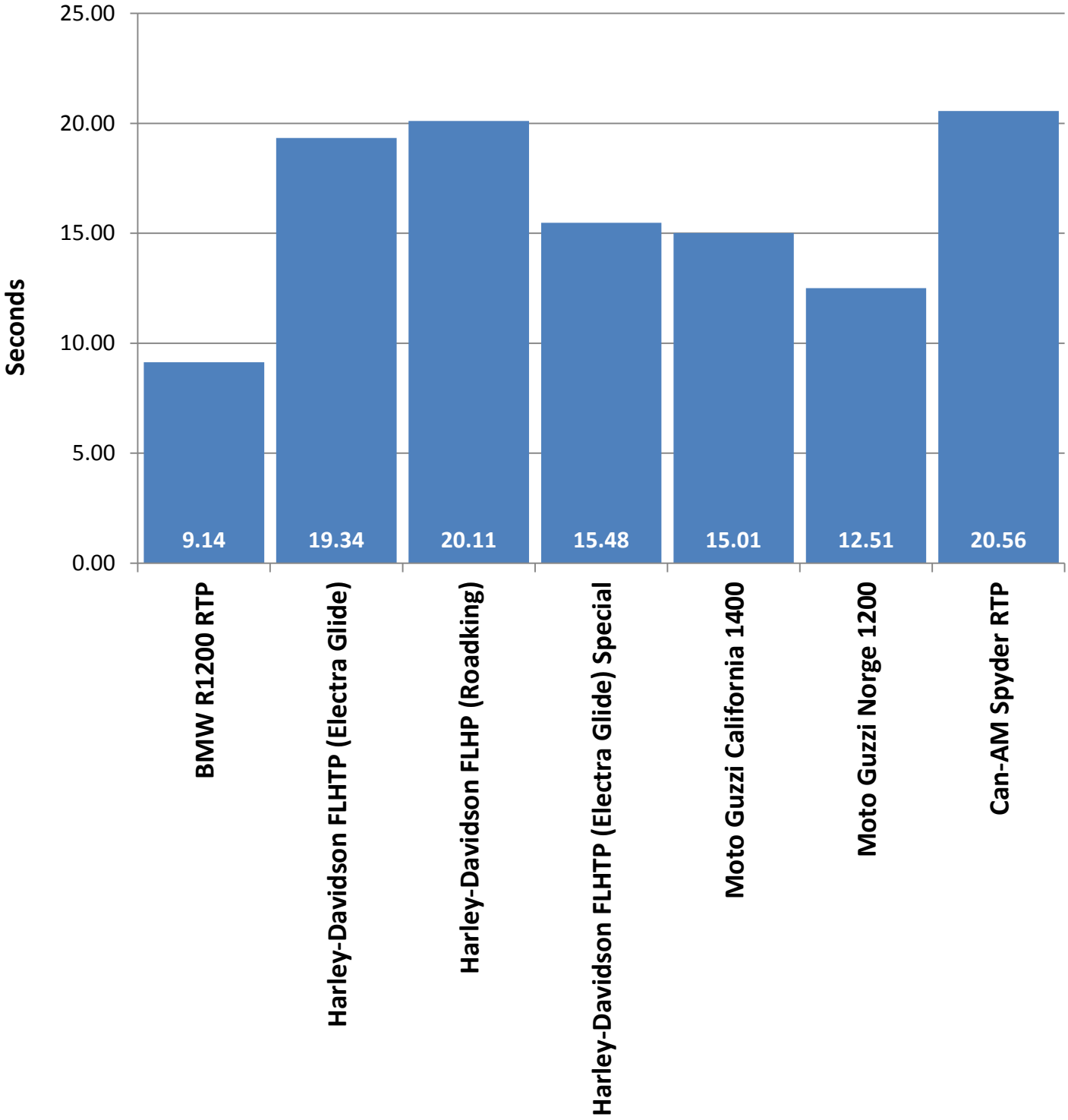
0-80 mph



2015 Motorcycle Acceleration Comparison

Acceleration Times

0-100 mph



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 Kistler CDS-GPS CGPSLA 100 hz SP3 puck & logging 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.

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 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 R1200 RTP

TEST LOCATION: MSP Precision Drive Track	**DATE:** September 16, 2014	**BEGINNING TIME:** 11:28 a.m.

AIR TEMPERATURE: 54° F	**TRACK SURFACE TEMPERATURE:** 74.4° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.30	141.55	27.63
2	61.59	145.90	27.96
3	62.03	143.13	28.92
4	62.11	145.20	28.57
5	60.09	136.14	28.52
6	60.17	136.22	28.59
7	59.34	128.20	29.54
8	61.91	144.55	28.52
9	60.70	136.76	28.97
10	61.03	134.61	29.76
AVERAGE DECELERATION RATE:			**28.70 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	61.33	141.77	28.54
2	60.62	135.32	29.21
3	60.46	137.59	28.57
4	61.35	137.03	29.54
5	60.79	129.87	30.61
6	60.90	136.69	29.19
7	61.38	135.04	30.00
8	60.08	129.04	30.09
9	61.14	140.10	28.70
10	59.27	128.75	29.34
AVERAGE DECELERATION RATE:			**29.38 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**29.04 ft/s²**

PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**133.3 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

Harley Davidson FLHTP (Electra Glide)

TEST LOCATION: MSP Precision Drive Track	**DATE:** September 16, 2014	**BEGINNING TIME:** 10:22 a.m.

AIR TEMPERATURE: 50° F	**TRACK SURFACE TEMPERATURE:** 68.6° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s^2)*
1	59.93	146.58	26.35
2	60.13	149.08	26.09
3	60.34	147.72	26.51
4	59.76	146.60	26.20
5	60.59	149.48	26.41
6	60.59	146.55	26.94
7	61.05	150.50	26.64
8	61.17	153.22	26.27
9	59.96	149.99	25.78
10	61.18	145.91	27.59
AVERAGE DECELERATION RATE:			**26.48 ft/s^2**

(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/s^2)*
1	59.30	130.53	28.97
2	60.60	151.13	26.14
3	59.52	143.83	26.49
4	61.04	150.00	26.72
5	59.72	144.13	26.62
6	58.98	138.20	27.08
7	59.37	139.68	27.14
8	60.78	142.31	27.92
9	59.46	142.34	26.71
10	59.40	138.82	27.34
AVERAGE DECELERATION RATE:			**27.11 ft/s^2**

Phase II

OVERALL AVERAGE DECELERATION RATE:	**26.80 ft/s^2**

PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**144.5 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 (Roadking)

TEST LOCATION: MSP Precision Drive Track	**DATE:** September 16, 2014	**BEGINNING TIME:** 9:51 a.m.

AIR TEMPERATURE: 48° F	**TRACK SURFACE 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	59.92	143.36	26.94
2	61.18	147.87	27.22
3	59.91	149.13	25.89
4	61.40	146.26	27.72
5	60.88	149.91	26.59
6	60.19	143.11	27.23
7	59.25	144.85	26.07
8	59.86	140.86	27.36
9	59.59	147.14	25.95
10	61.04	145.41	27.56
AVERAGE DECELERATION RATE:			**26.85 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	59.96	145.29	26.61
2	60.30	139.92	27.95
3	59.80	143.68	26.77
4	60.97	152.32	26.25
5	59.14	136.29	27.60
6	60.42	144.43	27.18
7	58.50	132.31	27.82
8	60.50	142.50	27.63
9	60.04	146.74	26.42
10	59.72	138.35	27.73
AVERAGE DECELERATION RATE:			**27.20 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**27.03 ft/s²**

PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**143.3 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

Harley Davidson FLHTP (Electra Glide) Special

TEST LOCATION: MSP Precision Drive Track	**DATE:** September 16, 2014	**BEGINNING TIME:** 1:13 p.m.

AIR TEMPERATURE: 59° F	**TRACK SURFACE TEMPERATURE:** 80° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.24	139.15	28.05
2	60.73	148.42	26.73
3	60.84	145.43	27.38
4	59.21	141.30	26.69
5	60.22	151.35	25.77
6	60.06	151.20	25.66
7	60.45	151.52	25.94
8	60.23	146.10	26.71
9	59.50	144.91	26.28
10	61.31	150.80	26.81
AVERAGE DECELERATION RATE:			**26.60 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	60.05	146.34	26.50
2	60.28	149.89	26.07
3	60.13	150.88	25.78
4	61.38	152.02	26.65
5	59.59	141.65	26.96
6	60.93	155.03	25.76
7	60.21	144.13	27.06
8	59.78	147.59	26.05
9	59.76	146.91	26.15
10	59.90	148.40	26.01
AVERAGE DECELERATION RATE:			**26.30 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**26.45 ft/s²**

PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**146.4 feet**

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

*****All Motorcycles Tested are Equipped with Anti-Lock Brakes*****

BRAKE TESTING

Moto Guzzi California 1400

TEST LOCATION: MSP Precision Drive Track	**DATE:** September 16, 2014	**BEGINNING TIME:** 2:29 p.m.

AIR TEMPERATURE: 61° 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	61.02	138.89	28.83
2	59.61	132.81	28.77
3	59.18	133.07	28.31
4	58.83	129.28	28.80
5	60.20	134.04	29.08
6	60.57	133.08	29.65
7	60.81	132.36	30.05
8	59.51	128.07	29.75
9	61.24	144.44	27.93
10	59.17	135.95	27.69
AVERAGE DECELERATION RATE:			**28.89 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	59.25	130.30	28.98
2	60.23	131.92	29.58
3	59.50	129.94	29.30
4	59.90	135.74	28.43
5	60.17	139.60	27.89
6	60.86	138.57	28.75
7	60.92	139.69	28.58
8	60.22	131.84	29.59
9	60.04	135.43	28.63
10	59.94	133.85	28.87
AVERAGE DECELERATION RATE:			**28.86 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**28.88 ft/s²**

PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**134.1 feet**

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

*****All Motorcycles Tested are Equipped with Anti-Lock Brakes*****

BRAKE TESTING

Moto Guzzi Norge 1200

TEST LOCATION: MSP Precision Drive Track	**DATE:** September 16, 2014	**BEGINNING TIME:** 10:55 a.m.

AIR TEMPERATURE: 52° F	**TRACK SURFACE TEMPERATURE:** 69.4° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	60.67	128.93	30.70
2	61.26	134.34	30.05
3	60.25	133.68	29.21
4	61.68	134.69	30.38
5	60.92	132.23	30.18
6	60.04	131.74	29.43
7	60.41	136.82	28.69
8	60.62	132.27	29.88
9	59.55	128.55	29.67
10	60.48	135.72	28.99
AVERAGE DECELERATION RATE:			**29.72 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	128.83	29.96
2	60.54	132.24	29.81
3	60.24	128.68	30.33
4	60.89	126.99	31.40
5	60.49	139.43	28.23
6	60.65	132.75	29.80
7	59.60	129.03	29.61
8	59.66	130.49	29.34
9	59.76	133.07	28.86
10	60.29	132.33	29.54
AVERAGE DECELERATION RATE:			**29.69 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
Motorcycle Stopped in Straight Line?	Yes
Motorcycle Stopped Within Correct Lane?	Yes

All Motorcycles Tested are Equipped with Anti-Lock Brakes*

BRAKE TESTING

Can-AM Spyder RTP

TEST LOCATION: MSP Precision Drive Track	**DATE:** September 16, 2014	**BEGINNING TIME:** 1:49 p.m.

AIR TEMPERATURE: 62° F	**TRACK SURFACE TEMPERATURE:** 94° F

Phase I

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

Stop #	Initial Velocity *(mph)*	Stopping Distance *(feet)*	Deceleration Rate *(ft/s²)*
1	59.68	123.03	31.14
2	60.60	128.44	30.75
3	60.00	125.19	30.93
4	61.15	128.22	31.37
5	59.79	121.81	31.56
6	60.96	127.25	31.41
7	60.07	124.45	31.18
8	59.86	128.65	29.96
9	60.91	128.83	30.97
10	61.12	131.68	30.51
AVERAGE DECELERATION RATE:			**30.98 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	59.36	121.62	31.16
2	60.59	129.11	30.59
3	59.59	124.75	30.62
4	60.37	130.03	30.15
5	61.12	132.31	30.37
6	60.07	123.44	31.44
7	61.24	129.62	31.12
8	60.19	126.53	30.79
9	61.31	145.49	27.78
10	60.69	130.92	30.26
AVERAGE DECELERATION RATE:			**30.43 ft/s²**

Phase III

OVERALL AVERAGE DECELERATION RATE:	**30.71 ft/s²**

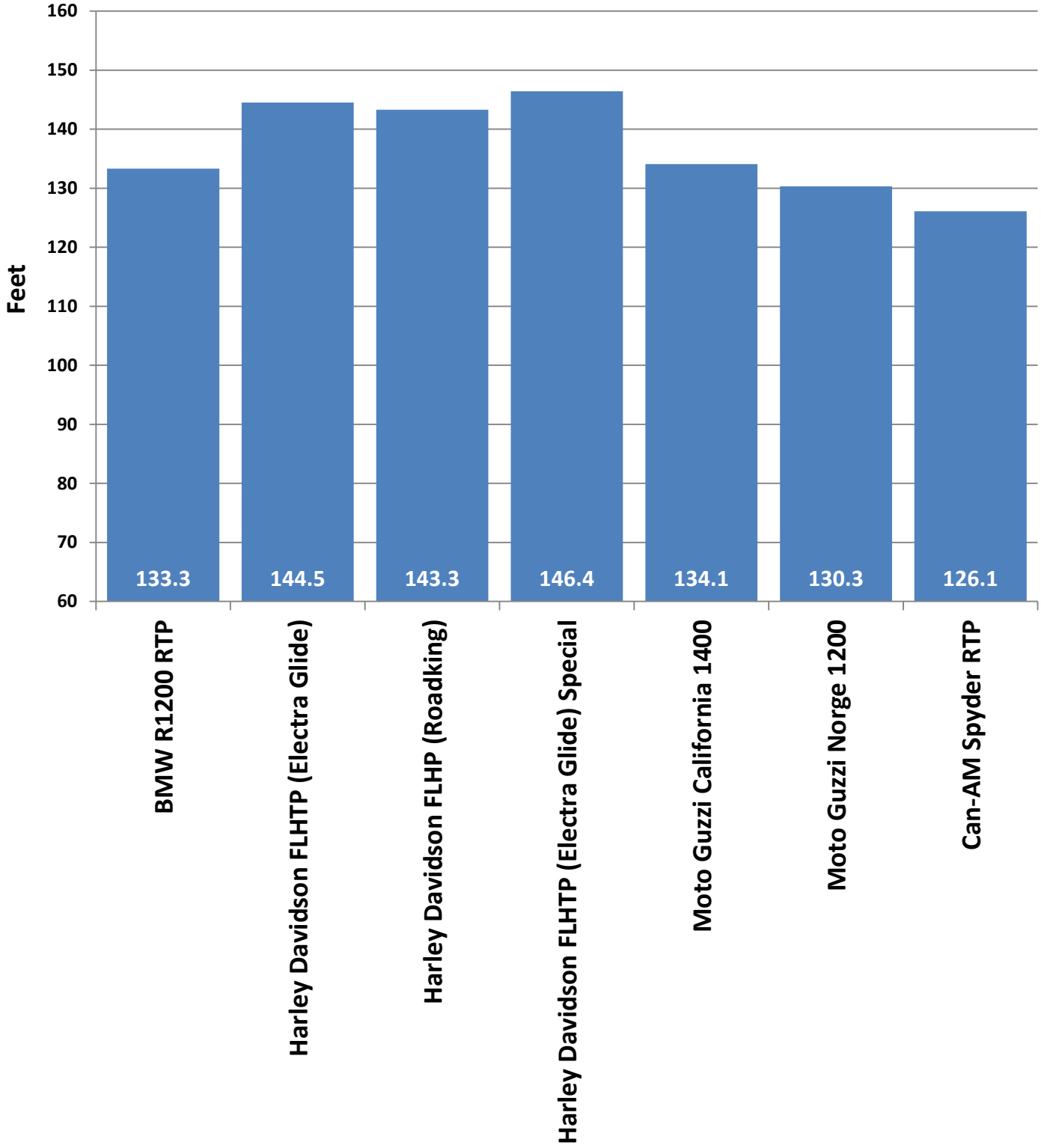
PROJECTED STOPPING DISTANCE FROM 60.0 mph:	**126.1 feet**

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

*****All Motorcycles Tested are Equipped with Anti-Lock Brakes*****

2015 Motorcycle Brake Testing

Projected Stopping Distance



For Your Information

About the National Institute of Justice

A component of the Office of Justice Programs, NIJ is the research, development and evaluation agency of the U.S. Department of Justice. NIJ's mission is to advance scientific research, development and evaluation to enhance the administration of justice and public safety. NIJ's principal authorities are derived from the Omnibus Crime Control and Safe Streets Act of 1968, as amended (see 42 USC §§ 3721–3723).

The NIJ Director is appointed by the President and confirmed by the Senate. The Director establishes the Institute's objectives, guided by the priorities of the Office of Justice Programs, the U.S. Department of Justice, and the needs of the field. The Institute actively solicits the views of criminal justice and other professionals and researchers to inform its search for the knowledge and tools to guide policy and practice.

Strategic Goals
NIJ has seven strategic goals grouped into three categories:

Creating relevant knowledge and tools

1. Partner with state and local practitioners and policymakers to identify social science research and technology needs.

2. Create scientific, relevant and reliable knowledge — with a particular emphasis on terrorism, violent crime, drugs and crime, cost-effectiveness and community-based efforts — to enhance the administration of justice and public safety.

3. Develop affordable and effective tools and technologies to enhance the administration of justice and public safety.

Dissemination

4. Disseminate relevant knowledge and information to practitioners and policymakers in an understandable, timely and concise manner.

5. Act as an honest broker to identify the information, tools and technologies that respond to the needs of stakeholders.

Agency management

6. Practice fairness and openness in the research and development process.

7. Ensure professionalism, excellence, accountability, cost-effectiveness and integrity in the management and conduct of NIJ activities and programs.

Program Areas
In addressing these strategic challenges, the Institute is involved in the following program areas: crime control and prevention, including policing; drugs and crime; justice systems and offender behavior, including corrections; violence and victimization; communications and information technologies; critical incident response; investigative and forensic sciences, including DNA; less lethal technologies; officer protection; education and training technologies; testing and standards; technology assistance to law enforcement and corrections agencies; field testing of promising programs; and international crime control.

In addition to sponsoring research and development and technology assistance, NIJ evaluates programs, policies and technologies. NIJ communicates its research and evaluation findings through conferences and print and electronic media.

About the Law Enforcement and Corrections Standards and Testing Program

The Law Enforcement and Corrections Standards and Testing Program is sponsored by the Office of Science and Technology of the National Institute of Justice (NIJ), Office of Justice Programs, U.S. Department of Justice. The program responds to the mandate of the Justice System Improvement Act of 1979, which directed NIJ to encourage research and development to improve the criminal justice system and to disseminate the results to federal, state and local agencies.

The Law Enforcement and Corrections Standards and Testing Program is an applied research effort that determines the technological needs of justice system agencies, sets minimum performance standards for specific devices, tests commercially available equipment against those standards, and disseminates the standards and the test results to criminal justice agencies nationwide and internationally.

The program operates through the following:

- The **Law Enforcement and Corrections Technology Advisory Council** (LECTAC), consisting of nationally recognized criminal justice practitioners from federal, state and local agencies, assesses technological needs and sets priorities for research programs and items to be evaluated and tested.
- The **Office of Law Enforcement Standards** (OLES) at the National Institute of Standards and Technology develops voluntary national performance standards for compliance testing to ensure that individual items of equipment are suitable for use by criminal justice agencies. The equipment standards developed by OLES are based on laboratory evaluation of commercially available products in order to devise precise test methods that can be universally applied by any qualified testing laboratory and to establish minimum performance requirements for each attribute of a piece of equipment that is essential to how it functions. OLES-developed standards can serve as design criteria for manufacturers or as the basis for equipment evaluation. The application of the standards, which are highly technical in nature, is augmented through the publication of equipment performance reports and user guides. Individual jurisdictions may use the standards in their own laboratories to test equipment, have equipment tested on their behalf using the standards, or cite the standards in procurement specifications.
- The **National Law Enforcement and Corrections Technology Center** (NLECTC)-National, operated by a grantee, supervises a national compliance testing program conducted by independent laboratories. The standards developed by OLES serve as performance benchmarks against which commercial equipment is measured. In addition, NIJ has begun a new process for developing some standards using Special Technical Committees (STCs), which include practitioners, scientists and subject matter experts. OLES participates in the STC process. The facilities, personnel and testing capabilities of the independent laboratories are evaluated by OLES prior to testing each item of equipment. In addition, OLES helps NLECTC staff review and analyze data. Test results are published in consumer product reports designed to help justice system procurement officials make informed purchasing decisions.

Publications are available at no charge through NLECTC. Some documents are also available online through the Justice Technology Information Network (JUSTNET), the center's World Wide Web site. To request a document or additional information, call (800) 248-2742 or (301) 519-5069 or write:

National Law Enforcement and Corrections Technology Center-National
2277 Research Boulevard
Mail Stop 8J
Rockville, MD 20850
Email: asknlectc@nlectc.org
World Wide Web address: http://www.justnet.org

About the National Law Enforcement and Corrections Technology Center System

The National Law Enforcement and Corrections Technology Center (NLECTC) system recently completed a reorganization that will better enable the system to carry out its critical mission to assist state, major city and county, rural, tribal and border, as well as federal law enforcement, corrections and other criminal justice agencies in addressing their technology needs and challenges. Originally created in 1994 as a program of the National Institute of Justice's (NIJ's) Office of Science and Technology, the NLECTC system has realigned its outreach efforts into three new centers: the States, Major Cities and Counties Regional Center; the Small, Rural, Tribal and Border Regional Center; and the Alaska Regional Center.

The States, Major Cities and Counties Regional Center offers a resource and outreach mechanism for state, major city and county criminal justice system partners, with a mission of ensuring that larger criminal justice agencies (those having 50 or more sworn personnel) have unbiased access to a full range of relevant scientific and technology-related information. The Small, Rural, Tribal and Border Regional Center publicizes its programs and services to small, rural, tribal and border agencies across the country. The Alaska Regional Center serves as a conduit for agencies in Alaska.

The efforts of these centers complement those of NLECTC-National, which coordinates NIJ's Compliance Testing program and standards development efforts for a variety of equipment used in the public safety arena, and the Centers of Excellence (CoEs), which support NIJ's research, development, testing and evaluation (RDT&E) efforts in specific portfolio areas. The CoEs focus on the following topic areas: Communications Technologies; Electronic Crime Technology; Forensics Technology; Information and Sensor Systems; and Weapons and Protective Systems. The National Institute of Standards and Technology's Office of Law Enforcement Standards provides scientific and research support to these efforts.

As a whole, the NLECTC system provides:

- Scientific and technical support to NIJ's RDT&E projects.
- Support for the transfer and adoption of technology into practice by law enforcement and corrections agencies, courts and crime laboratories.
- Assistance in developing and disseminating equipment performance standards and technology guides.
- Assistance in the demonstration, testing and evaluation of criminal justice tools and technologies.
- Technology information and general and specialized technology assistance.
- Assistance in setting NIJ's research agenda by convening practitioner-based advisory groups to help identify criminal justice technology needs and gaps.

The NLECTC system supports NIJ's RDT&E process and goal of setting research priorities based on practitioner needs by sponsoring a series of Technology Working Groups and Constituent Advisory Groups, who provide input to the Law Enforcement and Corrections Technology Advisory Council. Together, these groups form a bridge between the criminal justice community and the NIJ Office of Science and Technology.

For more information, call (800) 248-2742, email: asknlectc@nlectc.org or visit http://www.justnet.org.

About the Office of Law Enforcement Standards

The Office of Law Enforcement Standards (OLES) was established as a matrix management organization in 1971 through a Memorandum of Understanding between the U.S. Departments of Justice and Commerce based on the recommendations of the President's Commission on Crime. OLES' mission is to apply science and technology to the needs of the criminal justice community, including law enforcement, corrections, forensic science and the fire service. While its major objective is to develop minimum performance standards, which are promulgated as voluntary national standards, OLES also undertakes studies leading to the publication of technical reports and user guides.

The areas of research investigated by OLES include clothing, communication systems, emergency equipment, investigative aids, protective equipment, security systems, vehicles, weapons, and analytical techniques and standard reference materials used by the forensic science community. The composition of OLES' projects varies depending on priorities of the criminal justice community at any given time and, as necessary, draws on the resources of the National Institute of Standards and Technology.

OLES assists law enforcement and criminal justice agencies in acquiring, on a cost-effective basis, the high-quality resources they need to do their jobs. To accomplish this, OLES:

- Develops methods for testing equipment performance and examining evidentiary materials.
- Develops standards for equipment and operating procedures.
- Develops standard reference materials.
- Performs other scientific and engineering research as required.

Since the program began in 1971, OLES has coordinated the development of standards, user guides and advisory reports on topics that range from performance parameters of police patrol vehicles, to performance reports on various speed-measuring devices, to soft body armor testing, to analytical procedures for developing DNA profiles.

The application of technology to enhance the efficiency and effectiveness of the criminal justice community continues to increase. The proper adoption of the products resulting from emerging technologies and the assessment of equipment performance, systems, methodologies, etc., used by criminal justice practitioners constitute critical issues having safety and legal ramifications. The consequences of inadequate equipment performance or inadequate test methods can range from inconvenient to catastrophic. In addition, these deficiencies can adversely affect the general population when they increase public safety costs, preclude arrest or result in evidence found to be inadmissible in court.