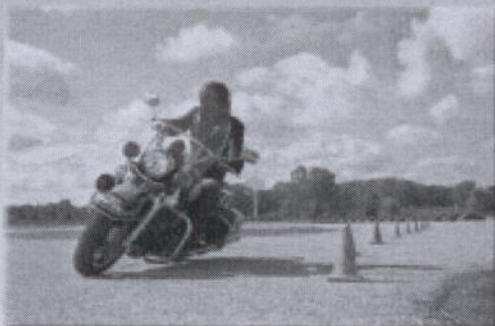
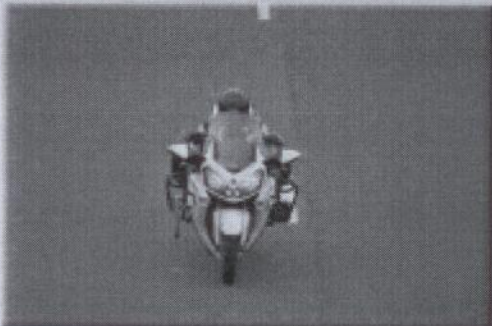
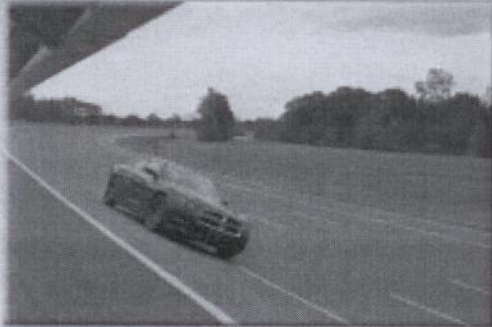


Police Vehicle Evaluation

Model Year 2011



**STATE OF MICHIGAN
Department of State Police
and
Department of Management and Budget**

**2011 Model Year
Police Vehicle
Evaluation Program**

**Published by:
Michigan State Police
Precision Driving Unit
November, 2010**

**Prepared by:
Ms. Sheila Cowles, Michigan State Police**

**Photographs by:
Mr. Ray Holt, Michigan State Police**

PERFORMANCE COMPARISONS OF 2010 AND 2011 TEST VEHICLES

The following charts illustrate the scores achieved by each make and model of vehicle tested for model years 2010 and 2011. The charts presented are for the following performance categories:

- Vehicle Dynamics
 - Acceleration 0 – 60 mph
 - Acceleration 0 – 80 mph
 - Acceleration 0 – 100 mph
 - Top Speed
 - Braking (Calculated 60 – 0 mph Stopping Distance)

The reader should bear in mind the following information regarding variables when reviewing the 2010 – 2011 performance comparison charts. While as many variables as possible are eliminated from a given year's testing, those that occur over the span of a full year are sometimes impossible to eliminate.

The acceleration, top speed, and brake testing of both the 2010 and 2011 model year vehicles were conducted in the latter half of September. Temperatures on the test day in September of 2009 ranged between 39.8° F at the start of testing to a high of approximately 57.5° F during the afternoon. Temperatures during the testing this year varied, ranging between 61° F when testing started, to an afternoon high of 75° F. Such things as temperature, humidity, and barometric pressure affect the performance of internal combustion engines and brake components, and may cause minor differences from one year's evaluation to the next.

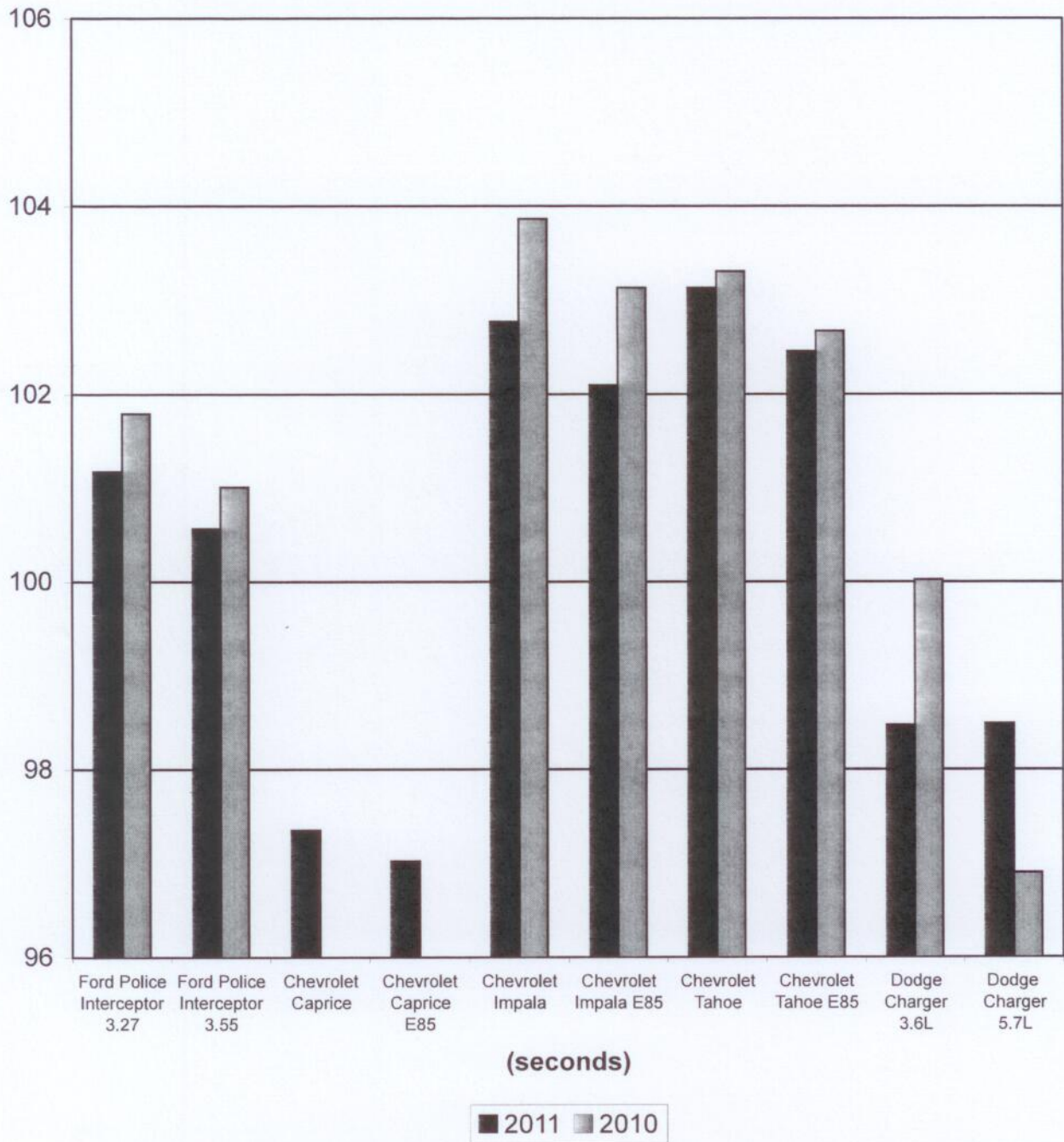
Another factor to be considered is the individual differences between two cars of the same make and model. The test cars that we evaluate are representative of their given make and model. Other cars of the same make and model will not, however, be exactly the same, particularly when it comes to performance. (It is well known that two consecutive cars off the same assembly line will perform slightly differently from each other.) Minor differences in performance from year to year within the same make and model are not only possible, but are to be expected.

TABLE OF CONTENTS

SECTIONS	PAGE
Preface	1
Acknowledgements	3
Test Equipment	4
Police Package Vehicle Descriptions	
Police Package Vehicle Photographs and Descriptions	5
Police Package Vehicle Descriptions Summary	20
Competitive Evaluation	
Vehicle Dynamics Testing	
Test Objective and Methodology	22
Test Facility Diagram	23
Test Data	24
Comparison Chart.....	26
Acceleration, Top Speed and Brake Testing	
Acceleration and Top Speed Test Objectives and Methodology.....	27
Test Facility Diagram	28
Acceleration and Top Speed Data.....	29
Summary of Acceleration and Top Speed	34
Acceleration and Top Speed Test Data Comparison Charts	36
Brake Test Objectives and Methodology	38
Brake Test Data	39
Brake Test Data Comparison Chart	45
Ergonomics and Communications Evaluation	
Test Objective and Methodology	46
Test Data	47
Test Data Comparison Chart.....	48
Fuel Economy	
Test Objective and Methodology	49
Test Data	49
Test Data Comparison Chart.....	50
Scoring and Bid Adjustment Methodology	51
Performance Comparison of 2010-2011 Test Vehicles	53
Motorcycle Performance Data, Description, and Photographs	61
About the National Institute of Justice, the Law Enforcement and Corrections Standards and Testing Program, the Law Enforcement and Corrections Technology Center System, and the Office of Law Enforcement Standards	81

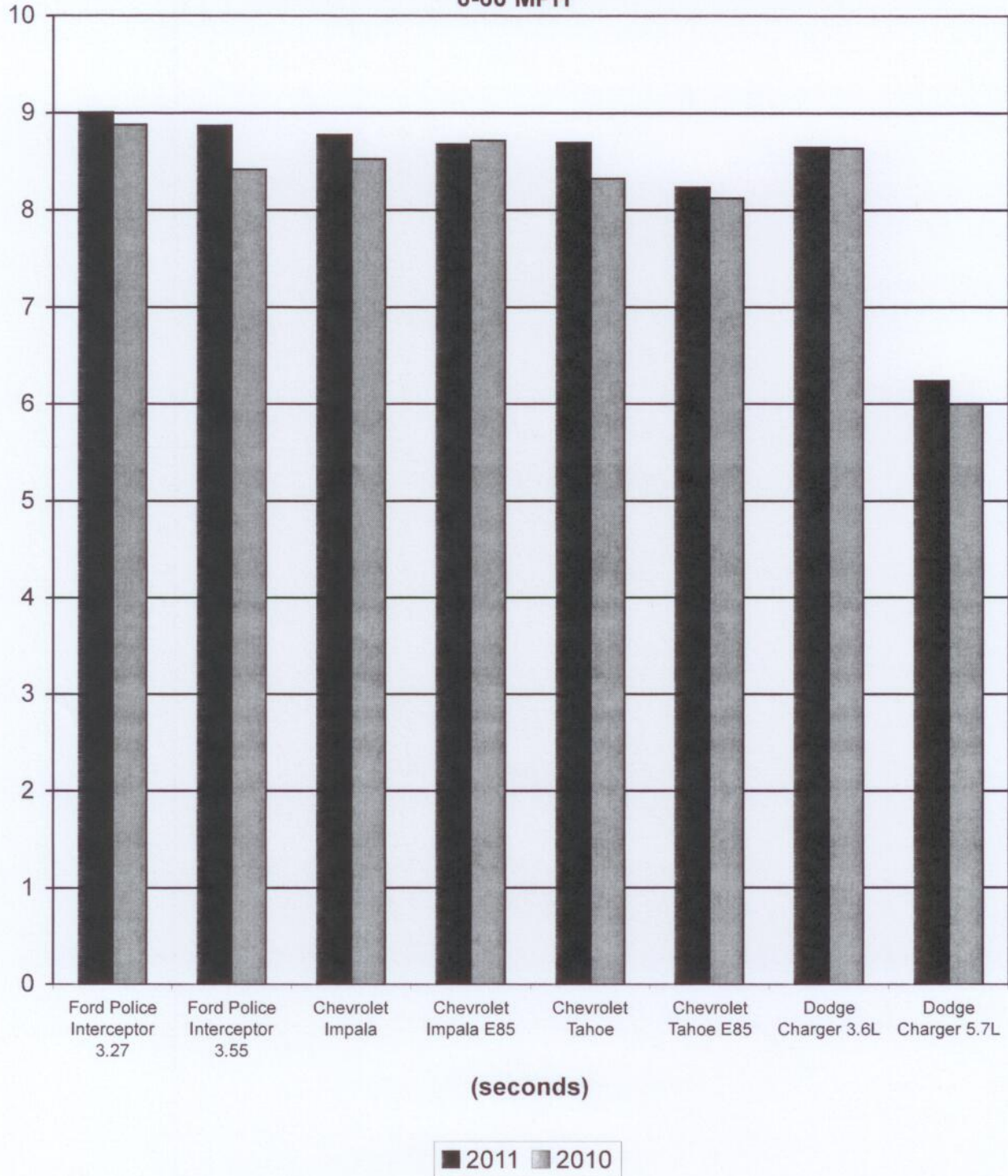
2010-11 Vehicle Dynamics Comparison

LAP TIMES



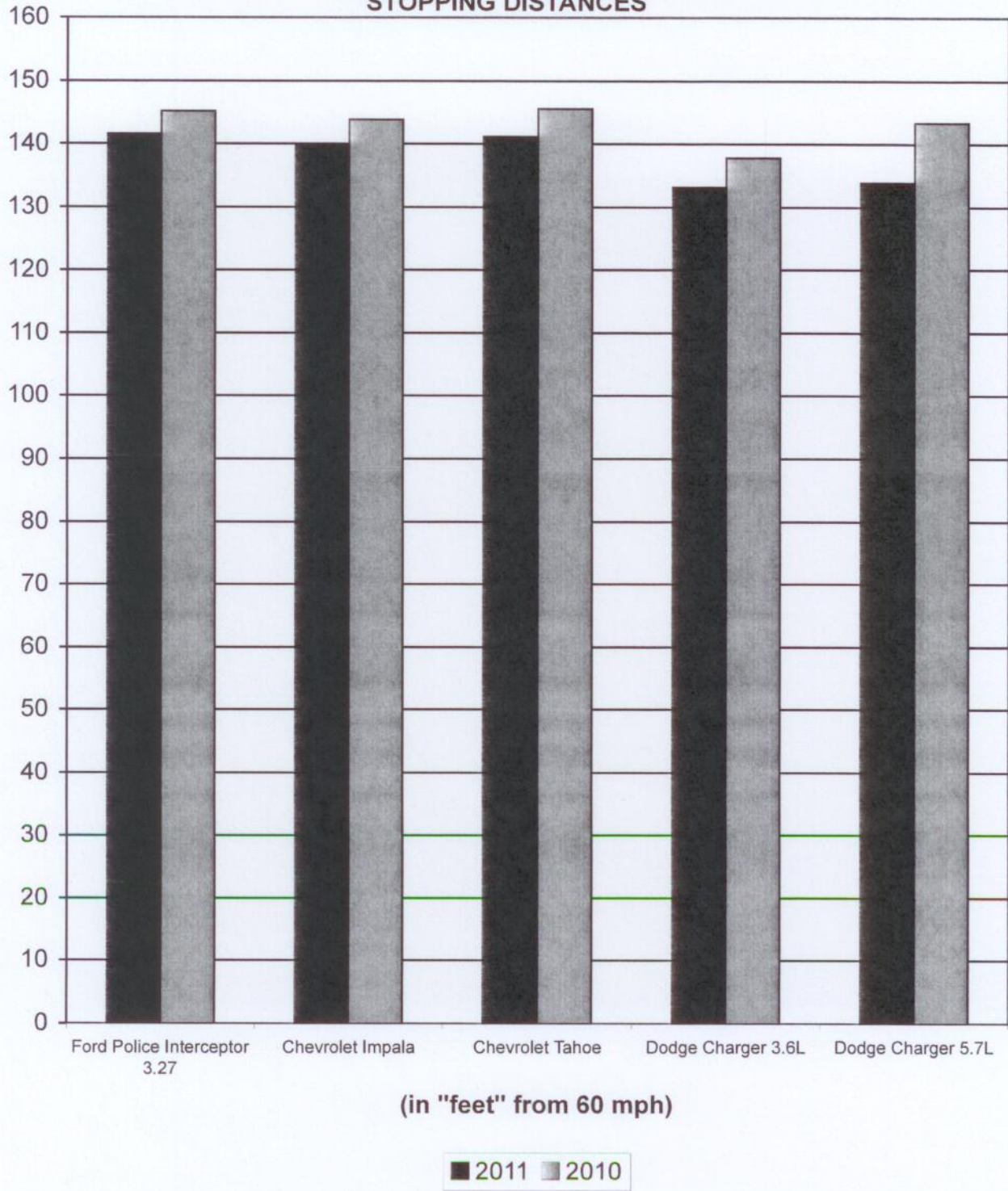
2010-11 ACCELERATION COMPARISON

0-60 MPH



2010-11 BRAKE TESTING COMPARISON

STOPPING DISTANCES



PREFACE

The Michigan State Police Vehicle Test Team is pleased to announce the results of the 2011 model year Police Vehicle Evaluation. This year we tested ten vehicles in total, and four motorcycles. We appreciate your continued support and encouragement. The vehicles evaluated this year included the following:

POLICE CATEGORY

Ford Police Interceptor (3.27:1)	4.6L
Ford Police Interceptor (3.55:1)	4.6L
Chevrolet Caprice 9C1	6.0L
Chevrolet Caprice 9C1 E85	6.0L
Chevrolet Impala 9C1	3.9L
Chevrolet Impala 9C1 E85	3.9L
Chevrolet Tahoe PPV 2WD	5.3L
Chevrolet Tahoe PPV 2WD E85	5.3L
Dodge Charger	3.6L
Dodge Charger	5.7L

MOTORCYCLES

Harley-Davidson Electra Glide FLHTP
Harley-Davidson Road King FLHP
BMW R 1200 RTP
Kawasaki Concours 14 ABS Police



GENERAL INFORMATION

All of the cars were tested with a clean roof (no overhead light or lightbar) 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.

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

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

We had a full line up of test vehicles. We would like to thank Mr. Craig Hageman for the assistance we received from the staff at the Chrysler Proving Grounds. We experienced a rain delay during this portion of testing. It was suspended from 9:15 am until 12:40 pm. However, all portions were completed by the end of the day.

We appreciate the support we received from General Motors, Ford, Chrysler, Harley-Davidson, BMW and Kawasaki Motors Corp. during testing. This also was the fourth year of motorcycle testing and we continue to get great feedback on this important component to the testing lineup. We expect other manufacturers that produce law enforcement motorcycles to participate in the future.

Michigan State Police Precision Driving Unit- Motorcycle Dynamics

Sunday we completed the motorcycle dynamics testing with cool temperatures. This portion of the testing continues to grow. We had a large audience of observers, all interested in the new products being tested.

Grattan Raceway - Vehicle Dynamics (High Speed Handling) Test

The weather was great and all the dynamics tests were completed. The vehicles were loaded up and returned to the Precision Driving Unit where they were made ready for the Ergonomics portion of the test.

After the second series of laps the Chevrolet Caprice 9C1 (regular fuel) was examined by GM personnel as the drivers expressed concern regarding the vehicles ability to remain stable while turning. The drivers experienced a floating sensation as the vehicle was driven at high speeds through various turns on the raceway. The drivers were also experiencing a noticeable vibration during heavy braking. GM engineers and technicians thoroughly checked the vehicle and found nothing of concern.

While driving the Chevrolet Caprice 9C1 (regular fuel) during the third series of laps, the driver aborted the run due to a reduction of engine power. The vehicle was examined by GM engineers and technicians with no problems identified. When restarted, the vehicle returned to full power. This series of laps were run again at the end of the day to complete the test. This vehicle did not exhibit this problem again during the remainder of testing.

After a thorough post test inspection, GM engineers discovered that pre-production, hand built, proto type front struts used on the Caprice 9C1 experienced internal parts failure and the rear suspension cradle required stiffer isolation bushings. On October 7th, the MSP Test Team met GM personnel at the Grattan Raceway for further evaluation of the Chevrolet Caprice 9C1. With these two issues resolved, the test team found the handling of the Caprice to be much improved.

The original times posted by the Chevrolet Caprice 9C1 on test day remain as the official results. The laps driven on October 7th were merely for determining handling issues have been resolved.

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.

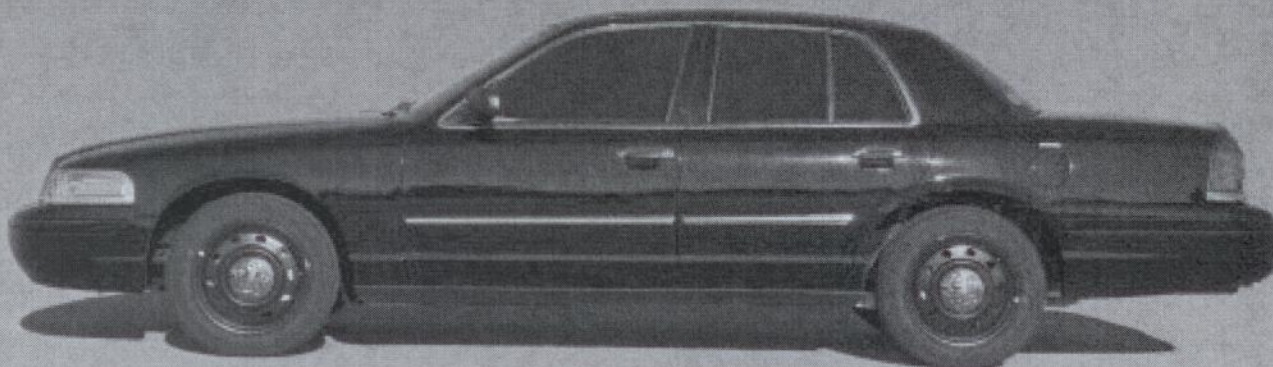
Lt. Keith Wilson

**Michigan State Police, Precision Driving Unit,
7426 North Canal Road, Lansing, Michigan 48913**

Phone: 517-322-1789 Fax: 517-322-0725 E-mail: wilsonkeith@michigan.gov

Ford Police Interceptor

3.55:1



TEST VEHICLE DESCRIPTION

MAKE Ford	MODEL Police Interceptor	SALES CODE NO. P71	
ENGINE DISPLACEMENT	CUBIC INCHES 281	LITERS	4.6
FUEL SYSTEM	Sequential Multiport Fuel Injection E85 Capable	EXHAUST	Dual
HORSEPOWER (SAE NET)	250 @ 5000 RPM	ALTERNATOR	200 A
TORQUE	297 ft-lbs @ 4000 RPM	BATTERY	750 CCA
COMPRESSION RATIO	9.4:1		
TRANSMISSION	MODEL 4R70W	TYPE 4-Speed Electronic Automatic	
	LOCKUP TORQUE CONVERTER? Yes		
	OVERDRIVE? Yes		
AXLE RATIO	3.55		
STEERING	Power Rack and Pinion, variable ratio		
TURNING CIRCLE (CURB TO CURB)	40.3 ft.		
TIRE SIZE, LOAD & SPEED RATING	Goodyear Eagle RS-A P235/55R17 98W		
SUSPENSION TYPE (FRONT)	Independent SLA with ball joint & coil spring		
SUSPENSION TYPE (REAR)	4 bar link with Watts Linkage		
GROUND CLEARANCE, MINIMUM	5.6 in.	LOCATION Exhaust joint	
BRAKE SYSTEM	Power, dual front piston, single rear piston, 4 circuit and ABS		
BRAKES, FRONT	TYPE Vented disc	SWEPT AREA 273 sq. in.	
BRAKES, REAR	TYPE Vented disc	SWEPT AREA 176 sq. in.	
FUEL CAPACITY	GALLONS 19.0	LITERS	71.9
GENERAL MEASUREMENTS	WHEELBASE 114.6 in.	LENGTH	212.0 in.
	TEST WEIGHT 4139	HEIGHT	58.3 in.
HEADROOM	FRONT 39.5 in.	REAR	37.8 in.
LEGROOM	FRONT 41.6 in.	REAR	38.0 in.
SHOULDER ROOM	FRONT 60.6 in.	REAR	60.0 in.
HIPROOM	FRONT 57.4 in.	REAR	56.1 in.
INTERIOR VOLUME	FRONT 57.6 cu. ft.	REAR	49.8 cu. ft.
	COMB 107.5 cu. ft.	TRUNK	20.6 cu. ft.
EPA MILEAGE EST. (MPG) Label	CITY 14	HIGHWAY 21	COMBINED 17
EPA MILEAGE EST. (MPG) Unadjusted	CITY 17.9	HIGHWAY 29.7	COMBINED 21.7



Key West

Duval Ford
 5203 Waterside Drive; Jacksonville, FL 32210
 Laura Smith
 904-388-2144
 Fax: 904-387-6816
laura.smith@duvalford.com

Contact Mike Lummis
 Org Key West
 Phone
 Fax
 email mlummis@keywestcity.com

CONTRACT # 10-18-0907

Exterior Vehicle Color	Emergency Lighting:		Driver's side	Passenger side
	Color	lights lenses		

We appreciate your interest in the 2010 Florida Sheriff's Association/ Florida Association of Counties Purchasing Contract. Listed below are the items we discussed.

Item	Price
Spec #01 2011 Ford Crown Vic Police Interceptor	\$ 20,871.00
INCL Power windows & locks	INCLUDED
14R Keyless entry	\$ 255.00
43* Keyed alike 1284X	\$ 50.00
WPLB Whelen LED Liberty Lightbar package (Blue lenses)w/HHS2100 Handheld controller	\$ 2,143.00
51A Left side spotlight	INCLUDED
948 Rear windows & locks Inop.	\$ 25.00
INCL Side air bags	INCLUDED
S10S Setina 10S cage w/ sliding window	\$ 740.00
WHLF Whelen Headlight flashers	\$ 118.00
W-RDL Rear deck LED lights (Blue)	\$ 363.00
WRML Rear view mirror LED's (Blue)	\$ 363.00
W60 Whelen 60W 4 Corner strobes	\$ 395.00
	\$ -
Agency must specify Exterior Color	Quantity 1 \$ 25,323.00

**DUNCAN AUTO SALE, INC
BID PROPOSAL**

December 6, 2010

KEY WEST POLICE DEPARTMENT

**P7B 2011 FORD CROWN VIC POLICE INTERCEP
WT VIBRANT WHT
I CLTH BKTS / VNL R
L MED LT STONE
720A ORDER CODE
.DUAL EXHAUST
.17" STEEL SPARE
.MANUAL AIR COND
.ENG IDLE METER
99V 4.6L OHC FFV V8
44Q ELEC AOD TRANS
TC1 P235/55R17 BSW
14R KEYLESS W/OUT PAD
432 KEY CODE 1284X
51A DRV SDE SPT LMP
948 REAR PWR WINDOWS INOP.
67B REAR DOOR HANDLES & LOCKS INOP
96A FRT MLDG INSTALLED**

**PREMIUM SX8 LIBERTY BAR FULLY LOADED WITH ALL FEATURES AND
3 POD LED TAKEDOWNS AND ALLEEYS KIT INCLUDES SPEAKER AND
SIREN ABS SIREN SPEAKER 100 WATT WHELEN SLIMLINE WITH
BRACKET
FORD CROWN VIC CENTER MOUNT BRACKET FOR WHELEN SPEAKER
HAND HELD WHELEN SIREN W LIGHT LIGHTS/SIREN HAND HELD
W-SSFCV DIRECT PLUG IN HEADLIGHT FLASHER FOR CROWN VIC
60 WAT 4 CORNER STROBE KIT WITH 4 BULBS AND 4CABLES 2FIFTEEN
FOOT CABLES. 2 THIRTY FOOT CABLES
SETINA 10-S PARTITION WITH HORIZONTALSLIDING WINDOW
PRIORITY START BATTERY KILL SWITCH SYSTEM
REAR DECK LED LIGHTS (BLUE)
REAR VIEW MIRROR LED'S (BLUE)**

ONE UNIT BID \$26169.

13 UNITS = \$340197