MICHIGAN STATE POLICE
SCORING AND BID ADJUSTMENT METHODOLOGY*

STEP I: RAW SCORES

Raw scores are developed, through testing, for each vehicle in each of six evaluation categories. The raw scores are expressed in terms of seconds, feet per second^2, miles-per-hour, points, and miles-per-gallon.

VEHICLE DYNAM. (seconds)	BRAKING RATE (ft/sec^2)	ACCEL. (seconds)	TOP SPEED (mph)	ERGONOMICS & COMMUN. (points)	FUEL ECONOMY (mpg)
92.210	26.380	45.790	115.000	173.900	14.300

STEP II: DEVIATION FACTOR

In each evaluation category, the best scoring vehicle's score is used as the benchmark against which each of the other vehicles' scores are compared. (In the Vehicle Dynamics and Acceleration categories the lowest score is best, while in the remainder of the categories the highest score is best.) The best scoring vehicle in a given category received a deviation factor of "0." The "deviation factor" is then calculated by determining the absolute difference between each vehicle's raw score and the best score in that category. The absolute difference is then divided by the best score, with the result being the "deviation factor."

CAR MAKE MODEL	TOP SPEED
CAR "A"	115.000 **.042**
CAR "B"	118.800 **.010**
CAR "C"	117.900 **.018**
CAR "D"	120.000 **0**

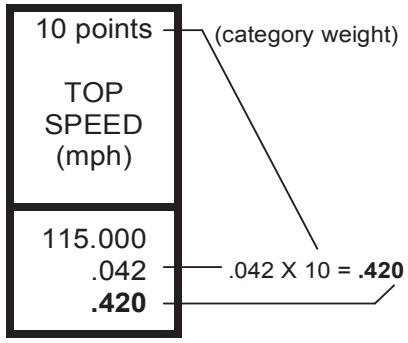
EXAMPLE:

Best Score (Car "D")		Other Vehicle Score (Car "A")		Absolute Difference		Best Score		Deviation Factor (Car "A")
120.000	-	115.000	=	5	/	120.000	=	**.042**

STEP III: WEIGHTED CATEGORY SCORE

Each vehicle's weighted category score is determined by multiplying the deviation factor (as determined in Step II) by the category weight.

RAW SCORE
DEVIATION FACTOR
WEIGHTED CATEGORY SCORE



*All mathematical computations are to be rounded to the third decimal place.

STEP IV: TOTAL WEIGHTED SCORE

Adding together the six (6) weighted category scores for that vehicle derives the total weighted score for each vehicle.

EXAMPLE:

CAR	30 pts. VEH. DYN. (seconds)	25 pts. BRAKE DECEL. (ft/sec^2)	20 pts. ACCEL. (seconds)	10 pts. TOP SPEED (mph)	10 pts. ERGO/ COMM. (points)	5 pts. FUEL ECON. (mpg)	TOTAL WEIGHTED SCORE
Car "A"	92.210 .018 .540	45.790 .163 4.075	26.380 0 0	115.000 .042 .420	173.900 .184 1.840	14.300 0 0	**6.875**

STEP V: BID ADJUSTMENT FIGURE

The bid adjustment figure that we have chosen to use is one percent (1%) of the lowest bid price received. As an example, in this and the following two steps, the lowest bid price received was $15,238.00, which results in a bid adjustment figure of **$152.38**.

STEP VI: ACTUAL DOLLAR ADJUSTMENT

The actual dollar adjustment for a vehicle is determined by multiplying that vehicle's total weighted score by the bid adjustment figure as shown at right.

TOTAL WTD. SCORE	BID ADJ. FIGURE	ACTUAL DOLLAR ADJ.
	X	**=**
6.875	$152.38	**$1,047.61**

STEP VII: ADJUSTED BID PRICE

The actual dollar adjustment amount arrived at for each vehicle is added to that vehicle's bid price. Provided other necessary approvals are received, the vehicle with the lowest adjusted bid price will be the vehicle purchased. (The amount paid for the purchased vehicles will be the actual bid price.)

ACTUAL DOLLAR ADJ.	ACTUAL BID PRICE	ADJ. BID PRICE
	+	**=**
$955.42	$15,473.00	**$16,520.61**

PERFORMANCE COMPARISONS OF 2007 AND 2008 TEST VEHICLES

The following charts illustrate the scores achieved by each make and model of vehicle tested for model years 2007 and 2008. 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)

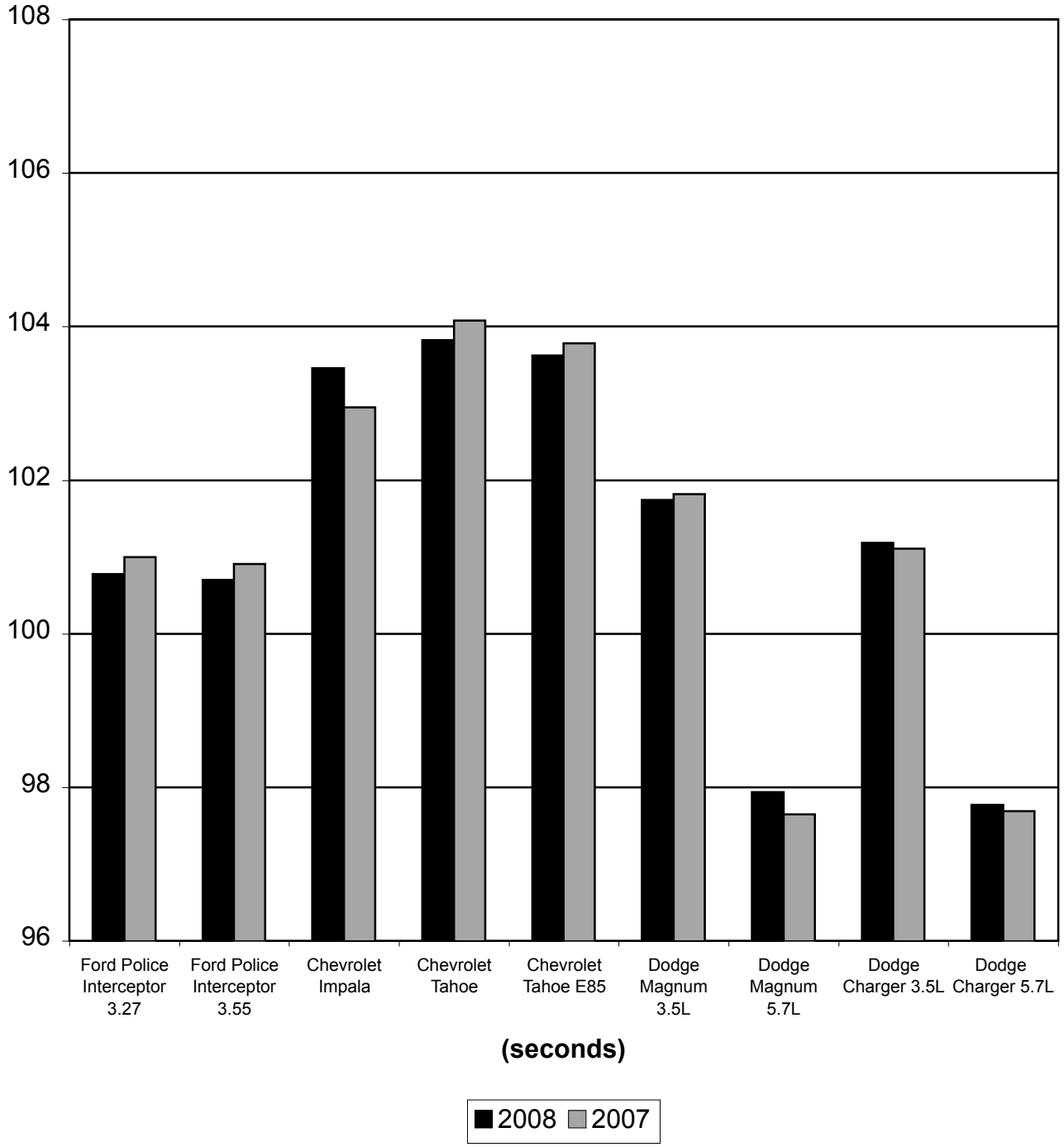
The reader should bear in mind the following information regarding variables when reviewing the 2007 – 2008 performance comparison charts. While as many variables as possible are eliminated from a given year's testing, those that occur over the span of a full year are sometimes impossible to eliminate.

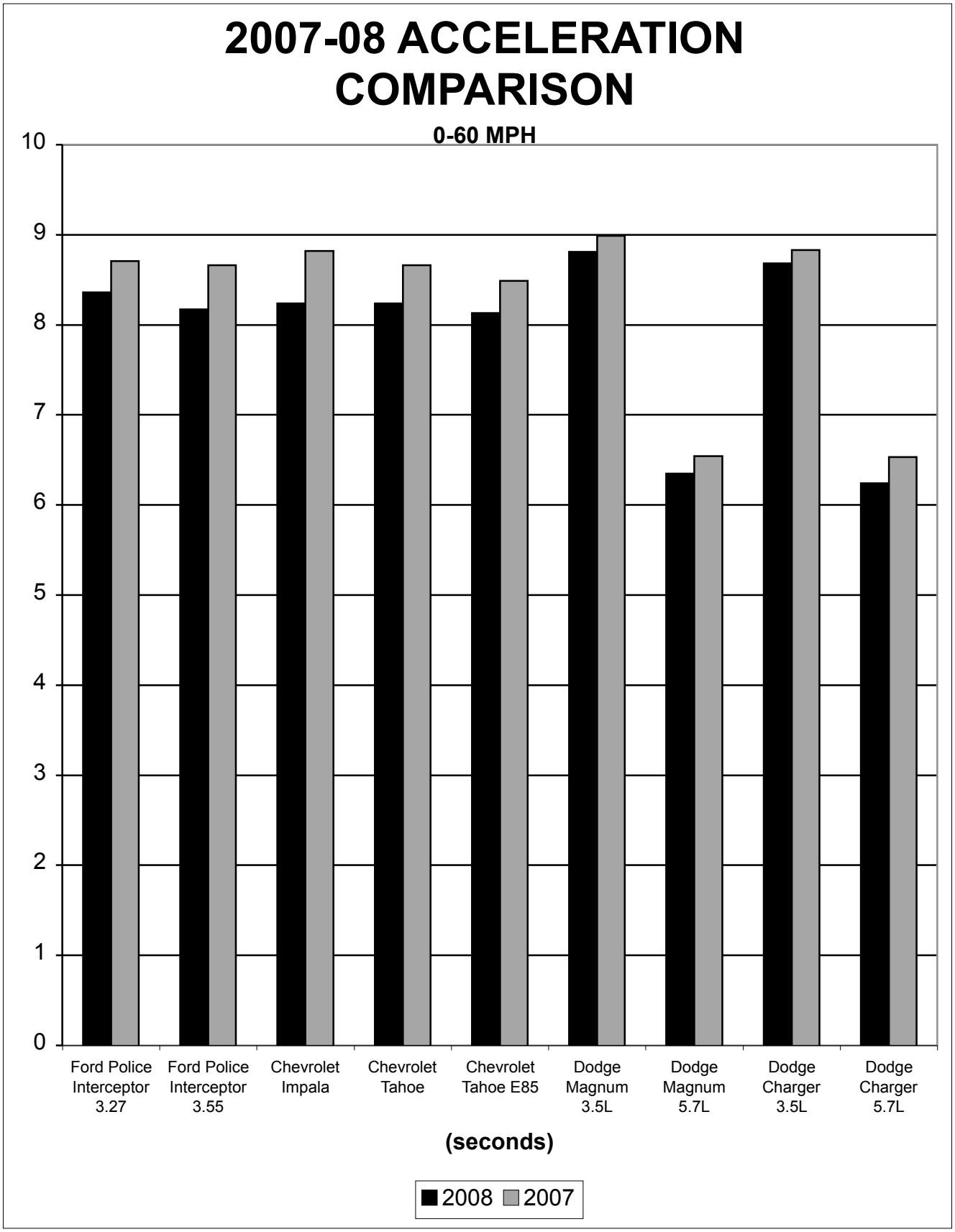
The acceleration, top speed, and brake testing of both the 2007 and 2008 model year vehicles were conducted in the latter half of September. Temperatures on the test day in September of 2006 ranged between 56.0°° F at the start of testing to a high of approximately 72.4°° F during the afternoon. Temperatures during the testing this year varied, ranging between 39.8°° F when testing started, to an afternoon high of 57.5°° 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.

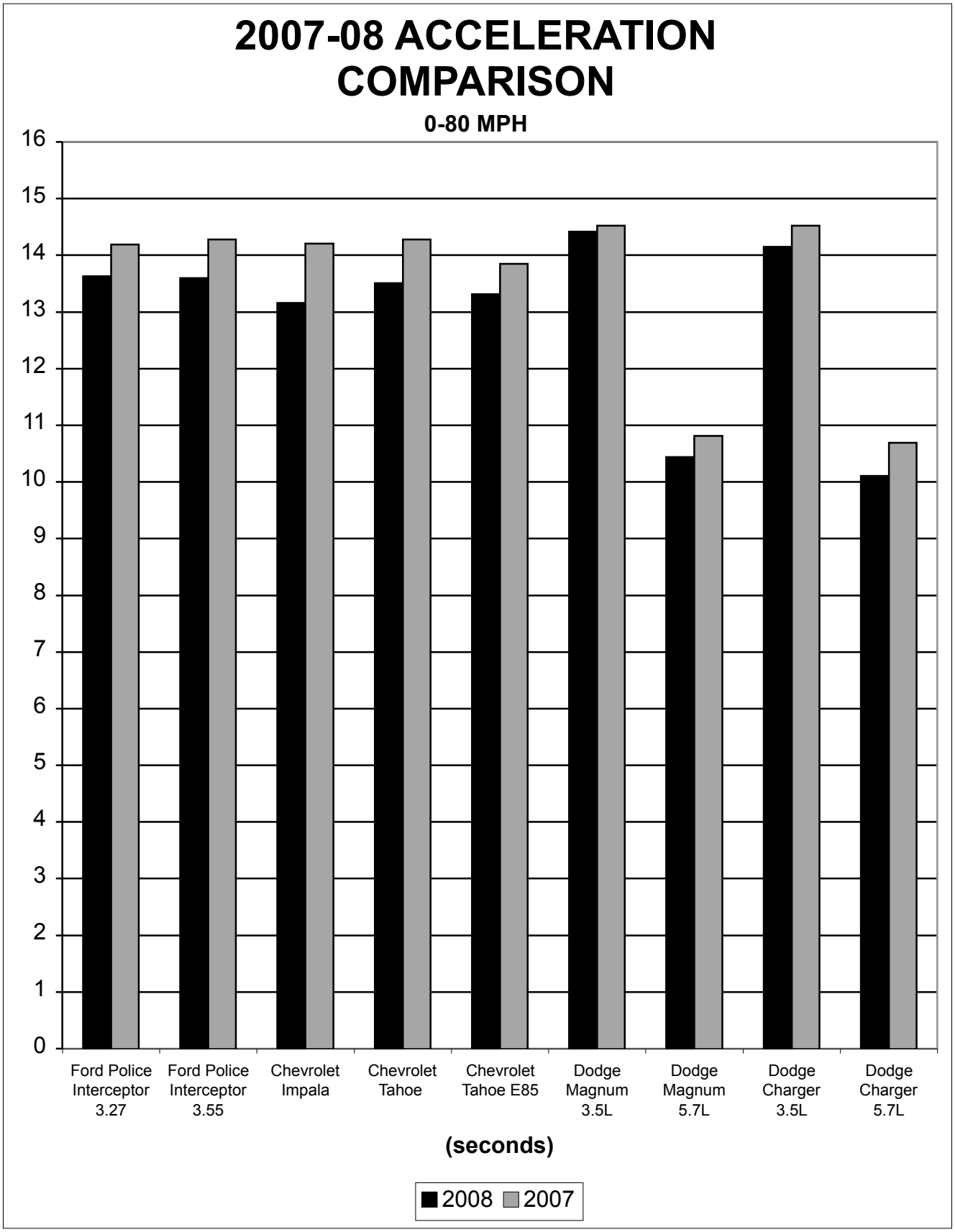
Another factor to be considered is the individual differences between two cars of the same make and model. The test cars that we evaluate are representative of their given make and model. Other cars of the same make and model will not, however, be exactly the same, particularly when it comes to performance. (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.

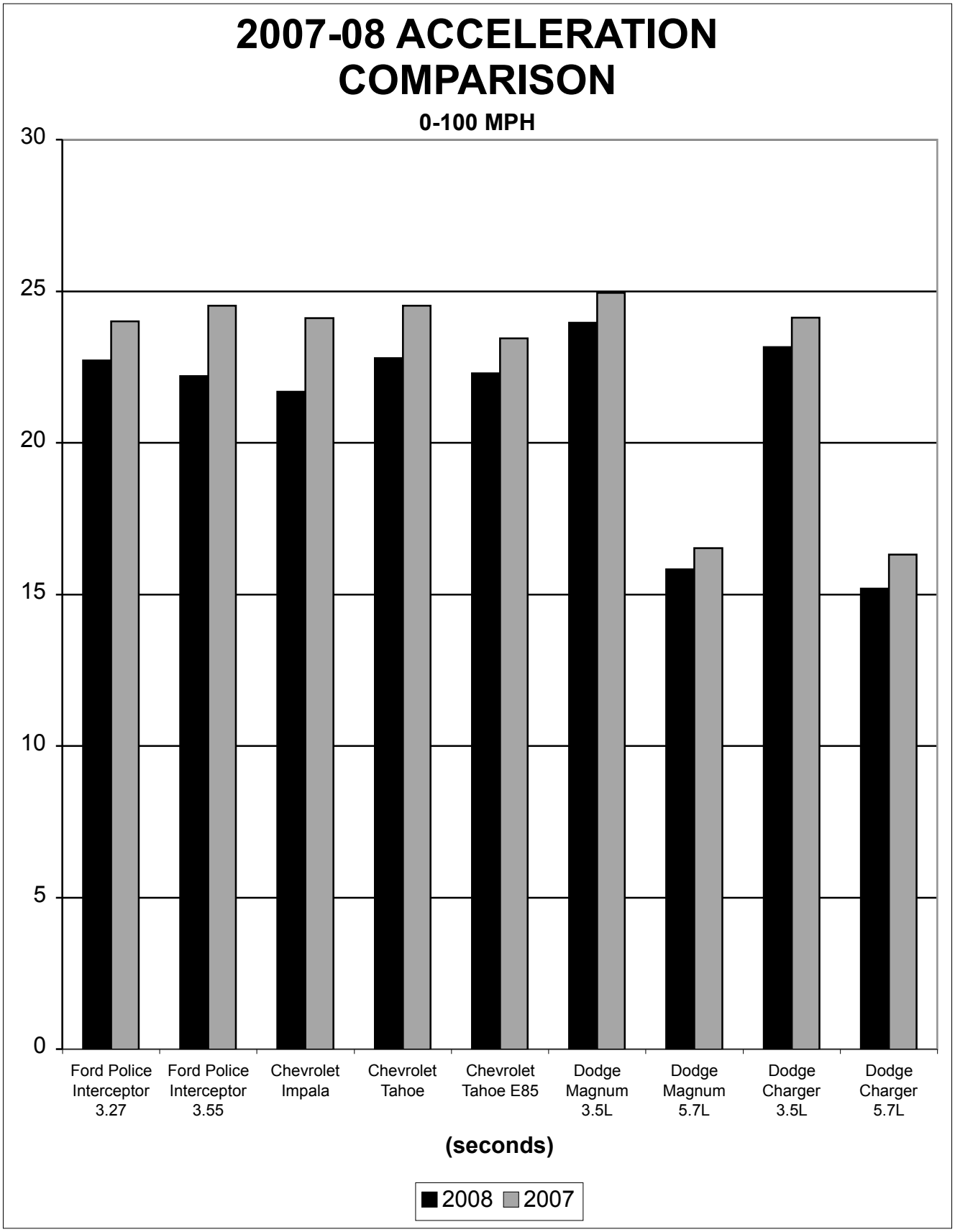
2007-08 Vehicle Dynamics Comparison

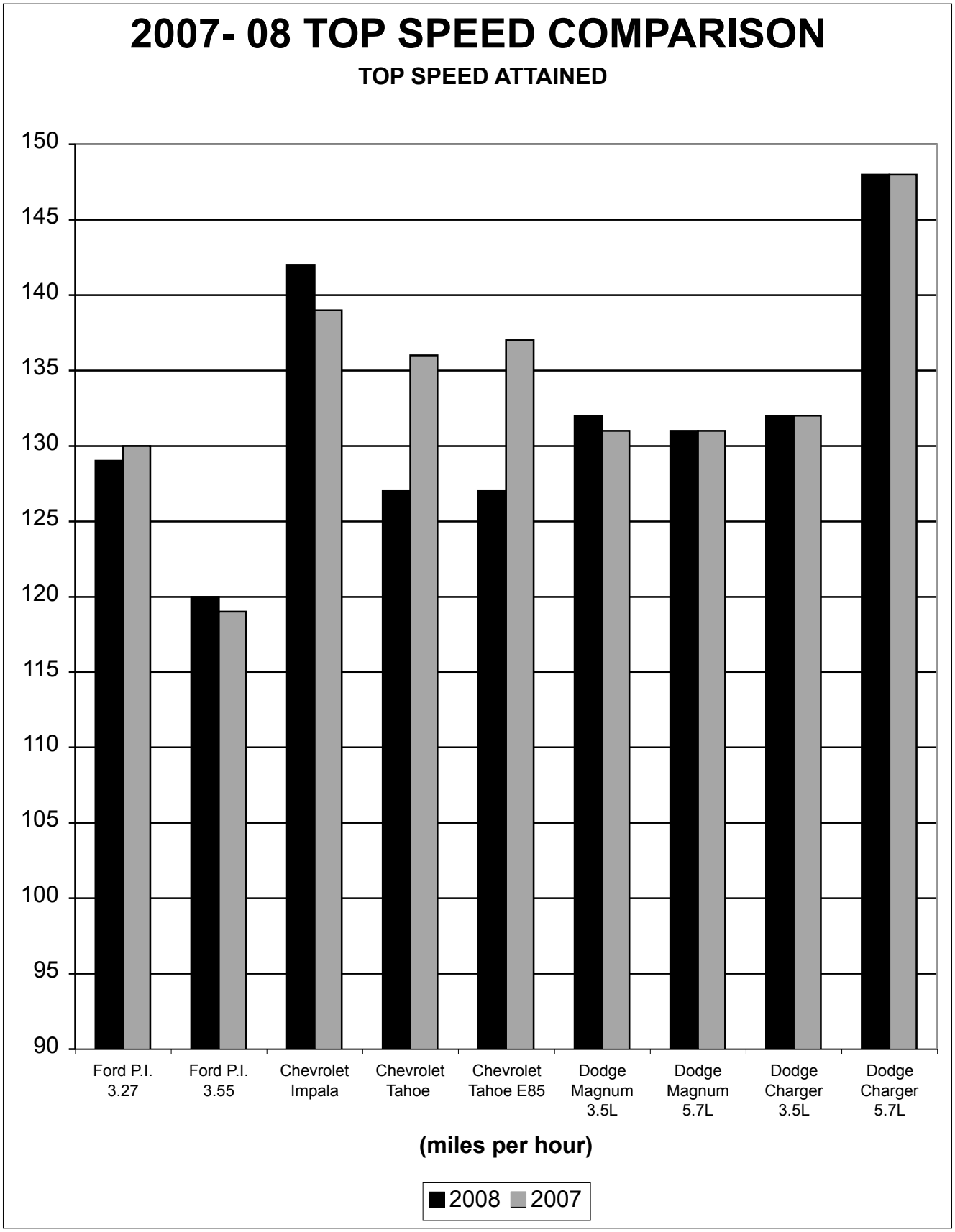
LAP TIMES

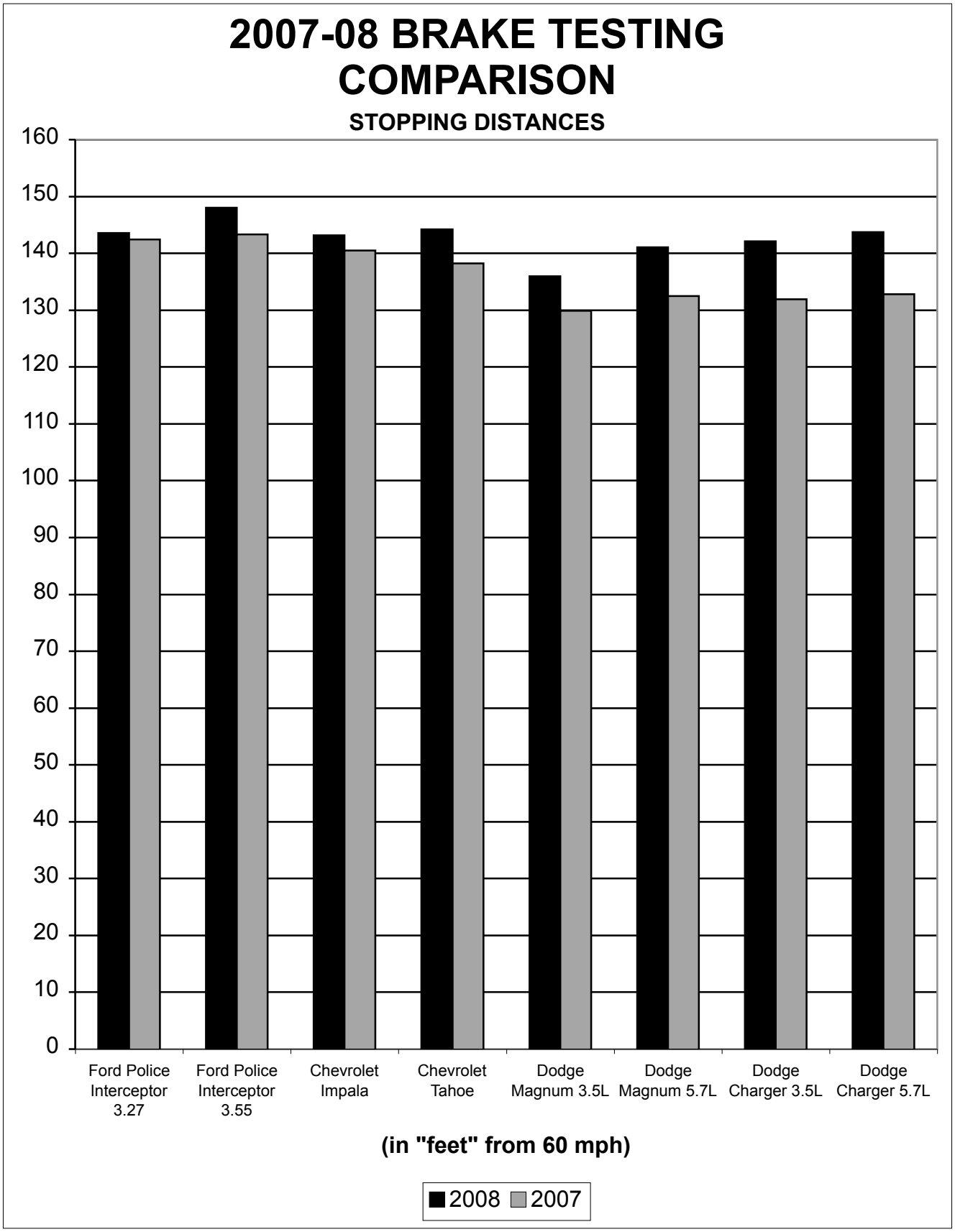



2007-08 ACCELERATION COMPARISON
0-60 MPH
10
9
8
7
6
5
4
3
2
1
0
Ford Police Interceptor 3.27
Ford Police Interceptor 3.55
Chevrolet Impala
Chevrolet Tahoe
Chevrolet Tahoe E85
Dodge Magnum 3.5L
Dodge Magnum 5.7L
Dodge Charger 3.5L
Dodge Charger 5.7L
(seconds)
2008
2007


2007-08 ACCELERATION COMPARISON
0-80 MPH
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
Ford Police Interceptor 3.27
Ford Police Interceptor 3.55
Chevrolet Impala
Chevrolet Tahoe
Chevrolet Tahoe E85
Dodge Magnum 3.5L
Dodge Magnum 5.7L
Dodge Charger 3.5L
Dodge Charger 5.7L
(seconds)
2008
2007


2007-08 ACCELERATION COMPARISON
0-100 MPH
30
25
20
15
10
5
0
Ford Police Interceptor 3.27
Ford Police Interceptor 3.55
Chevrolet Impala
Chevrolet Tahoe
Chevrolet Tahoe E85
Dodge Magnum 3.5L
Dodge Magnum 5.7L
Dodge Charger 3.5L
Dodge Charger 5.7L
(seconds)
2008
2007


2007- 08 TOP SPEED COMPARISON
TOP SPEED ATTAINED
150
145
140
135
130
125
120
115
110
105
100
95
90
Ford P.I. 3.27
Ford P.I. 3.55
Chevrolet Impala
Chevrolet Tahoe
Chevrolet Tahoe E85
Dodge Magnum 3.5L
Dodge Magnum 5.7L
Dodge Charger 3.5L
Dodge Charger 5.7L
(miles per hour)
2008
2007


2007-08 BRAKE TESTING COMPARISON
STOPPING DISTANCES
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
Ford Police Interceptor 3.27
Ford Police Interceptor 3.55
Chevrolet Impala
Chevrolet Tahoe
Dodge Magnum 3.5L
Dodge Magnum 5.7L
Dodge Charger 3.5L
Dodge Charger 5.7L
(in "feet" from 60 mph)
2008
2007