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JRT NO. DOT-TSC-NHTSA-81-18

DOT-HS-805-873

HIGHWAY FUEL ECONOMY STUDY

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U.S. DEPARTMENT OF TRANSPORTATION
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION
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JUNE 1981

FINAL REPORT

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Prepared for

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
Office of Research and Development
Washington DC 20590

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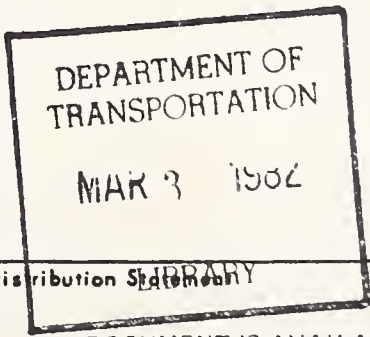
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81-18

1. Report No. DOT-HS-805-873		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle HIGHWAY FUEL ECONOMY STUDY				5. Report Date June 1981	
				6. Performing Organization Code DTS-323	
7. Author(s) Robert L. Mason and Russell W. Zub				8. Performing Organization Report No. DOT-TSC-NHTSA-81-18	
9. Performing Organization Name and Address U.S. Department of Transportation Research and Special Programs Administration Transportation Systems Center Cambridge MA 02142				10. Work Unit No. (TRAI5) HS-151/R-1413	
				11. Contract or Grant No.	
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Research and Development Washington DC 20590				13. Type of Report and Period Covered Final Report Sep 1979 - Mar 1981	
				14. Sponsoring Agency Code NRD-13	
15. Supplementary Notes					
16. Abstract In 1979, the National Highway Traffic Safety Administration (NHTSA) with support from the Federal Highway Administration (FHWA), convened a Task Force to develop a base of information on the effects of the 55 MPH speed limit. This report addresses the fuel consumption changes attributable to speed reduction and compliance with the 55 MPH speed limit. It also discusses the effects of vehicle size and type, and driver-controllable functions on vehicle fuel economy at highway speeds. Most of the analytical work in this report is related to passenger cars and light trucks. However, medium and heavy trucks, primarily commercial in application, have been included in the highway fuel economy analyses.					
17. Key Words Fuel Economy, Fuel Consumption Vehicle Performance			18. Distribution Statement DOCUMENT IS AVAILABLE TO THE PUBLIC THROUGH THE NATIONAL TECHNICAL INFORMATION SERVICE, SPRINGFIELD, VIRGINIA 22161		
19. Security Classif. (of this report) Unclassified		20. Security Classif. (of this page) Unclassified		21. No. of Pages 160	22. Price



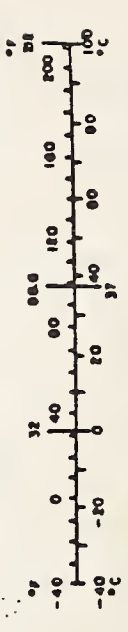
PREFACE

In 1979, the National Highway Traffic Safety Administration (NHTSA) with support from the Federal Highway Administration (FHWA), convened a Task Force to assess the 55 MPH speed limit. NHTSA, in turn, requested the Transportation Systems Center (TSC) to perform three tasks to support NHTSA in this effort under TSC's Automotive Fuel Economy Research and Analysis Program (AFER). Under Task 1, TSC was requested to create a computer based file of vehicle information and test results related to the highway fuel economy of passenger cars and light trucks. Under Task 2, TSC was requested to estimate the fuel savings by passenger cars and light trucks from the 55 MPH speed limit, and to develop a methodology for the calculation of this saving. Under Task 3, TSC was to provide fuel economy sensitivity analyses of vehicle-dependent or driver-controllable functions for passenger cars and light trucks based on computer simulation results. This report discusses the results of these three tasks and includes a brief analysis of the effect of reduced highway speeds on commercial truck and bus operations.

Many people supported the authors in the analysis of data for this report and in the development of procedures used in the presentation of that data. Particular thanks is due, however, to Emery Swanson, Raytheon Service Company; Michael Sharpe, Systems Development Corporation; John D'Aprile, DOT/TSC; William Basham, DOT/NHTSA; Frank Jarena, DOT/FHWA; and David Greene, DOE.

METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures				Approximate Conversions from Metric Measures			
Symbol	When You Know	Multiply by	To Find	Symbol	When You Know	Multiply by	To Find
LENGTH							
m	inches	2.5	centimeters	mm	millimeters	0.04	inches
ft	feet	30	centimeters	cm	centimeters	0.4	inches
yd	yards	0.9	meters	m	meters	3.3	feet
mi	miles	1.6	kilometers	km	kilometers	1.1	yards
						0.9	miles
AREA							
in ²	square inches	6.5	square centimeters	cm ²	square centimeters	0.16	square inches
ft ²	square feet	0.09	square meters	m ²	square meters	1.2	square yards
yd ²	square yards	0.8	square meters	ha	hectares (10,000 m ²)	0.6	square miles
mi ²	square miles	2.6	square kilometers			2.6	square miles
ac	acres	0.4	hectares				acres
MASS (weight)							
oz	ounces	28	grams	g	grams	0.035	ounces
lb	pounds	0.45	kilograms	kg	kilograms	2.2	pounds
	short tons (2000 lb)	0.9	tonnes	t	tonnes (1000 kg)	1.1	short tons
VOLUME							
teap	teaspoons	5	milliliters	ml	milliliters	0.03	fluid ounces
fl oz	fluid ounces	30	milliliters	l	liters	2.1	pints
c	cup	0.24	liters			1.06	quarts
pt	pint	0.47	liters			0.26	gallons
qt	quart	0.96	liters			36	cubic feet
gal	gallon	3.8	liters			1.3	cubic yards
ft ³	cubic feet	0.028	cubic meters				
yd ³	cubic yards	0.76	cubic meters				
TEMPERATURE (exact)							
°F	Fahrenheit temperature	$(F - 32) \times \frac{5}{9}$	Celsius temperature	°C	Celsius temperature	$C \times \frac{9}{5} + 32$	Fahrenheit temperature



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1. INTRODUCTION

1.1 BACKGROUND

In 1979, the National Highway Traffic Safety Administration (NHTSA) with support from the Federal Highway Administration (FHWA), convened a Task Force to develop a base of information on the effects of the 55 MPH speed limit. This report addresses the fuel consumption changes attributable to speed reduction and compliance with the 55 MPH speed limit. It also discusses the effects of vehicle size and type, and driver-controllable functions on vehicle fuel economy at highway speeds. Most of the analytical work in this report is related to passenger cars and light trucks. However, medium and heavy trucks, primarily commercial in application, have been included in the highway fuel economy analyses.

1.2 RESULTS

Table 1-1 shows the estimated fuel saving for the present fleet at the present speed enforcement level.

TABLE 1-1. ESTIMATED FUEL CONSUMPTION REDUCTION FOR VEHICLES IN USE IN 1980 DUE TO REDUCED HIGHWAY SPEEDS*

VEHICLE TYPE	FUEL SAVINGS (BPD)
Passenger Cars	112,000
Light Trucks	22,000
Commercial Vehicles	26,000
Total	160,000

*See Table 3-12 and Fig. 3-5.

**Barrels Per Day

Several additional conclusions regarding vehicle fuel economy* as it is affected by speed, weight, vehicle type, etc., are either supported or reinforced by the contents of this study. Those considered of importance to the work of the 55 MPH Task Force or of general interest are as follows:

- Since introduction of the 55 MPH limit, highway speeds have been reduced.
- The speed difference between slower and faster vehicles on highways has been reduced since introduction of the 55 MPH speed limit.
- On a constant vehicle weight basis and at constant highway speeds, fuel economy of new automobiles has improved about ten percent.
- Petroleum savings at highway speeds, estimated at 137,000 BPD, are being realized because of improved efficiency and reduced size and weight of U.S. passenger car and light truck fleets.
- Passenger car fuel consumption increases with speed. The increase is over 20 percent between 55 MPH and 70 MPH for the data set used in this study. (No data were found showing fuel economy for any individual passenger car at any speed above 55 MPH to exceed the fuel economy at 55 MPH.)
- Above 55 MPH, fuel consumption rates increase with speed more significantly for light weight automobiles than for heavy automobiles.
- Mild accelerations and decelerations, without braking in highway driving to control speed, do not significantly increase fuel consumption.

*Fuel economy (miles/gal) is the reciprocal of fuel consumption (gal/mile).

- The use of air conditioning increases fuel consumption in the range of 0.1 to 0.3 gallons per hour, however, results are highly variable, depending on air flow, temperature, humidity, sun load, and occupant requirements.
- The use of open windows for ventilation at speeds up to 55 MPH reduces fuel economy, for several vehicles tested, by approximately two percent.

1.3 REPORT STRUCTURE

This report is structured in three major sections with supporting appendices. The first section (2.) deals with the development of the fuel economy data base for this report and several analyses of the data at the vehicle or vehicle class level. The second section (3.) discusses the techniques used to obtain and combine the various data segments needed to determine highway fuel savings in the aggregate as a function of speed distribution, and presents these analyses and results. The final section (4.) contains the results of fuel economy sensitivity analyses for automobiles and light trucks. It also contains an analysis of fuel consumption results obtained from window position and air-conditioning tests conducted at NHTSA's Vehicle Research and Test Center (VRTC). Fuel economy versus speed data for the VRTC tests are also included in the data base, and these were included in the development of vehicle fuel consumption information.



2. CONSTANT SPEED FUEL CONSUMPTION

2.1 FUEL ECONOMY DATA BASE

The development of information on fuel economy for individual vehicles and vehicle classes vs speed is an important element in the prediction of fuel saving from reduced highway speeds. This study developed such information in a machine accessible data base containing information on 593 vehicles and 1952 speed vs. fuel economy data points for passenger cars, station wagons, vans, and pickup trucks from model year 1965 to 1980. A review of the data for constant speed operation shows reduced passenger car fuel consumption for 1980 vehicles averaging 10 percent in the 45 mph to 65 mph range when compared with pre-1976 cars. This improvement is for cars of constant weight. Weight and size reductions have produced additional improvements in fleet fuel economy. Information to create this data base was obtained from independent testing organizations (76%), industry (19%) and government (5%). Also, a review of the data for automobiles and light trucks showed no instance where fuel economy at speeds above 55 mph exceeded that at 55 mph. Data for commercial vehicles were derived from "The Double-Nickel Challenge"¹ and from previous work by the FHWA.²

The Fuel Economy Data Base is structured in two parts. The first part, entitled "Drive Cycle Fuel Economy Data Base," along with a list of attributes for the individual columns in the data base, is contained in Appendix A.1. The second part is contained in Appendix A.2 and is entitled "Constant Speed Fuel Economy Data Base." It is also accompanied by an attribute list identifying the individual columns. The Drive Cycle Fuel Economy Data Base contains information on 593 vehicles; the Constant Speed Fuel Economy Data Base has 1952 speed/fuel economy data points for these same vehicles. Both data bases are resident on the U.S. Department of Transportation, Transportation Systems Center's Data Base Management System.

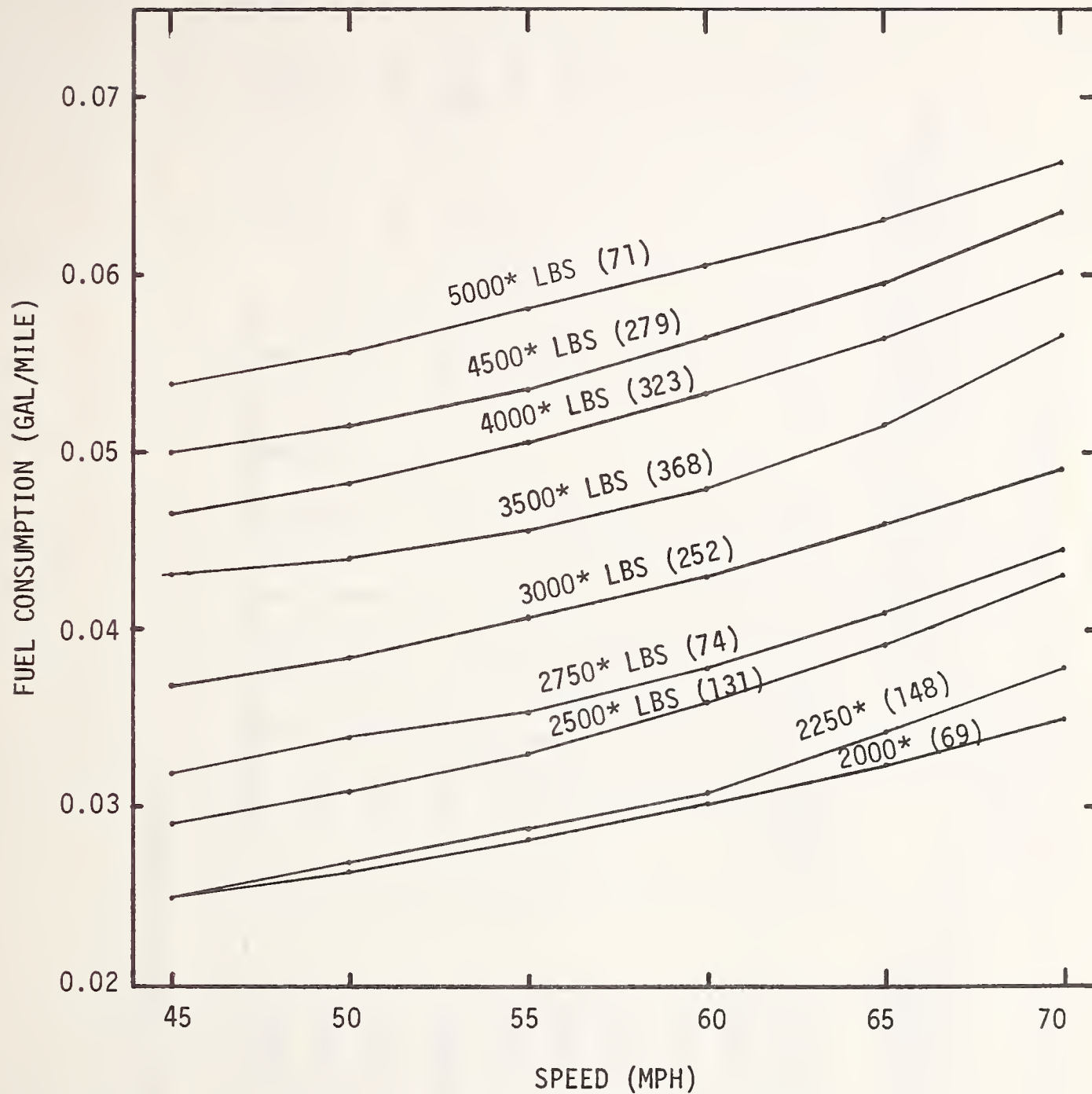
The reliability of the information presented in this data base is dependent on the accuracy and representativeness of the test procedures followed. Although the authors have not performed any of the tests, there appears to be no reason to exclude any of the data because of poor test procedures. The results reported, in general, were obtained by professional drivers experienced in fuel economy measurement. However, the results are from on-the-road tests under unknown atmospheric conditions where wind and temperature can sometimes play an important part. Except for the tests performed by the EPA, simulating the standard EPA city and highway cycle, none of the data reported herein was obtained from dynamometer tests.

2.2 RESULTS DERIVED FROM THE DATA BASE

The data was used to perform several fuel consumption sensitivity analyses. Figure 2-1 shows fuel consumption vs speed for gasoline-powered passenger cars and station wagons by inertia weight class.* The values plotted were obtained by fitting 2nd degree polynomials to the speed/fuel economy data. In all cases, this data shows the expected trend (i.e., increased fuel consumption with speed). Table 2-1 presents the same data for comparison with the estimated fuel consumption at 55 mph. It shows that fuel consumption increases by 14 to 31 percent for passenger cars operating at 70 mph compared to those operating at 55 mph. Conversely, operating at 45 mph rather than 55 mph would reduce highway fuel consumption by 5 to 11 percent.

The data base was also used to determine whether cars of equal weight have experienced reductions in fuel consumption in recent years at speeds near the speed limit. To accomplish this, weight normalized fuel consumption rates vs speed by vehicle model year were compared and grouped where significant data

* Diesel powered vehicle test results were excluded from this particular analysis, as were test results from vehicles where operation was known to have occurred with windows open or air conditioning on.



*INERTIA WEIGHT CLASS (LBS). VALUES IN PARENTHESIS INDICATE DATA SAMPLE SIZE USED TO DERIVE CURVES. DIESEL POWERED VEHICLES WERE NOT INCLUDED.

FIGURE 2-1. EFFECT OF WEIGHT ON PASSENGER CAR FUEL ECONOMY

TABLE 2-1. EFFECT OF WEIGHT ON PASSENGER CAR* FUEL CONSUMPTION BY INERTIA WEIGHT CLASS

INERTIA WEIGHT CLASS LBS	FUEL CONSUMPTION RATE AT 55 MPH GAL/MILE	MPG AT 55 MPH	DIFFERENCE IN FUEL CONSUMPTION RATE BETWEEN 55 MPH AND INDICATED SPEED (Percent)					SAMPLE SIZE
			45 MPH	50 MPH	60 MPH	65 MPH	70 MPH	
2000	0.0283	35.3	-11.5	-6.2	7.0	15.0	23.7	69
2250	0.0289	34.6	-11.5	-6.6	8.5	18.7	30.8	148
2500	0.0328	30.5	-11.5	-6.6	6.8	15.4	25.5	131
2750	0.0356	28.1	-8.9	-5.3	8.5	18.7	30.8	74
3000	0.0406	24.6	-9.1	-5.1	6.1	13.1	21.2	252
3500	0.0456	21.9	-5.4	-3.3	5.3	13.2	24.3	368
4000	0.0506	19.8	-8.1	-4.5	5.4	11.7	18.9	323
4500	0.0539	18.6	-7.0	-4.0	4.9	10.0	17.8	279
5000	0.0580	17.2	-7.0	-3.7	4.3	9.1	14.4	71

* DIESEL POWERED VEHICLES NOT INCLUDED.

overlap was observed. These data and groupings are shown in Table 2-2 which compares (for gasoline-powered vehicles) 1980 passenger cars, a composite of passenger cars for model years 1977-79, 1976 model year passenger cars and light trucks (all years), using pre-1976 passenger cars as the baseline. (A pre-1976 baseline was used because no significant constant speed fuel consumption trend could be identified from the data before that time.) The data shows a significant fuel consumption reduction in 1980 averaging 10.6 percent between 45 mph and 65 mph as compared with pre-1976 cars, with an improving trend starting in 1976. Light trucks and vans were aggregated because sufficient annual data was not available. The steady speed fuel consumption rate for these vehicle types was 11 percent higher than for pre-1976 passenger cars.

The data for Table 2-2 was obtained for this analysis by combining fuel consumption and inertia weight into an index, gallons of fuel consumed per pound of vehicle weight per mile traveled, as a function of vehicle speed. The technique eliminates the independent consideration of vehicle weight in sensitivity analyses and, thus, materially reduces data handling because more data can be aggregated. Its use is further discussed in Section 3.

TABLE 2-2. COMPARISON OF FUEL CONSUMPTION RATES FOR LIGHT TRUCKS AND LATE MODEL PASSENGER CARS WITH PRE-1976 PASSENGER CARS

	MODEL YEAR	PERCENT CHANGE IN FUEL CONSUMPTION RATES BY MODEL YEAR FROM PRE-1976 PASSENGER CAR BASELINE						AVERAGE
		45 MPH	50 MPH	55 MPH	60 MPH	65 MPH		
PASSENGER CARS AND STATION WAGONS	1980	-9.6	-8.4	-9.1	-11.2	-14.5	-10.6	
	1977-79	-8.8	-8.9	-9.1	-9.2	-9.3	-9.1	
	1976	-5.8	-5.0	-3.9	-3.4	-	-4.3	
LIGHT TRUCKS	ALL YEARS	+11.1	+11.5	+11.6	+11.5	+11.3	+11.4	
	FUEL CONSUMPTION RATE INDEX FOR PRE-1976 PASSENGER CARS* (FCR · 10 ⁶ /IW) ^Δ	12.2 ^Δ	12.7 ^Δ	13.4 ^Δ	14.2 ^Δ	15.2 ^Δ	-	

* INCLUDES STATION WAGONS BUT NO VEHICLES WITH DIESEL ENGINES

^ΔREPORTED NUMBER IS VEHICLE FUEL CONSUMPTION RATE (FCR) DIVIDED BY VEHICLE INERTIA WEIGHT (IW) AND MULTIPLIED BY 10⁶. UNITS ARE GALLONS PER POUND MILE.

3. FUEL CONSUMPTION ON U.S. HIGHWAYS AS A FUNCTION OF SPEED DISTRIBUTION AND OTHER FACTORS

To evaluate the effects of the 55 MPH speed limit, estimates of fuel savings by passenger cars and light trucks were made using a wide variety of statistics. These included vehicle speed distributions, vehicle miles traveled on highways, annual miles traveled, vehicle survivability and registrations, vehicle weight and age, and fuel economy versus speed. It is estimated that 112,000 barrels* of petroleum per day are saved by passenger cars operating at current highway speeds compared to speeds as they were in 1972 for these same vehicles. Reduced speed by trucks and buses is estimated to save an additional 48,000 barrels per day. It is further estimated that an additional saving of 194,000 barrels per day could be realized by operating all vehicles at 90 percent compliance with the 55 MPH speed limit.

3.1 METHODOLOGY

Fuel consumption at highway speeds is dependent on a variety of influences related to the vehicle, the driver, the highway, and the weather conditions under which the vehicle is being driven. Vehicle influences include design, speed, wear, maintenance level, and distribution of vehicles on the highways. The driver is influenced by his own driving habits, the pressures residing on him in terms of time available to reach his destination, other traffic, and highway and weather conditions of the moment. To evaluate all of these influences simultaneously and relate them to different highway speed scenarios on a national basis entails a study far beyond that intended here. For this effort, vehicle speed, fuel

*Fuel consumed by passenger cars and taxis was estimated to be 5.23×10^6 barrels per day in 1977 (3,4). The fuel saved by passenger cars over the fuel that would have been used without the 55 MPH speed limit is, thus, 2 percent of this total. With 90 percent compliance, the savings could be increased to 4 percent. However, these savings may improve as new vehicles, optimized for highway operation at 55 MPH, become a larger factor in the calculation of highway fuel consumption.

economy vs. speed, and vehicle distribution were considered sufficient to estimate the fuel conservation benefits of the 55 mph speed limit in terms of driver compliance with this limit. Driver influences, highway conditions, topography, and the weather were not considered to significantly influence highway fuel consumption at one speed scenario greater than at another.

Estimates of aggregate vehicle fuel consumption on highways were obtained from 1) the fraction of the annual miles traveled by a vehicle of a given model year, 2) fuel consumption rates by model year and vehicle speed, 3) speed distribution on various types of highways, 4) combining this information to calculate average fuel consumption rates for the various speed distribution scenarios, and 5) combining this information with FHWA supplied information on annual highway vehicle miles traveled (Appendix D). Figure 3-1 diagrams the calculation procedure used.

The following discussion describes the procedure in greater detail.

3.1.1 Fraction of Annual Miles Traveled by Vehicle Model Year

(1) This information is obtained first by combining estimates of annual miles traveled by an average vehicle age (i) with the survival probability of vehicles of age (i) to establish an annual mileage index by vehicle age. Annual mileage is used in this index calculation, because it is assumed that vehicle travel on highways is a constant fraction of the annual miles traveled and is independent of vehicle age or annual usage. See Table 3-1 for the annual mileage index* for passenger cars.

(2) Change the annual mileage index to a model year index. This is accomplished by averaging the annual mileage index for a vehicle of age (i) with that of a vehicle of age (i-1). See Table 3-2.

*In this analysis, station wagons derived from passenger cars are considered to be passenger cars.

1) FRACTION OF ANNUAL MILES TRAVELED BY A VEHICLE OF A GIVEN MODEL YEAR.

a. Tables 3-1 and 3-6

$$\boxed{\text{MILES TRAVELED BY VEHICLE AGE}} \times \boxed{\text{VEHICLE SURVIVAL PROBABILITY}} = \boxed{\text{ANNUAL MILEAGE INDEX} \times 10^3}$$

b. Tables 3-1, 3-2, 3-6 and 3-7

$$\boxed{\text{AVERAGE OF ANNUAL MILEAGE INDEXES FOR YEAR (i) AND (i-1)}} = \boxed{\text{MODEL YEAR MILEAGE INDEX}}$$

c. Table 3-2, reference 2

$$\boxed{\text{ANNUAL VEHICLE REGISTRATIONS}} \div \boxed{\text{VEHICLE REGISTRATIONS IN BASE YEAR}} = \boxed{\text{REGISTRATION RATIO}}$$

d. Tables 3-2 and 3-7

$$\boxed{\text{MODEL YEAR MILEAGE INDEX}} \times \boxed{\text{REGISTRATION RATIO}} = \boxed{\text{REGISTRATION MILEAGE INDEX}}$$

e. Tables 3-2 and 3-7

$$\boxed{\text{REGISTRATION MILEAGE INDEX FOR VEHICLE OF MODEL YEAR } i \text{ DIVIDED BY SUM OF REGISTRATIONS MILEAGE INDEXES}} = \boxed{\text{FRACTION OF ANNUAL VEHICLE MILEAGE BY VEHICLE MODEL YEAR}}$$

*Reference 5

2) FUEL CONSUMPTION BY MODEL YEAR

$$\frac{\text{FCR} \cdot 10^6}{\text{IW}} = a + bx + c x^2$$

Where FCR is fuel consumption rate in gallon/mile,

IW is "Inertia Weight" in pounds,*

x is speed in miles per hour, and a, b and c are constants identified below:

Vehicles Types	Model Years	a	b	c
Passenger Cars and Station Wagons	1980	0.502	0.328	-0.00209
	1977-79	11.9	-0.123	+0.00232
	1976	14.4	-0.232	+0.00374
Light Trucks	Pre 1976	13.0	-0.133	+0.00256
	All Years	12.8	-0.0877	+0.00232

3) SPEED DISTRIBUTION DATA (Figure 3-5)

4) CALCULATION OF FUEL CONSUMPTION RATES BY SPEED DISTRIBUTION SCENARIO

5) TOTAL VEHICLE MILES TRAVELED (VMT) ON ROADS POSTED AT 55 MPH AND NOT AFFECTED BY CONGESTION WAS 709 x 10⁹ BASED ON 1978 STATISTICS ADJUSTED BY ESTIMATED 1980 VMT CHANGE (FHWA).

HIGHWAY VMT WAS ALSO ESTIMATED TO BE DISTRIBUTED AS FOLLOWS:
 75.9% BY PASSENGER CARS, 13.1% BY LIGHT TRUCKS AND 11.0% BY OTHER TRUCKS AND BUSES.

FIGURE 3-1. FUEL CONSUMPTION CALCULATION PROCEDURE

TABLE 3-1. ANNUAL MILEAGE INDEX FOR PASSENGER CARS*

VEHICLE AGE	ANNUAL MILES TRAVELED ⁽¹⁾	SURVIVAL PROBABILITY ⁽²⁾	ANNUAL MILEAGE INDEX ⁽³⁾
1	14,436	1.000	14.4
2	13,903	0.992	13.8
3	13,371	0.968	12.9
4	12,838	0.951	12.2
5	12,306	0.925	11.4
6	11,773	0.884	10.4
7	11,240	0.824	9.3
8	10,708	0.750	8.0
9	10,176	0.656	6.7
10	9,643	0.550	5.3
11	9,110	0.447	4.1
12	8,577	0.356	3.1
13	8,045	0.279	2.2
14	7,513	0.219	1.6
15	6,980	0.170	1.2
16	6,447	0.119	0.8
17	5,927	0.083	0.5
18	5,382	0.058	0.3
19	4,850	0.041	0.2
20	4,317	0.029	0.1
21	3,787 ⁽⁴⁾	0.020	0.1

(1) MEMO FROM POLLARD, J.K.

AND K.H. SCHAEFFER TO
DOT/TSC (DTS-321),
14 FEB. 1980.

(2) ANALYSIS OF R.L. POLK

REGISTRATION DATA FOR JULY
1, 1977 AND JULY 1, 1978
CONTAINED IN (1).

(3) ANNUAL MILEAGE INDEX EQUALS

ANNUAL MILES TRAVELED BY
VEHICLE OR AGE i MULTIPLIED
BY SURVIVAL PROBABILITY OF
VEHICLES OF AGE i AND DIVIDED
BY 10^3 .

(4) PROJECTION ASSUMING REDUCTION
OF 530 MILES TRAVELED PER
YEAR.

*Includes Station Wagons.

TABLE 3-2. ESTIMATED ANNUAL MODEL YEAR MILEAGE BY PASSENGER CARS, EXPRESSED IN PERCENTAGE OF TOTAL MILEAGE FOR THESE VEHICLES

MODEL YEAR	MODEL YEAR MILEAGE INDEX (1)	REGISTRATION RATIO (2)	REGISTRATION MILEAGE INDEX (3)	ANNUAL MILEAGE BY MODEL YEAR (%) (4)	CUMULATIVE MILEAGE (% OF TOTAL ANNUAL MILEAGE) (5)
1980	7.2	1.154	8.3	5.8	5.8
1979	14.1	1.300	18.3	12.9	18.7
1978	13.4	1.330	17.8	12.5	31.2
1977	12.6	1.302	16.4	11.5	42.7
1976	11.8	1.180	13.9	9.8	52.5
1975	10.9	1.000	10.9	7.6	60.1
1974	9.8	1.054	10.4	7.3	67.4
1973	8.6	1.379	11.9	8.4	75.8
1972	7.4	1.275	9.4	6.6	82.4
1971	6.0	1.196	7.2	5.0	87.4
1970	4.7	1.014	4.8	3.3	90.7
1969	3.6	1.150	4.1	2.9	93.6
1968	2.6	1.136	3.0	2.1	95.7
1967	1.9	1.010	2.0	1.4	97.1
1966	1.4	1.089	1.5	1.1	98.2
1965	1.0	1.128	1.1	0.8	99.0
1964	0.6	0.980	0.6	0.4	99.4
1963	0.4	0.918	0.4	0.3	99.7
1962	0.3	0.843	0.2	0.1	99.8
1961	0.2	0.712	0.1	0.1	99.9
1960	0.1	0.799	0.1	0.1	100.0

(1) MODEL YEAR MILEAGE INDEX FOR YEAR j, WHERE j = 1980 - (i-1), AND MODEL YEAR MILEAGE INDEX

EQUALS AVERAGE OF ANNUAL MILEAGE INDICES FOR VEHICLES OF AGES i AND (i-1).

(2) NEW PASSENGER CAR REGISTRATIONS DIVIDED BY REGISTRATION IN BASE YEAR (1975) WHARTON EFA INC. THROUGH 1977; 1978, MVMA; 1979 MEMO DATED 30, JAN 1980 FROM K.H. SCHAEFFER, AND O. LESUEUR. TO DOT/TSC (DTS-321); 1980, DATA RESOURCES INSTITUTE, JAN 1980.

(3) MODEL YEAR MILEAGE INDEX MULTIPLIED BY REGISTRATION RATIO.

(4) REGISTRATION MILEAGE INDEX FOR MODEL YEAR j DIVIDED BY SUM OF REGISTRATION MILEAGE INDICES FOR 1960 THROUGH 1980, EXPRESSED IN PERCENT.

(5) CUMULATIVE ADDITION OF ANNUAL PASSENGER CAR MILEAGE BY MODEL YEAR IN PERCENT.

(3) Establish a vehicle registration ratio. This is done by relating annual vehicle registrations to registrations in a base year. 1975 was used in this analysis, but the base year selection is arbitrary. See Table 3-2.

(4) Modify the model year mileage index to account for year-to-year registration variances. This is done by combining the model year mileage index with the registration ratio. See Table 3-2.

(5) Sum the registration mileage indexes calculated in (4) and divide it into individual registration mileage indexes to obtain the fraction of annual mileage covered by individual model year vehicles (shown as a percentage in Table 3-2).

3.1.2 Vehicle Fuel Consumption by Model Year

Vehicle fuel consumption for each year was obtained by fitting second degree polynomials to the data in Appendix A after the data was normalized by the vehicle inertia weights. The expressions yield fuel consumption in units of gallons per pound mile as a function of vehicle speed. The fuel consumption equation for each model year was then obtained by multiplying the relevant coefficients by the average sales-weighted inertia weight for that year from Reference 5.

Table 3-3 shows the best fit, to a second degree polynomial of the same form as above, of the data in Appendix A for all model years but partitioned by inertia weight class. The data in Table 3-3 indicates that the normalization by weight is reasonable. Divergence is shown at the higher speeds supporting the conclusion that the fuel economy of smaller vehicles is effected more by increased speed than are the fuel economies of larger vehicles. The distribution of the values of $FCR \cdot 10^6 / IW$ at 55 mph for model year 1980 and all model years obtained directly from Appendix A (without curve fitting) is shown in Figure 3-2. It can be observed that the mean of the 1980 data represents a lower fuel consumption than that of the preceding years. This supports the conclusion that, on a weight normalized basis, highway fuel economy has improved.

TABLE 3-3. INERTIA WEIGHT NORMALIZED FUEL CONSUMPTION FOR PASSENGER CARS* AS A FUNCTION OF WEIGHT AND SPEED

INERTIA WEIGHT (lbs)	SPEED (MPH)							SAMPLE SIZE
	45	50	55	60	65	70		
2000	12.5	13.3	14.1	15.1	16.3	17.5	69	
2250	11.3	11.9	12.8	14.0	15.3	17.0	148	
2500	11.6	12.3	13.1	14.2	15.6	17.2	131	
2750	11.8	12.2	12.9	13.8	14.9	16.2	74	
3000	12.3	12.9	13.5	14.4	15.3	16.4	252	
3500	12.5	13.2	13.7	14.2	14.6	14.9	368	
4000	11.6	12.1	12.6	13.3	14.1	15.0	323	
4500	11.1	11.5	12.0	12.6	13.3	14.1	279	
5000	10.8	11.2	11.6	12.1	12.7	13.3	71	
5500	10.3	10.5	10.9	11.4	12.1	12.9	19	

*UNITS ARE IN GALLONS PER POUND-MILE $\times 10^6$ AND INCLUDES DATA ON STATION WAGONS

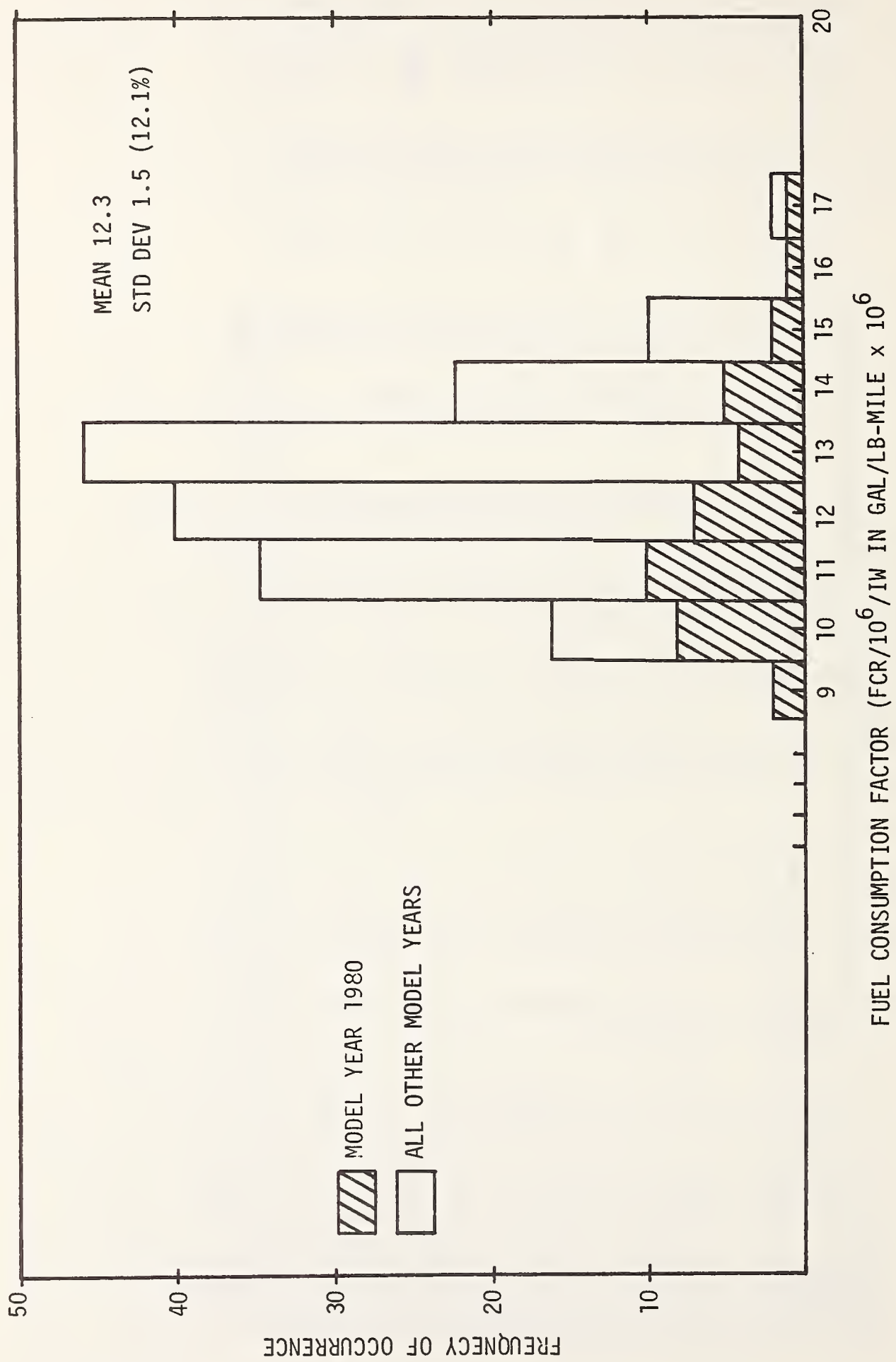


FIGURE 3-2. DISTRIBUTION OF FUEL CONSUMPTION FACTOR FOR CARS AND STATION WAGONS AT 55 MPH

3.1.3 Speed Distribution Data

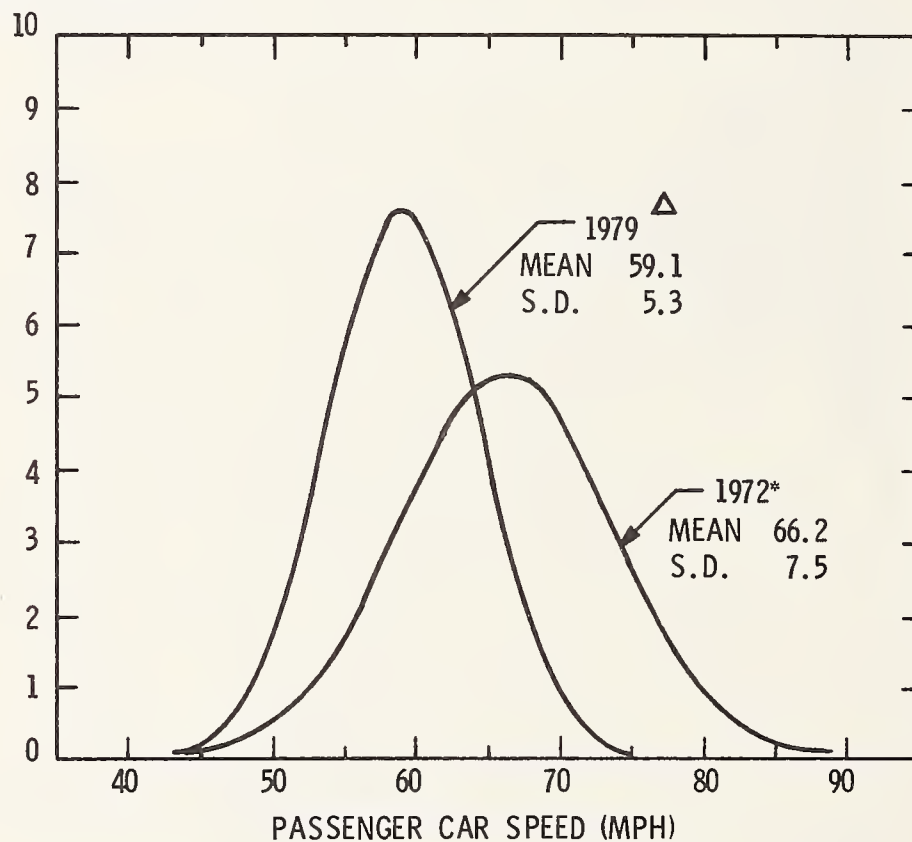
In developing the speed distribution data shown in Figures 3-3 and 3-4 for Rural and Urban Interstate Highways (Appendixes B.1 and B.2), information based on Appendix D was analyzed and fitted to standard normal distributions. The important comparison was between 1972, the year before any major emphasis on lower highway speeds or occurrence of fuel shortages, and 1979, a year of fuel shortages and the 55 mph speed limit. For 1972, speed distribution data was available for passenger cars and also aggregated for all vehicles. For 1979, only aggregated data was available (no separate data for passenger cars). To develop information for passenger cars, differences in the speed distribution statistics (mean and standard deviations) between the values reported in 1972 for passenger cars and all vehicles were applied to the aggregate values of 1979.

For highways other than urban and rural interstate, speed distributions in 1972 were reported in categories of main rural, suburban interstate, rural primary, and rural secondary; in 1979, the categories were 2-lane rural, multi-lane divided, and multi-lane undivided. As a result, only the aggregated distributions for each of the above years were used in the analysis. These distributions were obtained from the means and standard deviations given in Appendix B.3. Because of the absence of 1979 data on miles traveled by road type, 1978 data was used to combine individual road type speed distributions. The results of that aggregation is shown in Figure 3-5 with numerical results tabulated in Appendix B.4. Other speed distributions considered are also given in Appendix B.

3.1.4 Calculation of Fuel Consumption Rates by Speed Distribution

By combining the information discussed in paragraphs 3.1.2 and 3.1.3, fuel consumption rates were calculated for an average vehicle representing the fleet in 1980 for the above speed distributions. Table 3-4 shows the computed fuel consumption rates

PASSENGER CARS WITHIN
0.5 MPH OF SPEED (%)

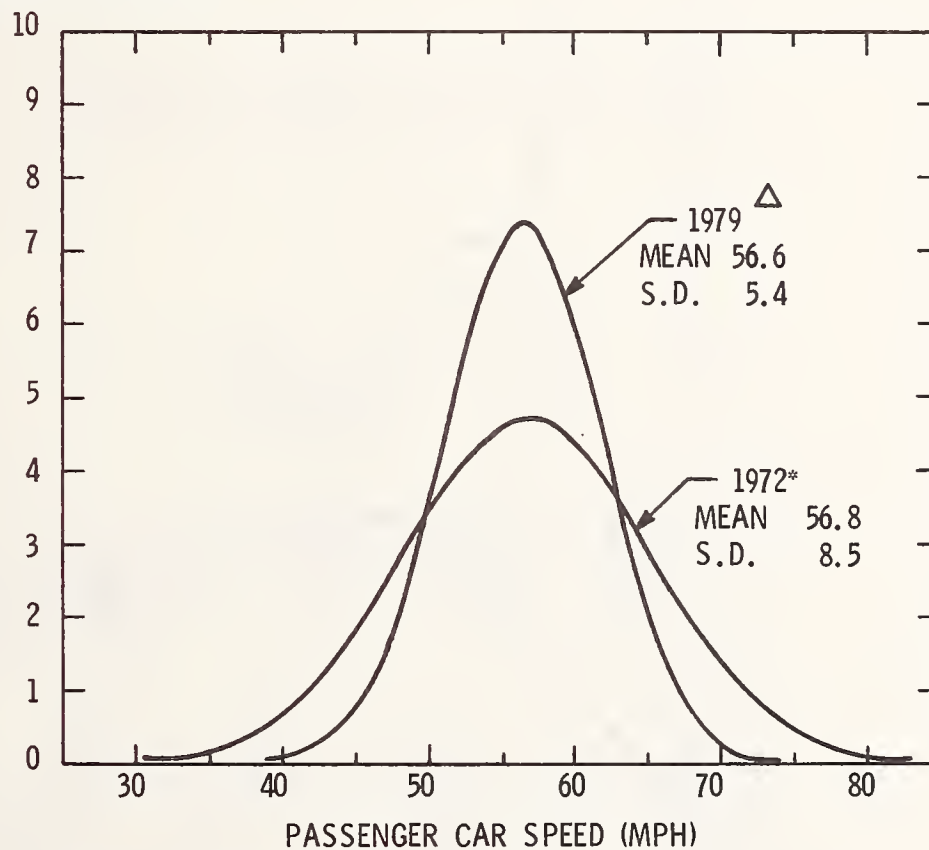


*STANDARD NORMAL DISTRIBUTION FIT (SEE APPENDIX D)

△ ESTIMATE BASED ON PERCENTAGE CHANGE IN VALUES OF MEAN AND STANDARD DEVIATION BETWEEN ALL VEHICLES AND PASSENGER CARS IN 1972 APPLIED TO 1979 DATA FOR ALL VEHICLES

FIGURE 3-3. RURAL INTERSTATE HIGHWAY SPEED DISTRIBUTION

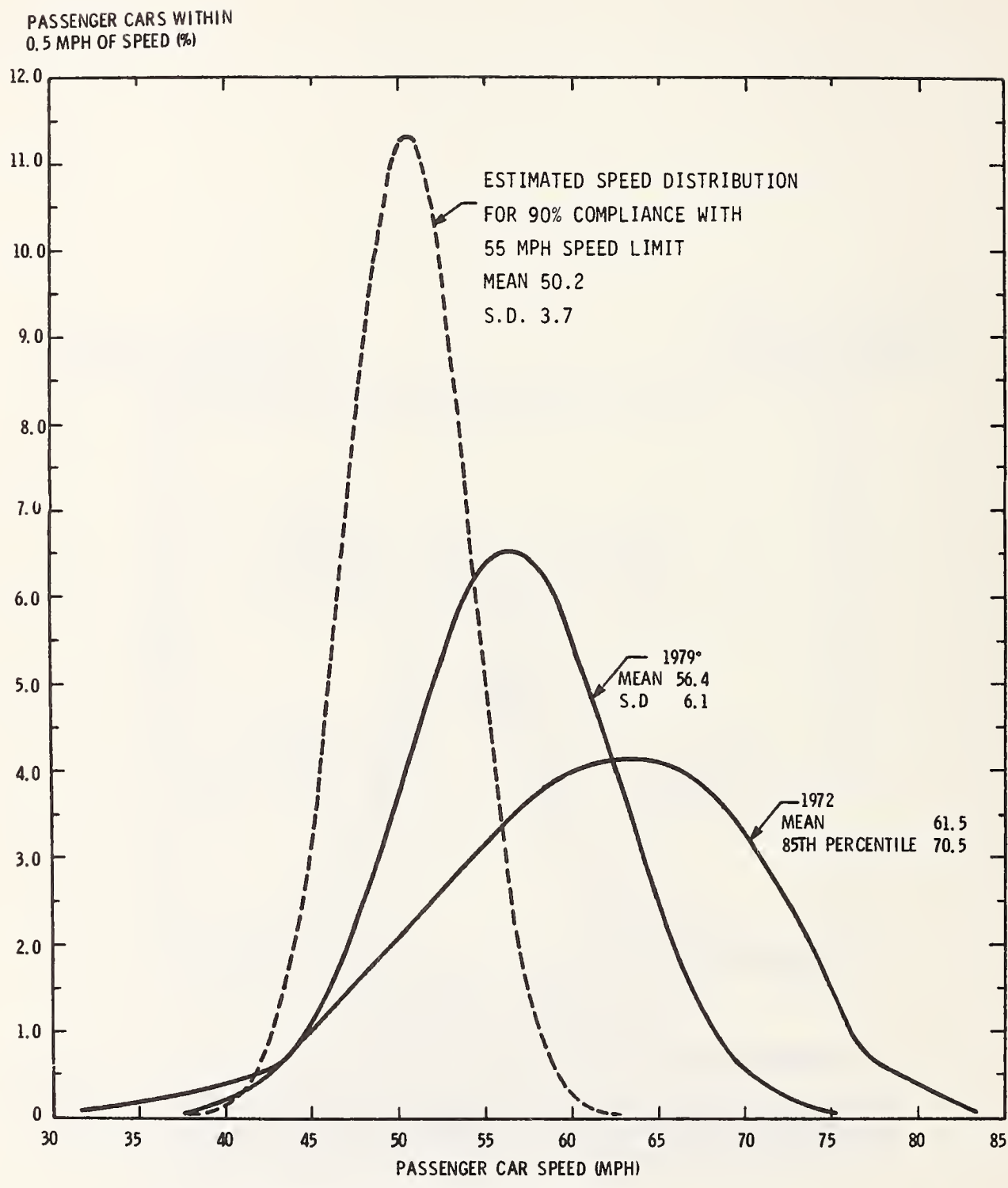
PASSENGER CARS WITHIN
0.5 MPH OF SPEED (%)



*STANDARD NORMAL DISTRIBUTION FIT (SEE APPENDIX D)

△ ESTIMATE BASED ON CHANGE IN VALUES OF MEAN AND STANDARD DEVIATION
BETWEEN ALL VEHICLES AND PASSENGER CARS IN 1972 APPLIED TO 1979
DATA FOR ALL VEHICLES

FIGURE 3-4. URBAN INTERSTATE HIGHWAY SPEED DISTRIBUTION



*BASED ON 1979 SPEED DISTRIBUTION DATA AND 1978 VMT
**BASED ON 1972 SPEED DISTRIBUTION DATA AND 1978 VMT

FIGURE 3-5. AGGREGATE HIGHWAY SPEED DISTRIBUTION

TABLE 3-4. ESTIMATED HIGHWAY FUEL CONSUMPTION RATES FOR PASSENGER CARS

MODEL YEAR	ANNUAL MILEAGE BY MODEL YEAR FROM TABLE 2	FUEL CONSUMPTION RATE FOR 1972 SPEED DISTRIBUTION (GALLONS PER MILE)	FUEL CONSUMPTION RATE FOR 1979 SPEED DISTRIBUTION (GALLONS PER MILE)	FUEL CONSUMPTION RATE FOR SPEED DISTRIBUTION REPRESENTING 90% COMPLIANCE WITH 55 MPH LIMIT (GALLONS PER MILE)
1980	0.058	0.0426	0.0402	0.0374
1979	0.129	0.0469	0.0442	0.0412
1978	0.125	0.0485	0.0458	0.0427
1977	0.115	0.0525	0.0495	0.0462
1976	0.098	0.0570	0.0537	0.0496
1975	0.076	0.0593	0.0559	0.0523
1974	0.073	0.0580	0.0547	0.0511
1973	0.084	0.0580	0.0547	0.0511
1972	0.066	0.0576	0.0543	0.0508
1971	0.050	0.0568	0.0536	0.0501
1970	0.033	0.0566	0.0534	0.0499
1969	0.029	0.0576	0.0543	0.0508
1968	0.021	0.0565	0.0532	0.0497
PRE 1968	0.043	0.0557	0.0525	0.0491
ALL YEARS	1.000	0.0536	0.0505	0.0468

* INCLUDES STATION WAGONS

at the end of the 1980 model year for 1972 and 1979 speed distributions, and for a standard normal speed distribution with the low speed similar to 1979, and the high speed calculated to produce 90 percent compliance with the 55 MPH speed limit. This latter distribution has a mean value of 50.2 MPH and a standard deviation of 3.7 MPH; it is shown in Figure 3-5 and tabulated in Appendix C. These calculations were made by aggregating the fraction of vehicles traveling in each one MPH wide speed band, into bands five MPH wide and centered at each 5 MPH speed interval (i.e., 35 MPH, 40 MPH, ... 80 MPH). Equations shown in Item 2)a of Figure 3-1 were then aggregated using the average inertia weight and mileage index for a particular model year. The resulting equation was then solved to obtain a fuel consumption rate for a particular speed. The fuel consumption rates obtained were then multiplied by the fraction of vehicles in the particular 5 MPH speed interval band; the results were then summed to obtain the values for all years (also shown in Table 3-4).

3.1.5 Total VMT on Roads Posted at 55 MPH

From information supplied by the FHWA for 1978 (Appendix D), the vehicle miles traveled (VMT) in that year on highways posted at 55 MPH and not affected by congestion was 723×10^9 . This was modified to a 1980 VMT value of 709×10^9 by comparing total 1978 VMT with estimated 1980 VMT. Also based on FHWA statistics and Motor Vehicle Manufacturer's statistics, an estimated 75.9 percent of this VMT was attributable to passenger cars, 13.1 percent to light trucks, and 11.0 percent to other trucks and buses.

3.2 FUEL CONSUMPTION FOR PASSENGER CARS AND LIGHT TRUCKS

3.2.1 Assumptions

To estimate fuel consumption for passenger cars and light trucks under highway conditions, several assumptions were made. First, vehicle utilization was assumed to be independent of vehicle weight (i.e., small passenger cars and trucks are driven on highways with the same frequency as larger passenger cars or

light trucks), and their appearance on highways is only a function of their presence in the population. (Data recently analyzed by TSC did not show any strong correlation by vehicle size and usage pattern, therefore, no attempt was made to consider this factor in calculating highway fuel consumption.)

A second assumption made was that vehicle speed is independent of weight for passenger cars and light trucks, and, furthermore, that light trucks are operated at speeds identical to those of passenger cars on highways. Another assumption involves the estimates of fuel consumption rate versus vehicle speed, namely, that the tested vehicles in the Fuel Economy Data Base (Appendix A) are representative, in fuel economy performance, of the entire vehicle population on the highways. Although this assumption was not evaluated, it appears reasonable, because the bulk of the data is from Consumers Union, which in selecting test vehicles, generally chooses a wide variety of popular vehicles. In addition, it was assumed that constant speed fuel economy data was representative of highway fuel consumption rates. Braking and resultant acceleration to return to the desired speed, however, do increase fuel consumption. Therefore, if the other assumptions are correct, it is likely that the estimated fuel consumption values presented here are conservative. Fuel saving, however, is considered to be more a function of differences in constant speed fuel consumption rates and is not significantly affected by braking and acceleration maneuvers.

3.2.2 Passenger Car Fuel Consumption

Passenger car fuel consumption estimates were obtained by multiplying the highway VMT by the aggregate fuel consumption rates for the speed distribution scenarios shown in Figure 3-4 and computed as described in paragraph 3.1.4. The values are shown in Table 3-5 as a daily rate in terms of 42-gallon barrels.

Table 3-5 shows an estimate of the fuel consumed by passenger cars operated on highways unaffected by significant congestion. This is compared with the fuel that would have been con-

sumed if vehicle speeds were equivalent to those in 1972, and with the fuel consumed at 90 percent of compliance with the 55 MPH Speed Limit. The estimates are for the twelve month period concurrent with the 1980 model year.*

TABLE 3-5. PASSENGER CAR FUEL CONSUMPTION AND SAVINGS UNDER FREE FLOWING TRAFFIC CONDITIONS

SPEED DISTRIBUTION	FUEL CONSUMED Barrels/Day	SAVINGS Barrels/Day
1972 (25% Compliance)	1.876×10^6	Baseline
1979 (40% Compliance)	1.764×10^6	1.12×10^5
90% Compliance	1.644×10^6	2.32×10^5

3.2.3 Light Truck Fuel Consumption

Light truck** fuel consumption calculation procedures to obtain light truck fuel consumption estimates are similar to those used for passenger cars, however, the Fuel Economy Data Base (Appendix A) has limited speed/fuel economy data. This lack of data did not allow estimates of fuel consumption to be made based on parameters other than "Inertia Weight". Also, information on sales-weighted "Inertia Weight" by model year was not as extensive as that for passenger cars. Tables 3-6 and 3-7 provide information for light trucks equivalent to Tables 3-1 and 3-2 for passenger cars. Table 3-8 estimates highway fuel consumption rates for the same speed distribution scenarios used for passenger cars. Table 3-9 shows estimates of light truck fuel consumption under conditions previously described for passenger cars. However, the estimates assumed an annual VMT of 13.1 percent compared to 75.9 percent for passenger cars.

*An estimate of fuel saved by reduced highway speed for passenger cars prepared by the FHWA in 1976 (see Ref. 4) was 1.4×10^5 barrels per day. That estimate compared 1972 driving trends with those in 1975.

**Vans and truck-based station wagons are considered to be trucks in this study.

TABLE 3-6. ANNUAL MILEAGE INDEX FOR LIGHT TRUCKS

VEHICLE AGE	MILES (1) TRAVELED (10^3)	SURVIVAL (2) PROBABILITY	ANNUAL MILEAGE INDEX (3)
1	14.2	1.000	14.2
2	14.8	.995	14.7
3	13.9	.980	13.6
4	12.2	.966	11.8
5	11.1	.950	10.5
6	9.9	.927	9.2
7	9.3	.898	8.4
8	8.8	.862	7.6
9	8.0	.817	6.5
10	7.6	.766	5.8
11	7.3	.708	5.2
12	6.9	.646	4.5
13	6.0	.583	3.5
14	6.0	.522	3.1
15	5.3	.464	2.5
16	5.0	.406	2.0
17	5.7	.348	2.0
18	5.1	.292	1.5
19	4.6	.240	1.1
20	4.2	.192	0.8
21	4.0	.150	0.6
22	3.7	.114	0.4
23	3.2	.084	0.3
24	2.5	.061	0.2
25	2.0	.042	0.1

(1) AUTOMATED SCIENCES GROUP, INC., FUEL ECONOMY MODELS (REPORT TO NHTSA, TECHNOLOGY ASSESSMENT DIVISION, DECEMBER 1979).

(2) ANALYSIS OF R.L. POLK REGISTRATION DATA BY DOT/TSC (DTS-321).

(3) ANNUAL MILEAGE INDEX EQUALS ANNUAL MILES TRAVELED BY VEHICLE OF AGE i MULTIPLIED BY SURVIVAL PROBABILITY OF VEHICLE OF AGE i AND DIVIDED BY 10^3 .

TABLE 3-7. ESTIMATED ANNUAL MODEL YEAR MILEAGE FOR LIGHT TRUCKS EXPRESSED IN PERCENTAGE OF TOTAL LIGHT TRUCK MILEAGE

MODEL YEAR	MODEL YEAR MILEAGE INDEX (1)	REGISTRATION RATIO (2)	REGISTRATION MILEAGE INDEX (3)	ANNUAL MILEAGE BY MODEL YEAR (%) (4)	CUMULATIVE MILEAGE (% OF TOTAL ANNUAL MILEAGE) (5)
1980	7.1	1.29	9.1	6.1	6.1
1979	14.4	1.47	21.2	14.3	20.4
1978	14.2	1.75	24.9	16.7	37.1
1977	12.7	1.57	19.9	13.4	50.5
1976	11.2	1.30	14.6	9.8	60.3
1975	9.8	1.00	9.8	6.6	66.9
1974	8.8	1.07	9.4	6.3	73.2
1973	8.0	1.21	9.7	6.5	79.7
1972	7.1	1.00	7.1	4.8	84.5
1971	6.1	0.79	4.8	3.2	87.7
1970	5.5	0.69	3.8	2.6	90.3
1969	4.8	0.73	3.5	2.4	92.7
1968	4.0	0.69	2.8	1.9	94.6
1967	3.3	0.57	1.9	1.3	95.9
1966	2.8	0.59	1.7	1.1	97.0
1965	2.3	0.57	1.3	0.9	97.9
1964	2.0	0.50	1.0	0.7	98.6
1963	1.8	0.44	0.8	0.5	99.1
1962	1.3	0.37	0.5	0.3	99.4
1961	0.9	0.32	0.3	0.2	99.6
1960	0.7	0.31	0.2	0.1	99.7
1959	0.5	0.30	0.2	0.1	99.8
1958	0.4	0.23	0.1	0.1	99.9
1957	0.2	0.27	0.1	0.1	100.0

(1) MODEL YEAR MILEAGE INDEX FOR YEAR j, WHERE j = 1980 - (i-1), AND MODEL YEAR MILEAGE INDEX

EQUALS AVERAGE OF ANNUAL MILEAGE INDEXES FOR VEHICLES OF AGES i AND (i-1).

(2) NEW LIGHT TRUCK

REGISTRATION DIVIDED BY REGISTRATIONS IN BASE YEAR (1975).

WHARTON EFA THROUGH 1977; 1978 MVMA; 1979:

SCHAEFFER, K.H. AND O. LESUEUR, MOTOR

VEHICLE SALES AND

PRICES - 30 Jan 1980

MEMORANDUM TO DOT/TSC

(DTS-321) 1980; DATA

RESOURCES INSTITUTE,

JAN 1980

(3) MODEL YEAR MILEAGE INDEX MULTIPLIED

BY REGISTRATION RATIO

(4) REGISTRATION MILEAGE

INDEX FOR MODEL YEAR

j DIVIDED BY SUM OF

REGISTRATION MILEAGE

INDEXES FOR 1957

THROUGH 1980, EXPRESSED

IN PERCENT

(5) CUMULATIVE ADDITION OF

ANNUAL LIGHT TRUCK

MILEAGE BY MODEL YEAR

IN PERCENT.

TABLE 3-8. ESTIMATED HIGHWAY FUEL CONSUMPTION RATES FOR LIGHT TRUCKS

MODEL YEAR	ANNUAL MILEAGE BY MODEL YEAR FROM TABLE 6	FUEL CONSUMPTION RATE FOR 1972 SPEED DISTRIBUTION (GALLONS PER MILE)	FUEL CONSUMPTION RATE FOR 1979 SPEED DISTRIBUTION (GALLONS PER MILE)	FUEL CONSUMPTION RATE FOR SPEED DISTRIBUTION REPRESENTING 90% COMPLIANCE WITH 55 MPH LIMIT (GALLONS PER MILE)
1980	.061	0.0605	0.0571	0.0532
1979	.143	0.0620	0.0585	0.0545
1978	.167	0.0630	0.0594	0.0553
1977	.134	0.0634	0.0598	0.0557
1976	.098	0.0675	0.0637	0.0595
PRE 76	.397	0.0689	0.0650	0.0606
ALL YEARS	1.000	0.0655	0.0618	0.0576

TABLE 3-9. LIGHT TRUCK FUEL CONSUMPTION

SPEED DISTRIBUTION	FUEL CONSUMED Barrels/Day	SAVINGS Barrels/Day
1972	3.98×10^5	-
1979	3.76×10^5	2.2×10^4
90% Compliance	3.50×10^5	4.8×10^4

TABLE 3-10. ESTIMATED FUEL CONSUMPTION AT VARIOUS LEVELS OF COMPLIANCE WITH THE 55 MPH SPEED LIMIT (1979)

VEHICLES NOT EXCEEDING 55 MPH %	FUEL CONSUMED (10^6 BARRELS PER DAY)			
	AUTOMOBILES	LIGHT TRUCKS	MEDIUM AND HEAVY TRUCKS AND BUSES	TOTAL
20	1.869	0.397	1.029	3.295
25 (1972)*	1.876	0.398	-	-
30	1.807	0.385	0.993	3.185
40 (1979)*	1.764	0.376	0.967	3.107
43**	-	-	0.968	-
50	1.733	0.369	0.947	3.050
53***	-	-	0.947	-
60	1.708	0.364	0.931	3.003
70	1.686	0.359	0.918	2.963
80	1.666	0.355	0.905	2.926
90	1.644	0.350	0.894	2.888

* ESTIMATED SPEED DISTRIBUTION FOR AUTOMOBILES AND LIGHT TRUCKS, SEE FIGURE 3-5. 1972 DISTRIBUTION IS NOT STANDARD NORMAL.

** REF. 4, 1972 SPEED DISTRIBUTION FOR COMBINATION TRUCKS AND BUSES

*** REF. 4, 1975 SPEED DISTRIBUTION FOR COMBINATION TRUCKS AND BUSES

3.2.4 Commercial Vehicle Fuel Consumption

In combination with the study of passenger car and light truck fuel consumption, a brief analysis of medium and heavy truck and bus fuel consumption was attempted using techniques similar to those previously discussed. The data is presented in Table 3-10 in combination with estimated fuel consumption values for speed limit compliance levels between 20 and 90 percent. Individual compliance level fuel consumption values were obtained as discussed in paragraph 3.1.4.

Constant speed fuel economy for commercial vehicles was developed by performing regression analyses on data obtained at the Vehicle Research and Test Center during the Double-Nickel Challenge (ref. 1). This information consisted of fuel economy tests of 32 class VIII vehicles at 55 mph and at another speed selected by a vehicle operator but above 55 mph. The regression equation used was $FCR = C_1 + C_2 W + C_3 V^2$ where FCR is the fuel consumption rate in gallons per mile, W is truck weight in pounds and V is a selected speed in miles per hour. This form was selected to represent the energy consumed in rolling resistance (C_2W), aerodynamic drag ($C_3 V^2$) and by other truck systems (C_1). Test data were aggregated for trucks with flat bed trailers, van type trailers and tank trailers and then further combined by the proportion of these types on highways in 1977. The resulting fuel consumption equation for class VIII diesel powered trucks was;

$$FCR = (0.679E-01) + (0.998E-06) W + (2.26E-05) V^2$$

Table 3-11 shows this information. A point of interest in these data is that the coefficient of the term including aerodynamic drag follows the expected trend of increasing values for tank trailers and vans when compared with flat bed trailers.

To reduce the equation further, an average class VIII diesel truck weight of 52,900 lbs was calculated from information supplied by the FHWA in the Annual Truck Weight Study for 1979. The fuel consumption equation thus reduces to the following:

$$FCR = 0.1207 + (2.26E-05) V^2$$

TABLE 3-11. REGRESSION ANALYSIS COEFFICIENTS
(Double Nickel Challenge)

Trailer Type	C1 (x 10 ⁻¹)	C2 (x 10 ⁻⁶)	C3 (x10 ⁻⁵)	1977 Population (%)
Van*	0.556	1.110	2.53	63.7
Flat Bed	1.084	0.610	1.64	22.8
Tank	0.532	1.120	2.07	13.5
ALL	0.679	0.998	2.26	100.0

* Auto carriers lumped with van type trailers.

This equation, however, does not consider highway fuel economy of buses, class VIII gasoline powered trucks or trucks in classes III through VII. To include these vehicles, the equation was modified using a portion of the information contained in the Heavy Duty Vehicle Fuel Saving (FS) Calculation Procedure and information provided by Page (Ref. 2). The fraction of highway miles traveled by heavy duty vehicles was developed by difference after reviewing the miles traveled by automobiles and light trucks. This fraction was further reduced by vehicle type and fuel consumption using information developed for the FS procedure and assuming that one third of the short haul mileage and nine-tenths of the long haul mileage was on highways. Fuel consumption rates for trucks used in the FS calculation procedure were compared with class VIII diesel trucks in that procedure. The results were then used to modify the previously discussed fuel consumption equation for class VIII trucks to attempt to make it applicable to all heavy duty vehicles. For buses fuel economy was taken from Page (Ref. 2) in the 55 mph to 60 mph speed range. Table 3-12 shows computation results. The resultant equation used to calculate constant speed fuel consumption for commercial vehicles then becomes $FCR = 0.1184 + (2.22 \text{ E-}05) V^2$. It should be emphasized

TABLE 3-12. COMMERCIAL VEHICLE FUEL ECONOMY AND MILEAGE RELATIONSHIPS

Vehicle Type	Vehicle Miles Traveled % of Class VIII Diesel	Fuel Economy % of Class VIII Diesel
Diesel (Class VIII)	100	100.0
Gasoline (Class VIII)	7	86.0
Class VII	31	104.2
Class (III-VI)	11	109.5
Buses	6	143.9

that the approximations made to obtain this equation for commercial vehicle fuel consumption on highways are somewhat contrived and not founded on well established data. This is because these data do not exist partly as a result of the expense involved in establishing them, their limited applicability to overall commercial vehicle operations, and the variety of weights present in the commercial vehicle fleet. Our interest here, however, is in estimating fuel consumption differences for changes in highway speed distributions, and, for these purposes, the derived relationships. are considered to adequately estimate the order of magnitude of fuel saving and to cover the most important commercial vehicle types. Speed distribution information for 1972 and 1975 for commercial vehicles was taken from reference 2 as defined for combination trucks.

3.2.5 Summary of Highway Fuel Consumption Effects

Highway fuel consumption since 1972 has been effected by other causes beyond the 55 MPH speed limit. Notable among these is the near completion of the interstate highway system, increases in the number of vehicles on highways, and reduced weight

of passenger cars. To assess these later two effects, the following calculations were made: 1) fuel consumed at highway speeds in 1972 and 1979 assuming vehicle fuel economy and weight remained unchanged from 1972; 2) fuel saved on highways by improved vehicle fuel economy; and 3) fuel saved through reduced highway speed. Table 3-13 presents these results. The table shows that improved vehicle fuel economy and reduced highway speed have combined to offset increased fuel consumption from highway VMT growth.

TABLE 3-13. EFFECT ON HIGHWAY FUEL CONSUMPTION OF CHANGES BETWEEN 1972 AND 1979 (Barrels per Day)

	PASSENGER CARS	LIGHT TRUCKS	COMMERCIAL	TOTAL
Increased VMT	1.99×10^5	0.45×10^5	1.05×10^5	3.49×10^5
Improved Fleet Fuel Economy	-1.19×10^5	-0.18×10^5	-0.53×10^5 *	-1.90×10^5
Reduced Highway Speed	-1.12×10^5	-0.22×10^5	-0.26×10^5	-1.60×10^5
Cumulative Increase	-0.32×10^5	0.05×10^5	0.26×10^5	-0.01×10^5

* Based on 1979 fuel saving estimates, savings from aerodynamic devices and roadspeed governors attributed completely to highway operation, savings were proportioned by mileage for radial tires, thermostatic fans, excess and fuel saving diesel engines and tag axles.

4. THE EFFECT OF VEHICLE PARAMETERS ON FUEL CONSUMPTION

4.1 VEHICLE FUEL ECONOMY SIMULATION

The purpose of this study was to assess the effect of various vehicle parameters and driving schedule conditions on fuel economy, primarily at constant vehicle speed. This was accomplished mainly by using a computer simulation model (VEHSIM) designed to predict changes in vehicle performance and fuel economy. This model, which is discussed in detail in SAE Paper 760157* has been used extensively to establish fuel economy sensitivities (SAE Paper 800215**). Input data to the model includes route information, driving schedule, transmission gearing and operation, tires, axle ratios, vehicle characteristics, and engine performance. These data are integrated to form both a complete vehicle and a mission for that vehicle. The vehicle specific data or "parts" are derived from steady state test results and vehicle specifications. VEHSIM utilizes this information in a time step simulation to represent the changing states of the vehicle. Torque and engine revolution rates are determined both from the driving schedule and the accessory requirements for a particular vehicle speed. A fuel rate and, consequently, a fuel economy value based on a small time increment is then calculated from engine fuel consumption maps. The program is useful in predicting trends in alternative configurations because the requirement for road testing is reduced and random effects such as those caused by weather or driver variation are eliminated.

The six vehicles used in this study, listed in Table 4-1, represent a cross-section of production automobiles and light

* Malliaris, A.C., E. Withjack and H. Gould, Simulation Sensitivities of Auto Fuel Economy, Performance and Emissions, Feb. 1976, SAE Paper 760157.

** Zub, R.W., and Colello, R.G., Effect of Vehicle Design Variables on Top Speed, Performance and Fuel Economy, Feb. 1980, SAE Paper 800215.

TABLE 4-1. BASELINE VEHICLES FOR SIMULATION STUDIES

VEHICLE	WEIGHT (LBS)	ENGINE (LITER)	AXLE RATIO	TRANSMISSION	HP/WT
AUTOMOBILE	2000	1.6	3.58	M4	.034
AUTOMOBILE	3000	2.1	3.91	M5	.030
AUTOMOBILE	3500	3.8	2.56	A3	.027
AUTOMOBILE	4500	5.2	2.71	A3	.030
LIGHT TRUCK	3000	2.3	3.08	M4	.032
LIGHT TRUCK	4000	5.8	3.54	M4	.040

*Vehicles used in this study have operational attributes (i.e., engine fuel economy, power to weight ratios, etc.) consistent with vehicles produced by major manufacturers in the 1971 to 1979 time frame. No front wheel drive vehicles are included.

trucks in 1977 and 1978. Each vehicle is equipped with a radiator cooling fan and alternator. In the tables HP/WT is the ratio of maximum engine horsepower to the weight of the vehicle. This ratio is an indication of the relative performance of the vehicle.

An initial simulation run was performed for each vehicle to determine its baseline fuel economy. Vehicle characteristics, drive schedules or routes were then modified to determine resulting fuel economy changes. The only dependent variable in this study is fuel economy. Independent variables examined individually included vehicle axle ratio, weight, aerodynamic drag coefficient, engine displacement, tire inflation pressure, and certain accessory effects as well as drive cycle variations.

The constant speed baseline fuel economy for each vehicle is shown in Figure 4-1. In this figure and in subsequent tables and figures, vehicles are identified by their respective weights as in Table 4-1. For the indicated speeds (40 to 70 mph), it can be seen that lower constant speeds yield higher fuel economy. Apparent trend anomalies, such as the intersections of the curves for the 3000 lb auto, the 3000 lb truck, and the 4000 lb truck and 4500 lb auto, result from drivetrain and engine fuel economy differences available on production vehicles (i.e., drive ratios and road load/engine fuel economy optimization).

4.2 AXLE RATIO

The effect of axle ratio on fuel economy at 55 mph was determined by modifying the axle ratio 5 percent above and 5 percent below the baseline case. From the results, it is apparent that fuel economy is approximately linear with axle ratio. As shown in Table 4-2, a numerical increase with axle ratio will decrease fuel economy, and a numerical decrease will increase fuel economy. Because the effect of an axle ratio change is most noticeable in top gear, it may be more practical to modify the top gear ratio (i.e., overdrive) as the

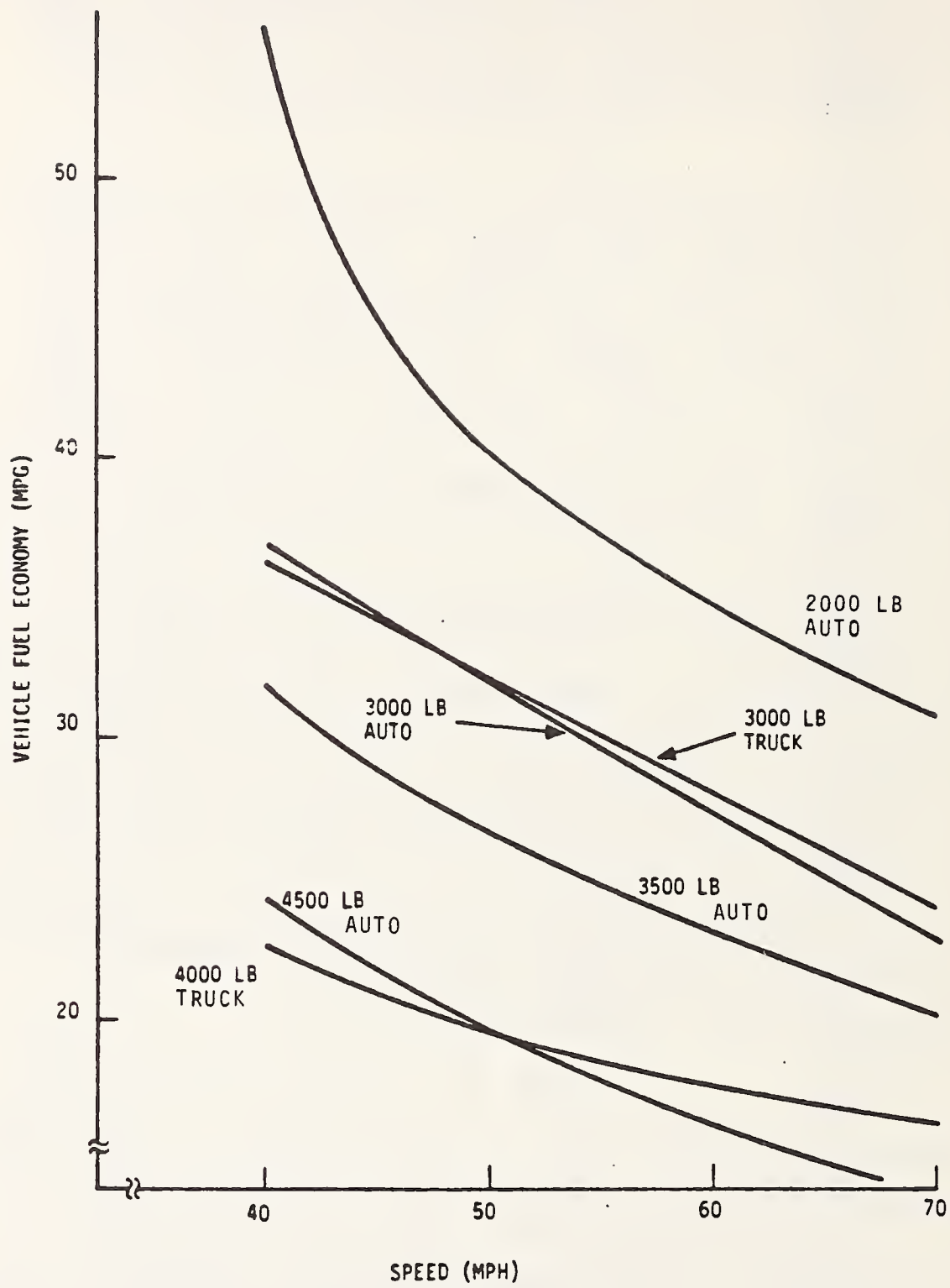


FIGURE 4-1. BASELINE VEHICLE, FUEL ECONOMY VS SPEED

TABLE 4-2. AXLE RATIO CHANGE

VEHICLE WEIGHT (LBS)	BASELINE AXLE RATIO	FUEL ECONOMY CHANGE AT 55 MPH WITH AXLE RATIO CHANGE	
		- 5%	+ 5%
AUTOS	2000	+ 2.5%	- 2.7%
	3000	+ 0.6	- 0.5
	3500	+ 1.6	- 2.2
	4500	+ 2.2	- 2.0
TRUCKS	3000	+ 2.3	- 1.9
	4000	+ 0.4	- 0.6

modification of the axle ratio will affect performance throughout all the gear ratios. If it is decided to modify the top gear ratio, these results remain applicable as the overall result is to modify the final drive ratio (rpm/mph).

4.3 WEIGHT CHANGE

For a vehicle traveling over a given drive cycle, force is required to overcome aerodynamic drag, accessory loads, and rolling resistance, and to provide acceleration. However, at constant speed, only weight affects rolling resistance, and therefore, a change in fuel economy is attributable only to rolling resistance. Each vehicle was simulated at a weight 100 and 300 pounds greater than the baseline case. The results are shown in Table 4-3.

The fuel economy decrease is dependent on the energy consumption of a vehicle at 55 mph. For example, approximately 70 percent of the energy consumed is used to overcome air resistance for the 4000 lb truck. Therefore, a small weight increase, which has no affect on vehicle drag, will not significantly influence fuel economy for this vehicle.

4.4 AERODYNAMIC DRAG COEFFICIENT

For the vehicles studied, the percent of the total energy expended to overcome aerodynamic drag is shown in Table 4-4a. The aerodynamic drag force acting on a vehicle is a function of air density, frontal area, drag coefficient, and the square of the vehicle speed. The drag coefficient is, basically, a function of the shape of the vehicle. The effect on fuel economy of an increase of 0.1 in the drag coefficient is shown in Table 4-4b.

4.5 DISPLACEMENT

The effect of engine displacement on fuel economy was determined by scaling the baseline engines. The resulting scaled engines have fuel rate and torque characteristics similar to the

TABLE 4-3. WEIGHT CHANGE

BASELINE VEHICLE WEIGHT (LBS)	FUEL ECONOMY DECREASE AT 55 MPH WITH VEHICLE WEIGHT INCREASE	
	100 LBS (%)	300 LBS (%)
AUTOS	2000	2.2
	3000	2.2
	3500	1.9
	4500	2.1
TRUCKS	3000	1.9
	4000	1.0

TABLE 4-4a. ENERGY EXPENDED TO OVERCOME AERODYNAMIC DRAG

VEHICLE WEIGHT (lbs)		PERCENT OF TOTAL ENERGY EXPENDED AT	
		55 MPH	70 MPH
AUTO	2000	61	70
	3000	46	68
	3500	45	63
	4500	53	63
TRUCK	3000	63	73
	4000	66	73

TABLE 4-4b. FUEL ECONOMY RESPONSE TO AERODYNAMIC DRAG CHANGE

VEHICLE WEIGHT (LBS)	BASELINE DRAG COEFFICIENT (C_D)	FUEL ECONOMY CHANGE WITH INCREASED DRAG % CHANGE FOR $C_D + 0.1$	
		55 MPH	70 MPH
AUTOS	2000	-6.5	- 8.6
	3000	-8.1	-10.2
	3500	-6.8	- 7.0
	4500	-7.5	-12.3
TRUCKS	3000	-7.4	-11.7
	4000	-6.4	- 7.3

baseline engines, except that the actual values differ directly with engine displacement. The change in displacement has basically the same effect as modifying the axle ratio. Decreasing the displacement will increase fuel economy; increasing it will decrease fuel economy. Also, the acceleration performance subsequently will be affected as in the case of an axle ratio change. The results are presented in Table 4-5.

4.6 TIRE PRESSURE

The rolling resistance of a vehicle is a function of the vehicle weight, rolling resistance coefficient, and vehicle speed. Assuming that the load of the vehicle is constant, the pressure effects can be related to the rolling resistance coefficient and then to fuel economy as shown in Table 4-6. Because each tire has its own characteristics, these results only apply to the range of conditions indicated.

4.7 ACCESSORIES

Two accessory loads were simulated for each vehicle. The first involves the effect of air conditioning on fuel economy as shown in Table 4-7. The fuel economy decrease assumes a 100 percent air conditioner duty cycle. The effect of ambient temperature conditions was not considered. The second accessory simulation is concerned with lighting load. The lighting load was determined by adding the power rating (watts) of all vehicle lamps used in night driving for an average sized vehicle. The night driving lighting load consists of low beam head lamps and side, parking, tail, and license lamps. The increase in power was then transferred to the alternator. The fuel economy decrease due to an increase in alternator load representative of night driving is presented in Table 4-7.

4.8 DRIVING SCHEDULE

A comparison was made between steady state fuel economy at 55 mph and 70 mph and driving schedules that included speed

TABLE 4-5. ENGINE DISPLACEMENT CHANGE

VEHICLE WEIGHT (LBS)	BASELINE DISPLACEMENT (LITER)	FUEL ECONOMY INCREASE AT 55 MPH WITH DISPLACEMENT CHANGE	
		- 10%	+10%
AUTOS	2000	+ 5.2	-4.3
	3000	+ 2.9	-3.1
	3500	+ 3.6	-3.8
	4500	+ 2.5	-2.4
TRUCKS	3000	+ 4.0	-3.3
	4000	+ 5.0	-4.0

TABLE 4-6. EFFECT OF TIRE PRESSURE ON FUEL ECONOMY AT 55 MPH

VEHICLE WEIGHT (LBS)	BASILINE TIRE PRESSURE (psi)	BASILINE TIRE PRESSURE MINUS 20%	BASILINE TIRE PRESSURE PLUS 10%	TIRE CONSTRUCTION
AUTOS	2000	-1.7%	0.3%	RADIAL
	3000	-1.3%	0.6%	RADIAL
	3500	-2.4%	0.8%	RADIAL
	4500	-2.6%	0.7%	RADIAL
TRUCKS	3000	-1.8%	0.7%	RADIAL
	4000	-0.7%	0.3%	RADIAL

TABLE 4-7. EFFECT OF ACCESSORY LOADS ON FUEL ECONOMY AT 55 MPH

VEHICLE WEIGHT (LBS)	FUEL ECONOMY DECREASE FROM	
	MAXIMUM AIR CONDITIONING USE	LIGHTING LOAD
AUTOS	2000	2.2%
	3000	2.5%
	3500	2.3%
	4500	2.3%
TRUCKS	3000	2.3%
	4000	1.4%

changes. The schedules include the SAE interstate 55 and 70 mph driving schedules which are listed in Table 4-8 and modification of these schedules. The interstate 55 mph cycle covers 4.7 miles in 308 seconds (average 55 mph), while the interstate 70 mph cycle transverses 4.7 miles in 242 seconds (average 70 mph). In each modified cycle, constant speed operation was eliminated and the first modification (M1) is thus the result with the constant speed segments excluded. In the second modification (M2), the acceleration rate was doubled. In the third modification (M3), the speed change interval was increased, from 10 mph to 20 mph, but the acceleration rate was identical to the SAE cycles. The fourth change (M4) was identical to the third except that the acceleration rate doubled. The purpose of these changes was to emphasize the importance of the drive cycle on fuel economy. Comparisons between constant speed fuel economy and these drive schedules are presented in Tables 4-9 and 4-10. From the results, it can be seen that there is a large range of fuel economy changes for the various drive schedules.

As can be observed from Table 4-9, small improvements in fuel economy are predicted for the 2000 lb passenger car and the 4000 lb truck. This, however, would not normally be experienced in on-road testing because of transient vehicle characteristics. Because simulation results are obtained from steady state engine performance measurements, and engine efficiency is load dependent, these small inversions can sometimes occur even though the work performed by the vehicle is always greater under transient operations.

4.9 WINDOW POSITION AND AIR CONDITIONER EFFECTS

Table 4-11 summarizes the results of fuel consumption tests performed on five vehicles at the Vehicle Research and Test Center (VRTC) to determine the effects of window position and air conditioning. On the average, the effect on fuel consumed with

TABLE 4-8. SAE INTERSTATE DRIVING SCHEDULES

55 MPH CYCLE

DISTANCE (MI)	OPERATION
0.0	APPROACH STARTING LINE AT 55 MPH AND PROCEED TO 0.2 MILE MARKER
0.2	ACCELERATE TO 60 MPH AT 1FT/SEC ² *. IMMEDIATELY DECELERATE TO 50 MPH AT 1FT/SEC ² . IMMEDIATELY ACCELERATE TO 55 MPH AT 1FT/SEC ² . PROCEED AT 55 MPH TO THE 1.2 MILE MARKER
1.2	REPEAT ACCELERATIONS AND DECELERATIONS AS AT 0.2 MILE MARKER 3 TIMES UNTIL 4.7 MARKER IS REACHED

70 MPH CYCLE

DISTANCE (MI)	OPERATION
0.0	APPROACH STARTING LINE AT 70 MPH AND PROCEED TO 0.2 MILE MARKER
0.2	ACCELERATE TO 75 MPH AT 1FT/SEC ² . IMMEDIATELY DECELERATE TO 65 MPH AT 1FT/SEC ² . IMMEDIATELY ACCELERATE TO 70 MPH AT 1FT/SEC ² . PROCEED AT 70 MPH TO THE 1.2 MARKER.
1.2	REPEAT ACCELERATIONS AND DECELERATIONS AS AT 0.2 MILE MARKER UNTIL 4.7 MILE MARKER IS REACHED

* An acceleration of 1ft/sec² is equivalent to 0.68 mi/hr/sec or accelerating from 55 MPH to 60 MPH in 7.3 sec.

TABLE 4-9. COMPARISON OF 55 MPH FUEL ECONOMY TO DRIVE CYCLE FUEL ECONOMY

VEHICLE WEIGHT (lbs)		CONSTANT SPEED FUEL ECONOMY (MPG)	DRIVE CYCLE % CHANGE IN FUEL ECONOMY FROM BASELINE				
			SAE 55	M1	M2	M3	M4
AUTO	2000	35.9	+1.4	+4.2	+2.2	+2.8	-1.3
	3000	29.8	-2.3	-6.0	-10.7	-8.1	-12.0
	3500	24.7	-1.6	-3.6	-13.0	-4.0	-14.7
	4500	18.0	-3.3	-8.3	-21.7	-8.9	-22.2
TRUCK	3000	30.1	-1.7	-4.0	-15.9	-5.3	-17.3
	4000	17.4	+1.1	+4.6	+1.7	+1.7	-2.9

For Explanation of Cycles M1-M4 see Driving Schedule.

TABLE 4-10. COMPARISON OF 70 MPH FUEL ECONOMY TO DRIVE CYCLE FUEL ECONOMY

VEHICLE WEIGHT (lbs)		CONSTANT SPEED FUEL ECONOMY (MPG)	DRIVE CYCLE % CHANGE IN FUEL ECONOMY FROM BASELINE				
			SAE 70	M1	M2	M3	M4
AUTOS	2000	30.1	-1.7	-3.6	-18.6	-5.0	-18.3
	3000	22.6	-1.3	-2.2	-4.4	-4.0	-6.2
	3500	20.1	0	0	-18.4	-2.5	-18.4
	4500	13.8	-1.0	-1.5	-10.1	-2.9	-10.9
TRUCK	3000	24.0	-3.8	-7.1	-15.4	-16.3	-16.3
	4000	15.1	-2.0	-4.6	-16.6	-6.7	-17.9

For Explanation of Cycles M1-M4 see Driving Schedule.

TABLE 4-11. VEHICLE FUEL CONSUMPTION TESTS, NHTSA VEHICLE RESEARCH AND TEST CENTER

VEHICLE	SPEED (mph)	FC ¹ (gal/mile)	$\Delta W O^2$ (%)	$\Delta A C^3$ (%)	$\Delta(A C-W O)^4$ (%)	$\Delta A C^5$ (gal/hr)
Toyota Corolla 1979	55	.0356	1.3	2.7	1.4	0.053
	70	.0525	0.2	5.2	5.0	0.193
Olds Cutlass Diesel 1979	55	.0334	4.3	3.6	-0.7	0.066
	70	.0433	0.6	4.9	4.3	0.148
Olds Omega 1980	55	.0335	0.0	6.8	6.8	0.125
	70	.0416	0.4	4.4	4.0	0.127
Chevrolet Caprice Classic 1979	55	.0531	1.1	5.6	4.5	0.163
	70	.0686	1.7	5.2	3.4	0.251
GM Rally Six Van 1979	55	.0671	2.8	2.6	-0.2	0.097
	70	.0917	3.8	4.5	0.6	0.289
Average	55	.0445	2.0	4.1	2.1	0.101
	70	.0596	1.8	4.8	3.0	0.202

LEGEND

- 1 Fuel consumption rate without air conditioning and with windows closed.
- 2 Percent increase in fuel consumption rate from opening vehicle windows.
- 3 Percent increase in fuel consumption rate from use of air conditioner
- 4 Percent increase in fuel consumption rate for use of air conditioning vs opening vehicle windows.
- 5 Time based fuel consumption rate for use of air conditioner.

windows open was less than half that of air conditioning. This is particularly interesting in light of published information indicating the reverse trend.*

The actual increase in fuel consumption for use of air-conditioning over open windows is probably more pronounced than the VRTC data indicates. The VRTC tests were performed with air conditioning compressor clutches wired to defeat passenger compartment temperature controls and do not necessarily represent the effect on vehicle fuel consumption of air conditioner use in typical warm weather. These tests were performed mostly under conditions where air conditioning would not normally be required (average temperature, 56°F). Personnel at VRTC reported freezing of moisture on the evaporator coils. Under these conditions, the pressure differential and, therefore, the load required by the air conditioning compressors would be reduced. On some compressors, the clutch may deenergize because of a built-in low suction pressure cutoff on the compressor (most 1979 GM cars).

For the five vehicles tested both with and without air conditioning, the mean value for fuel consumed by the air conditioning system at the low ambient temperatures encountered during testing was 0.0024 gallons per mile with a standard deviation of 0.0017 gallons per mile. The large variability in fuel consumed for air conditioning (standard deviations are 61 percent and 63 percent of the mean values for the vehicles at 55 mph and 70 mph, respectively) probably results from our inability to precisely control ambient test conditions (i.e., temperature, humidity, wind speed and driver variability between runs and between drivers) during repeat testing. In addition, air conditioning fuel consumption values were obtained by subtracting average vehicle fuel consumption rates without air conditioning from rates with air conditioning; numbers that, in both cases, are approximately twenty times larger than the result of interest.

* "The Road to Conservation," Atlantic Richfield Co., pg. 10.

Other air conditioning tests performed on thirty 1976 through 1978 automobiles at ambient temperatures of about 80°F resulted in fuel economy reductions ranging from 1.6 to 13 percent over a particular test course. In these tests, the average fuel consumption rate for air conditioning use was 0.13 gallons per hour (standard deviation of 0.07 gallons per hour), not significantly different from the average VRTC rate of 0.15 gal/hr with a standard deviation of 0.11 gal/hr.

4.10 FUEL ECONOMY EFFECTS IN COMBINATION

The fuel economy influences of the individual design variables have been evaluated separately. The net effect of all the variables can only be estimated by adding the individual effects, because engine efficiency changes as a function of load. For small changes, however, the accuracy of the estimate is not seriously compromised. Therefore, both cases (adding individual effects in combination and simulating all changes simultaneously) were considered. The comparison of the two methods is shown in Table 4-12. The air conditioning and lighting load were not included because they are duty-cycle dependent. If the combined effect of these accessories is desired, an estimate can be made by adding their respective individual effects.

TABLE 4-12. COMBINED EFFECT OF VARIABLES ON VEHICLE FUEL ECONOMY (PERCENT)

PARAMETER VARIED	CAR WEIGHT (LBS)				TRUCK WEIGHT (LBS)	
	2000	3000	3500	4500	3000	4000
1. Increased Aerodynamic Drag (C_D increased by 0.1)	6.5	8.1	6.8	7.5	7.4	6.4
2. Increased weight (300 lbs)	2.2	2.2	1.9	2.1	1.9	1.0
3. Increased Displacement (10%)	4.3	3.1	3.8	2.4	3.3	4.0
4. Increase axle ratio (5%)	2.7	0.5	2.2	2.0	1.9	0.6
5. Decrease tire pressure (20%)	1.7	1.3	2.4	2.6	1.8	0.7
All, combined (1)	17.4	15.2	17.1	16.6	16.3	12.7
(2)	16.1	15.9	17.6	15.1	16.0	11.0
6. Air conditioning			Duty cycle dependent			
7. Lighting (Night Driving)	2.2	2.5	2.3	2.3	2.3	1.4

(1) Individual effects added

(2) All changes simulated simultaneously

5. REFERENCES

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APPENDIX A
FUEL ECONOMY DATA BASE

- A.1 Drive Cycle Fuel Economy Data Base
- A.2 Constant Speed Fuel Economy Data Base

APPENDIX A.1 DRIVE CYCLE FUEL ECONOMY DATA BASE

The Drive Cycle Fuel Economy Data Base is structured with nineteen attribute locations (Table A.1-1) for information on a particular vehicle. The first column is the Vehicle Information Code containing either four or five digits and a letter. Domestic manufacturers' vehicles are identified with four digits, imports with five. In the case of domestic manufacturers, the first digit identifies the manufacturer (i.e., 1000A is American Motors, 2000A is Chrysler, etc.), and the second digit identifies the manufacturing division within the company (i.e., 4300A is Chevrolet Division of General Motors). The third and fourth digits identify a particular vehicle name (i.e., 3328A is a Ford Motor Company Mercury Monarch). The letter designation separates individual vehicles otherwise identically defined. In the case of imported vehicles, the first two digits of the five number code identify the manufacturer (i.e., 23103D is a Toyota Corolla). The definitions of the remaining three digits and letter are identical to domestic manufacturers.

Following the Vehicle Identification Code is the manufacturers name designation for the vehicle. The third column identifies the vehicle body type (i.e., 0-Passenger car, 1-Station Wagon, 2-Van, and 3-Pickup Truck). Columns four and five identify the model year and the engine displacement in liters. The Fuel System and Transmission are identified in columns six and seven. Three designations are used to identify the fuel system. V is used to indicate a carburetor with a number following indicating the number of barrels in the carburetor. FG indicates gasoline fuel injection. FD indicates diesel fuel injection. Transmissions are also indicated by a letter and following number. The three types of transmissions included in the data base are manual transmissions, designated M, automatic torque converter type transmissions, designated A, and lockup

type automatics, designated L. The number following the letter indicates the number of gear ratios available on the individual tested vehicle.

Drive cycle fuel economy statistics, though not used at this time, are presented in columns eight through thirteen and seventeen through nineteen, all in miles per gallon units. Of particular interest are columns twelve and thirteen which present the EPA Highway and Urban Fuel Economy statistics. The values reported in these columns are for similar cars as tested by EPA on chassis dynamometers.

Column fourteen is used to flag information that may have been obtained under unusual conditions (i.e., with air conditioning on). Column fifteen identifies the unusual test condition or other information about the vehicle (i.e., if the vehicle is equipped for four wheel drive).

Column sixteen identifies the data source. The major source to the present has been Consumer Union abbreviated CU. Data from this source is contained for vehicles back to model year 1965. Other sources include the NHTSA Vehicle Research and Test Center abbreviated VRTC, FORD, EPA, General Motors abbreviated GM, SHELL Oil Company and recently Popular Science abbreviated PS. European sources have not been included because emission standards for these vehicles are not equivalent to U.S. standards.

TABLE A.1-1 DRIVE CYCLE FUEL ECONOMY DATA BASE
(8/15/80)

COLUMN	STORED DATA
1	VEHICLE IDENTIFICATION CODE
2	VEHICLE NAME
3	VEHICLE TYPE ^a
4	MODEL YEAR
5	ENGINE DISPLACEMENT, (LITERS)
6	FUEL SYSTEM ^b
7	TRANSMISSION ^c
8	SAE 55 FUEL ECONOMY RATE (FE), MPG
9	SAE 70 FE, MPG
10	CONSUMER UNION HIGHWAY FE, MPG
11	CONSUMER UNION URBAN FE, MPG
12	EPA HIGHWAY FE, MPG
13	EPA URBAN FE, MPG
14	DO QUALIFICATIONS EXIST IN DATA
15	TYPE OF QUALIFICATION OR NOTES
16	DATA SOURCE
17	CONSUMER UNION TRAFFIC FE, MPG
18	CONSUMER UNION OVERALL FE, MPG
19	CONSUMER UNION TRIP FE, MPG

- a. Identifies Body Type: 0-Passenger Car, 1- Station Wagon, 2- Van, 3- Pick-Up Truck
- b. Identifies Fuel Induction System: V1, 2, 3 or 4 carburetor and no of barrels, FG- Gasoline Fuel Injection, FD- Diesel Fuel Injection
- c. Identifies Transmission Type and Number of Forward Speeds: A- Automatic, M- Manual, L- Lockup Automatic.

TABLE A.1-1-1. DRIVE CYCLE FUEL ECONOMY DATA BASE (CONT.)

Model	Year	Class	City	Highway	Combined	City	Highway	Combined	City	Highway	Combined
2605A SPORTSMAN	2 66	4.5 V A3	.00	.00	.00	.00	.00	.00	.00	.00	.00
3131A CLUB W	2 66	3.9 V A3	.00	.00	.00	.00	.00	.00	.00	.00	.00
4101B SPECIAL	0 67	4.3 V A2	.00	.00	11.00	20.00	.00	.00	.00	13.50	14.0
4204B CHEVY II	0 67	3.2 V A2	.00	.00	12.00	24.00	.00	.00	.00	13.50	15.5
4310C IMPALA	0 67	4.5 V A2	.00	.00	10.00	19.00	.00	.00	.00	.00	.00
4313A CAMARO	0 67	5.4 V A2	.00	.00	10.00	20.00	.00	.00	.00	.00	.00
4324A MALIBU	0 67	4.6 V A2	.00	.00	11.00	17.00	.00	.00	.00	.00	.00
4512A FIREBIRD	0 67	5.3 V A2	.00	.00	10.00	20.00	.00	.00	.00	.00	.00
1301B AMERICAN	0 67	3.3 V A3	.00	.00	18.00	26.00	.00	.00	.00	.00	.00
1301C AMERICAN	0 67	3.3 V A3	.00	.00	14.00	24.00	.00	.00	.00	.00	.00
1305A REBEL	0 67	4.8 V A3	.00	.00	10.00	19.00	.00	.00	.00	.00	.00
1307B AMBASSADOR	0 67	4.8 V A3	.00	.00	10.00	20.00	.00	.00	.00	.00	.00
2101C NEWPORT	0 67	6.3 V A3	.00	.00	8.00	17.00	.00	.00	.00	.00	.00
2201B VILLAGE	0 67	3.7 V A3	.00	.00	14.00	21.00	.00	.00	.00	.00	.00
2203B DELVEDERE	0 67	4.5 V A3	.00	.00	12.00	20.00	.00	.00	.00	.00	.00
2207C FURY III	0 67	5.2 V A3	.00	.00	10.00	18.00	.00	.00	.00	.00	.00
2215A BARRACUDA	0 67	4.5 V A3	.00	.00	11.00	21.00	.00	.00	.00	.00	.00
3101C FALCON	0 67	3.3 V A3	.00	.00	13.00	21.00	.00	.00	.00	.00	.00
3103C FAIRLANE	0 67	4.7 V A3	.00	.00	10.00	18.00	.00	.00	.00	.00	.00
3107D GALAXIE	0 67	4.7 V A3	.00	.00	10.00	18.00	.00	.00	.00	.00	.00
3115C MUSTANG	0 67	4.7 V A3	.00	.00	11.00	20.00	.00	.00	.00	.00	.00
3308C MONTEREY	0 67	6.4 V A3	.00	.00	9.00	19.00	.00	.00	.00	.00	.00
3320A COUGAR	0 67	4.7 V A3	.00	.00	11.00	20.00	.00	.00	.00	.00	.00
4117C IE SABRE	0 67	5.6 V A3	.00	.00	9.00	19.00	.00	.00	.00	.00	.00
4505A DELMONTE	0 67	7.0 V A3	.00	.00	8.00	17.00	.00	.00	.00	.00	.00
4504C CATALINA	0 67	6.0 V A3	.00	.00	10.00	19.00	.00	.00	.00	.00	.00
10202A CORONA	0 67	1.5 V M4	.00	.00	17.00	30.00	.00	.00	.00	.00	.00
12201B OPEL	0 67	1.1 V M4	.00	.00	18.00	40.00	.00	.00	.00	.00	.00
24101A BMW	0 67	1.6 V M4	.00	.00	17.00	30.00	.00	.00	.00	.00	.00
25101B VW	0 67	1.3 V M4	.00	.00	19.00	32.00	.00	.00	.00	.00	.00
26101A FIAT	0 67	1.2 V M4	.00	.00	17.00	29.00	.00	.00	.00	.00	.00
34101B DATSUN	0 67	1.6 V M4	.00	.00	18.00	34.00	.00	.00	.00	.00	.00
42101A REANAULT	0 67	1.1 V M4	.00	.00	20.00	36.00	.00	.00	.00	.00	.00
52901A SUNBEAM	0 67	1.7 V M4	.00	.00	16.00	27.00	.00	.00	.00	.00	.00
48101A PORSCHE	0 67	1.6 V M5	.00	.00	13.00	53.00	.00	.00	.00	.00	.00
2208B FURY I	1 67	6.3 V A3	.00	.00	9.00	17.00	.00	.00	.00	.00	.00
3108B FORD	1 67	6.4 V A3	.00	.00	9.00	16.00	.00	.00	.00	.00	.00
4312A CAPRICE	1 67	5.4 V A3	.00	.00	9.00	18.00	.00	.00	.00	.00	.00
4105A SKYLARK	0 69	5.7 V A2	.00	.00	9.00	19.00	.00	.00	.00	.00	.00
4304C CHEVY II	0 68	3.9 V A2	.00	.00	11.00	21.00	.00	.00	.00	.00	.00
4310D IMPALA	0 68	5.0 V A2	.00	.00	10.00	19.00	.00	.00	.00	.00	.00
4324B MALIBU	0 68	5.0 V A2	.00	.00	10.00	19.00	.00	.00	.00	.00	.00
4325A MALIBU	0 68	5.0 V A2	.00	.00	12.00	17.00	.00	.00	.00	.00	.00
4502C TEMPEST	0 68	5.7 V A2	.00	.00	9.00	20.00	.00	.00	.00	.00	.00
1301D AMERICAN	0 68	2.3 V A3	.00	.00	11.00	24.00	.00	.00	.00	.00	.00
1305B REBEL	0 68	4.8 V A3	.00	.00	10.00	19.00	.00	.00	.00	.00	.00
1307C AMBASSADOR	0 68	4.8 V A3	.00	.00	10.00	19.00	.00	.00	.00	.00	.00
1309A JAVELIN	0 68	4.6 V A3	.00	.00	12.00	19.00	.00	.00	.00	.00	.00
2101D NEWPORT	0 68	6.3 V A3	.00	.00	8.00	18.00	.00	.00	.00	.00	.00
2302B DATE	0 68	3.7 V A3	.00	.00	13.00	24.00	.00	.00	.00	.00	.00
2305C CORONET	0 68	4.5 V A3	.00	.00	11.00	22.00	.00	.00	.00	.00	.00
2317B CHARGER	0 68	7.2 V A3	.00	.00	9.00	16.00	.00	.00	.00	.00	.00
3300E POLARA	0 68	5.3 V A3	.00	.00	9.00	21.00	.00	.00	.00	.00	.00
3101D FALCON	0 68	3.3 V A3	.00	.00	13.00	24.00	.00	.00	.00	.00	.00
3107E GALAXIE	0 68	4.9 V A3	.00	.00	9.00	17.00	.00	.00	.00	.00	.00
3114A TRIRD	0 68	7.0 V A3	.00	.00	8.00	16.00	.00	.00	.00	.00	.00
3117D MUSTANG	0 68	4.7 V A3	.00	.00	12.00	20.00	.00	.00	.00	.00	.00
3305A MONTEGO	0 68	4.0 V A3	.00	.00	10.00	23.00	.00	.00	.00	.00	.00
3308D MONTEREY	0 68	6.4 V A3	.00	.00	9.00	17.00	.00	.00	.00	.00	.00
4111A RIVIERA	0 68	7.0 V A3	.00	.00	8.00	17.00	.00	.00	.00	.00	.00

TABLE A.1-1. DRIVE CYCLE FUEL ECONOMY DATA BASE (CONT.)

4117D	LE SABRE	0 68	5.7	V	A3	.00	.00	9.00	20.00	.00	.00	MJ	.00
4202A	DE VILLE	0 68	7.7	V	A3	.00	.00	7.00	15.00	.00	.00	MJ	.00
4406R	DEMONC	0 64	7.5	V	A3	.00	.00	5.00	16.00	.00	.00	MJ	.00
4504D	CATALINA	0 68	6.6	V	A3	.00	.00	8.00	20.00	.00	.00	MJ	.00
4508A	BONNEVILLE	0 68	6.6	V	A3	.00	.00	8.00	18.00	.00	.00	MJ	.00
22106A	ROVER	0 68	2.0	V	A3	.00	.00	14.00	26.00	.00	.00	MJ	.00
25101C	VW	0 68	1.5	V	A3	.00	.00	17.00	31.00	.00	.00	MJ	.00
27101B	VOLVO	0 68	1.8	V	A3	.00	.00	14.00	25.00	.00	.00	MJ	.00
32101A	PEUGEOT	0 68	1.6	V	A3	.00	.00	16.00	26.00	.00	.00	MJ	.00
23101A	AUSTIN	0 68	1.3	V	A4	.00	.00	17.00	32.00	.00	.00	MJ	.00
26101B	FIAT	0 69	0.8	V	A4	.00	.00	17.00	32.00	.00	.00	MJ	.00
40101A	MB	0 68	2.5	V	A4	.00	.00	13.00	20.00	.00	.00	MJ	.00
12201C	OPEL	0 68	1.5	V	M4	.00	.00	20.00	33.00	.00	.00	MJ	.00
23101B	TOYOTA	0 68	1.9	V	M4	.00	.00	18.00	31.00	.00	.00	MJ	.00
34101C	DATSUN	0 68	1.6	V	M4	.00	.00	18.00	34.00	.00	.00	MJ	.00
2218A	SATELLITE	1 68	4.5	V	A3	.00	.00	10.00	21.00	.00	.00	MJ	.00
3104A	FAIRLANE	1 68	4.6	V	A3	.00	.00	10.00	19.00	.00	.00	MJ	.00
4401A	OLDS	1 68	6.6	V	A3	.00	.00	8.00	15.00	.00	.00	MJ	.00
4315A	NOVA	0 69	3.8	V	A2	.00	.00	11.00	22.00	.00	.00	MJ	.00
4324C	MELIBU	0 69	5.0	V	A2	.00	.00	9.00	17.00	.00	.00	MJ	.00
4324D	MAJIBU	0 69	3.8	V	A2	.00	.00	9.00	21.00	.00	.00	MJ	.00
23101C	TOYOTA	0 69	1.9	V	A2	.00	.00	14.00	26.00	.00	.00	MJ	.00
1301E	AMERICAN	0 69	3.3	V	A3	.00	.00	13.00	24.00	.00	.00	MJ	.00
1305C	REBEL	0 69	3.8	V	A3	.00	.00	12.00	21.00	.00	.00	MJ	.00
1307D	AMBASSADOR	0 69	4.8	V	A3	.00	.00	10.00	15.00	.00	.00	MJ	.00
2101E	NEWPORT	0 69	6.3	V	A3	.00	.00	8.00	18.00	.00	.00	MJ	.00
2201C	VALIANT	0 69	2.8	V	A3	.00	.00	13.00	25.00	.00	.00	MJ	.00
2207D	FURY III	0 69	5.2	V	A3	.00	.00	11.00	21.00	.00	.00	MJ	.00
2217A	SATELLITE	0 69	3.7	V	A3	.00	.00	12.00	23.00	.00	.00	MJ	.00
2306D	CORONET	0 69	5.2	V	A3	.00	.00	10.00	20.00	.00	.00	MJ	.00
3101E	FALCON	0 69	2.8	V	A3	.00	.00	12.00	28.00	.00	.00	MJ	.00
3103D	FAIRLANE	0 69	4.1	V	A3	.00	.00	11.00	22.00	.00	.00	MJ	.00
3107F	GALAXIE	0 69	4.9	V	A3	.00	.00	10.00	18.00	.00	.00	MJ	.00
3115E	MUSTANG	0 69	4.9	V	A3	.00	.00	11.00	21.00	.00	.00	MJ	.00
3117A	VEVERICK	0 69	2.8	V	A3	.00	.00	14.00	25.00	.00	.00	MJ	.00
3205B	MONTEGO	0 69	4.9	V	A3	.00	.00	11.00	20.00	.00	.00	MJ	.00
3308E	MONTREY	0 69	6.4	V	A3	.00	.00	8.00	18.00	.00	.00	MJ	.00
3320B	COUGAR	0 69	5.2	V	A3	.00	.00	10.00	18.00	.00	.00	MJ	.00
4117E	LE SABRE	0 69	5.7	V	A3	.00	.00	8.00	20.00	.00	.00	MJ	.00
4310E	IMPALA	0 69	5.4	V	A3	.00	.00	9.00	18.00	.00	.00	MJ	.00
4313B	CARARO	0 69	5.4	V	A3	.00	.00	10.00	20.00	.00	.00	MJ	.00
4407A	DELTA 89	0 69	7.5	V	A3	.00	.00	8.00	18.00	.00	.00	MJ	.00
4415A	CITLASS	0 69	5.7	V	A3	.00	.00	9.00	19.00	.00	.00	MJ	.00
4504E	CATALINA	0 69	6.6	V	A3	.00	.00	8.00	17.00	.00	.00	MJ	.00
4507A	EXECUTIVE	0 69	5.6	V	A3	.00	.00	8.00	19.00	.00	.00	MJ	.00
4511A	GRAND PRIX	0 69	6.6	V	A3	.00	.00	8.00	15.00	.00	.00	MJ	.00
5301A	CHECKER	0 69	5.4	V	A3	.00	.00	9.00	16.00	.00	.00	MJ	.00
10202B	CORONA	0 69	1.6	V	A3	.00	.00	18.00	29.00	.00	.00	MJ	.00
12201D	OPEL	0 69	1.9	V	A3	.00	.00	15.00	25.00	.00	.00	MJ	.00
27101C	VOLVO	0 69	3.0	V	A3	.00	.00	11.00	23.00	.00	.00	MJ	.00
34101D	DATSUN	0 69	1.6	V	A3	.00	.00	17.00	28.00	.00	.00	MJ	.00
1311A	AMX	0 69	6.4	V	M4	.00	.00	10.00	15.00	.00	.00	MJ	.00
11101B	SIMCA	0 69	1.2	V	M4	.00	.00	21.00	35.00	.00	.00	MJ	.00
23101D	TOYOTA	0 69	1.1	V	M4	.00	.00	20.00	36.00	.00	.00	MJ	.00
42101R	RENAULT	0 69	1.6	V	M4	.00	.00	15.00	31.00	.00	.00	MJ	.00
2220A	PLYMOUTH	1 69	6.3	V	A3	.00	.00	8.00	16.00	.00	.00	MJ	.00
3108C	FORD	1 69	6.4	V	A3	.00	.00	8.00	15.00	.00	.00	MJ	.00
4301B	CHEVROLET	1 69	5.7	V	A3	.00	.00	8.00	18.00	.00	.00	MJ	.00
25102B	VW	1 69	1.5	V	A3	.00	.00	16.00	32.00	.00	.00	MJ	.00
4226B	SPORTVAN	2 69	5.7	V	A3	.00	.00	8.00	15.00	.00	.00	MJ	.00

TABLE A.1-1. DRIVE CYCLE FUEL ECONOMY DATA BASE (CONT.)

1318D BREMLIN	0 77	2.0 V M4	.00	.00	17.50	.00	.00	.00	.00	CU	.00	26.50
2322G CLIT	0 77	1.5 V M4	.00	.00	19.00	.00	.00	.00	.00	CU	.00	33.50
25105E RABBIT	0 77	1.5 V M4	.00	.00	28.10	.00	.00	.00	.00	CU	.00	43.10
25101B SUBBU	0 77	1.6 V M4	.00	.00	10.50	.00	.00	.00	.00	CU	.00	30.00
35103A RX-4	0 77	1.3 V M5	.00	.00	12.00	.00	.00	.00	.00	CU	.00	31.50
38104A 31C	0 77	1.3 V M5	.00	.00	19.80	.00	.00	.00	.00	CU	.00	32.50
3123B SPANADA	0 77	4.1 V1 A3	.00	.00	12.50	.00	.00	.00	.00	CU	.00	18.50
4310F IMPALA	0 77	4.1 V1 A3 21.10	.00	.00	.00	.00	22.30	16.00	.00	GM	.00	.00
4215A NOVA	0 77	4.1 V1 A3 23.20	.00	.00	.00	.00	23.40	17.10	.00	GM	.00	.00
4315H NOVA	0 77	4.1 V1 A3 25.00	.00	.00	.00	.00	10.50	22.50	.00	CU	.00	17.50
4323B CHEVETTE	0 77	1.6 V1 A3 25.00	.00	.00	.00	.00	.00	30.10	23.80	GM	.00	.00
4228A MALIBU	0 77	4.1 V1 A3 21.00	.00	.00	.00	.00	.00	22.90	16.60	GM	.00	.00
4315E NOVA	0 77	4.1 V1 M3 25.00	.00	.00	.00	.00	.00	25.30	18.40	GM	.00	.00
4323C MALIBU	0 77	4.1 V1 M3 22.90	.00	.00	.00	.00	.00	24.60	17.80	GM	.00	.00
4323A CHEVETTE	0 77	1.2 V1 M4 .00	.00	.00	21.00	.00	.00	.00	.00	CU	.00	30.50
3320C COUGAR	0 77	4.9 V2 A3 .00	.00	.00	9.50	.00	.00	.00	.00	CU	.00	15.00
4105B SKYLARK	0 77	3.8 V2 A3 .00	.00	.00	11.50	.00	.00	.00	.00	CU	.00	20.50
4105C SKYLARK	0 77	3.8 V2 A3 22.40	.00	.00	.00	.00	23.90	16.90	.00	GM	.00	.00
4114C SKYHAWK	0 77	3.8 V2 A3 25.80	.00	.00	.00	.00	25.60	17.90	.00	GM	.00	.00
4117F IE SABRE	0 77	3.8 V2 A3 23.10	.00	.00	.00	.00	24.90	17.20	.00	GM	.00	.00
4117G IE SABRE	0 77	3.8 V2 A3 21.50	.00	.00	.00	.00	24.00	16.40	.00	GM	.00	.00
4124E REGAL	0 77	3.3 V2 A3 21.50	.00	.00	.00	.00	20.20	13.50	.00	GM	.00	.00
4124B REGAL	0 77	5.7 V2 A3 14.80	.00	.00	.00	.00	20.40	14.90	.00	GM	.00	.00
4310F IMPALA	0 77	5.0 V2 A3 19.10	.00	.00	10.50	.00	.00	.00	.00	CU	.00	17.50
4311A CAPRICE	0 77	5.0 V2 A3 .00	.00	.00	.00	.00	19.40	14.90	.00	GM	.00	.00
4311C CAMARO	0 77	5.0 V2 A3 20.00	.00	.00	.00	.00	19.10	14.60	.00	GM	.00	.00
4315F NOVA	0 77	5.0 V2 A3 13.10	.00	.00	.00	.00	19.90	14.70	.00	GM	.00	.00
4317C MONTECARLO	0 77	5.0 V2 A3 19.70	.00	.00	.00	.00	28.40	20.30	.00	GM	.00	.00
4318B VEGA	0 77	2.3 V2 A3 27.90	.00	.00	.00	.00	25.60	19.60	.00	GM	.00	.00
4321C MONZA	0 77	2.3 V2 A3 24.50	.00	.00	.00	.00	21.50	16.10	.00	GM	.00	.00
4321D MONZA	0 77	5.0 V2 A3 23.30	.00	.00	.00	.00	18.80	14.10	.00	GM	.00	.00
4323B MALIBU	0 77	5.0 V2 A3 18.00	.00	.00	.00	.00	23.70	17.00	.00	GM	.00	.00
4407C DELTA 88	0 77	4.3 V2 A3 20.60	.00	.00	.00	.00	20.80	14.60	.00	GM	.00	.00
4504J CATALINA	0 77	4.9 V2 A3 20.60	.00	.00	.00	.00	20.20	13.60	.00	GM	.00	.00
4511E GRAND PRIX	0 77	4.3 V2 A3 20.80	.00	.00	.00	.00	22.30	16.30	.00	GM	.00	.00
4512D FIREBIRD	0 77	4.9 V2 A3 22.60	.00	.00	.00	.00	21.00	14.70	.00	GM	.00	.00
4514A LE MANE	0 77	4.9 V2 A3 20.30	.00	.00	.00	.00	26.70	19.80	.00	GM	.00	.00
4516A VENTURA	0 77	2.5 V2 A3 24.00	.00	.00	.00	.00	.00	.00	.00	CU	.00	24.50
4521A SUNBIRD	0 77	2.5 V2 A3 .00	.00	.00	15.00	.00	.00	.00	.00	CU	.00	26.00
23103D COROLIA	0 77	1.6 V2 A3 .00	.00	.00	17.50	.00	.00	.00	.00	CU	.00	15.50
4317A MONTECARLO	0 77	5.7 V2 A4 .00	.00	.00	8.50	.00	25.00	17.20	.00	CU	.00	.00
4114B SKYHAWK	0 77	2.8 V2 M4 27.60	.00	.00	.00	.00	33.70	21.50	.00	GM	.00	.00
4521B SUNBIRD	0 77	2.5 V2 M4 30.80	.00	.00	.00	.00	.00	.00	.00	GM	.00	.00
34106A A10	0 77	2.4 V2 M4 .00	.00	.00	13.50	.00	31.10	22.70	.00	CU	.00	22.00
4321B MONZA	0 77	2.3 V2 M5 30.70	.00	.00	.00	.00	.00	.00	.00	GM	.00	.00
4516B VENTURA	0 77	2.5 V2 M5 32.50	.00	.00	23.50	.00	.00	.00	.00	GM	.00	39.40
38102C 210	0 77	1.4 V2 M5 .00	.00	.00	22.70	.00	.00	.00	.00	CU	.00	36.10
28102C CIVIC	0 77	1.5 V3 M5 .00	.00	.00	.00	.00	20.80	14.40	.00	CU	.00	.00
4110A ELECTRA	0 77	5.7 V4 A3 18.70	.00	.00	.00	.00	18.80	13.80	.00	GM	.00	.00
4110B ELECTRA	0 77	5.7 V4 A3 15.20	.00	.00	.00	.00	20.90	14.70	.00	GM	.00	.00
4111B RIVIERE	0 77	5.7 V4 A3 14.70	.00	.00	.00	.00	18.50	12.70	.00	GM	.00	.00
4202B DE VILLI	0 77	7.0 V4 A3 17.10	.00	.00	.00	.00	17.60	11.40	.00	GM	.00	.00
4206A ELIDOPADO	0 77	7.0 V4 A3 15.20	.00	.00	.00	.00	15.40	14.30	.00	GM	.00	.00
4311B CAPRICE	0 77	5.7 V4 A3 19.00	.00	.00	.00	.00	21.80	13.70	.00	GM	.00	.00
4317B MONTECARLO	0 77	5.7 V4 A3 18.60	.00	.00	.00	.00	19.10	13.90	.00	GM	.00	.00
4407B DELTA 88	0 77	5.7 V4 A3 13.10	.00	.00	.00	.00	22.90	15.90	.00	GM	.00	.00
4413A OIDS 94	0 77	6.6 V4 A3 13.20	.00	.00	.00	.00	19.60	13.40	.00	GM	.00	.00
4413B OIDS 98	0 77	5.7 V4 A3 21.50	.00	.00	.00	.00	.00	.00	.00	GM	.00	.00
4414B TORONEDO	0 77	6.6 V4 A3 17.60	.00	.00	.00	.00	19.20	14.60	.00	GM	.00	.00
4415B CORTASS	0 77	5.7 V4 A3 13.20	.00	.00	.00	.00	.00	.00	.00	GM	.00	.00

TABLE A.1-1. DRIVE CYCLE FUEL ECONOMY DATA BASE (CONT.)

Model	Year	Class	City	Highway	Combined	Test Cycle	Fuel Economy (mpg)	CO ₂ (g/mi)	Notes
4511B GRAND PRIX	0 77	6.6 V4 A3	.00	.00	.00	17.50	CU	16.00	
4511C GRAND PRIX	0 77	6.7 V4 A3	13.10	.00	.00	18.60	GM	.00	
4511D GRAND PRIX	0 77	6.6 V4 A3	19.20	.00	.00	18.90	GM	.00	
4512C FIREBIRD	0 77	6.6 V4 A3	19.40	.00	.00	18.50	GM	.00	
1222A PEACER	1 77	4.2 V2 A3	.00	11.50	.00	.00	CU	18.50	
4210A VEGA	1 77	2.3 V2 A3	25.20	.00	.00	26.70	GM	.00	
4516C VENTURA	1 77	4.9 V2 A3	21.70	.00	.00	22.10	GM	.00	
4520A CATALINA	1 77	4.9 V2 A3	20.60	.00	.00	21.00	GM	.00	
4120C CAPRICE	1 77	5.7 V4 A3	18.70	.00	.00	15.30	GM	.00	
4312B CAPRICE	1 77	5.7 V4 A3	.00	.00	.00	17.70	GM	.00	
4327A MALIBU	1 77	5.7 V4 A3	17.20	.00	.00	17.80	GM	.00	
2236E VOYAGER	2 77	5.9 V A3	.00	8.50	.00	.00	CU	14.00	
3101F CLUB W	2 77	5.6 V A3	.00	9.00	.00	.00	CU	14.00	
4300A SPORTVAN	2 77	5.7 V2 A3	.00	.00	.00	.00	CU	13.50	
4407D DELTA 88	0 78	5.7 FD A3	27.90	.00	.00	31.10	GM	.00	
4430A DELTA 88	0 78	5.7 FD A3	.00	13.20	.00	.00	CU	22.50	
4303C SEVILLE	0 78	5.7 FG A3	18.90	.00	.00	20.40	GM	.00	
27105E 264GL	0 78	2.7 FG A3	.00	10.60	.00	.00	CU	17.00	
30103A 7000	0 78	2.1 FG A3	.00	12.70	.00	.00	CU	20.30	
46102B 99	0 78	2.0 FG A3	.00	14.80	.00	.00	CU	21.60	
25106A SCIROCCO	0 78	1.5 FG M4	.00	19.60	.00	.00	CU	31.50	
1325A CONCORD	0 78	3.9 V1 A3	.00	12.00	.00	.00	CU	19.40	
3125A FAIRMONT	0 78	3.3 V1 A3	.00	.00	.00	26.00	FORD	.00	
3133C GRANADA	0 78	4.1 V1 A3	.00	.00	.00	26.00	FORD	.00	
3142A FAIRMONT	0 78	3.3 V1 A3	.00	12.40	.00	.00	CU	20.20	
4323E CHEVETTE	0 76	1.6 V1 A3	29.60	.00	.00	31.80	GM	.00	
2223B VOTARE	0 78	3.7 V1 A3	.00	12.90	.00	.00	CU	20.50	
3125B FAIRMONT	0 78	3.3 V1 M3	.00	.00	.00	29.00	FORD	.00	
4323C CHEVETTE	0 78	1.6 V1 M4	.00	18.10	.00	.00	CU	30.00	
4323D CHEVETTE	0 78	1.6 V1 M4	35.70	.00	.00	38.80	GM	.00	
2225A SAPORO	0 78	2.6 V2 A3	.00	13.80	.00	.00	CU	23.20	
3109B LTD	0 78	5.8 V2 A3	.00	.00	.00	21.00	FORD	.00	
3114C FBIRD	0 78	5.0 V2 A3	.00	.00	.00	20.00	FORD	.00	
3115F MUSTANG	0 78	2.9 V2 A3	.00	.00	.00	20.00	FORD	.00	
3144A FUTURA	0 78	4.9 V2 A3	.00	11.20	.00	.00	CU	18.10	
3320D CUGAR	0 78	5.8 V2 A3	.00	.00	.00	22.00	FORD	.00	
3328B MONERCH	0 78	4.0 V2 A3	.00	11.50	.00	.00	CU	20.20	
3328C MONMARCH	0 78	5.0 V2 A3	.00	.00	.00	23.00	FORD	.00	
3330A ZEPHYR	0 78	3.8 V2 A3	22.20	.00	.00	24.30	FORD	.00	
4117I LE SABRE	0 78	3.8 V2 A3	.00	.00	.00	24.30	GM	.00	
4317D MONTECARLO	0 73	5.0 V2 A3	.00	10.30	.00	.00	CU	19.70	
4317P MONTECARLO	0 78	3.8 V2 A3	24.00	.00	.00	.00	GM	.00	
4317G MONTECARLO	0 78	5.0 V2 A3	21.60	.00	.00	24.10	GM	.00	
4328E MALIBU	0 78	3.3 V2 A3	22.20	.00	.00	13.00	CU	20.50	
4328G MALIBU	0 78	3.3 V2 A3	22.20	.00	.00	22.90	GM	.00	
4407F DELTA 88	0 78	4.3 V2 A3	21.80	.00	.00	23.00	GM	.00	
4412A STARRPIRE	0 78	2.5 V2 A3	.00	14.60	.00	.00	CU	23.80	
4415C CUTPASS	0 78	4.3 V2 A3	.00	11.80	.00	.00	CU	19.50	
4415D CUTPASS	0 78	4.3 V2 A3	23.00	.00	.00	25.40	GM	.00	
4504H CATALINA	0 78	3.8 V2 A3	.00	10.80	.00	.00	CU	18.80	
4504I CATALINA	0 78	4.9 V2 A3	20.50	.00	.00	21.90	GM	.00	
4521C SUNBIRD	0 78	2.5 V2 A3	27.50	.00	.00	27.80	GM	.00	
4525A PHOENIX	0 78	3.8 V2 A3	.00	11.40	.00	.00	CU	19.20	
4525B PHOENIX	0 78	2.5 V2 A3	24.20	.00	.00	24.90	GM	.00	
23102A CELICA	0 78	1.6 V2 A3	.00	14.50	.00	.00	CU	21.10	
34103A 200 SX	0 78	1.6 V2 A3	.00	15.20	.00	.00	CU	23.50	
2319A MAGNUM	0 78	5.2 V2 A3	.00	.00	.00	.00	CU	17.50	
2328A DIPLOMAT	0 78	5.2 V2 A3	.00	10.40	.00	.00	CU	19.40	

TABLE A.1-1. DRIVE CYCLE FUEL ECONOMY DATA BASE (CONT.)

Model	Year	Class	MPG	City	Highway	Combined	Weight	Engine	Transmission	Drive	Options	Notes	Source
20105A TR-7	0 80	2.0 V M5	23.40	16.40	23.00	21.00	WJ						CU
22105I COROLIA	0 80	1.8 V M5	36.60	20.80	41.00	27.00	WJ						CU
22108E CORONE	0 80	2.2 V M5	34.90	15.80	32.00	21.00	WJ						CU
24105B 510	0 80	2.0 V M5	42.70	21.50	43.00	31.00	WJ						CU
26105A 606	0 80	1.0 V M5	36.80	16.70	33.00	24.00	WJ						CU
30106A RX-7	0 80	1.1 V M5	27.20	12.70	28.00	17.00	WJ	AL	UM				CU
2111R CORDOBL	0 80	3.7 V1 A3	.00	.00	25.00	17.00	WJ						PS
1220E 32GLE	0 80	4.2 V2 A3	.00	.00	19.00	16.00	WJ	WMD					PS
2324A STRADA	0 80	2.5 V2 A3	.00	.00	22.00	15.00	WJ						PS
4105D SKYARK	0 80	2.5 V2 A3	15.10	.00	.00	.00	WJ						CU
0325B CITATION	0 80	2.5 V2 A3	28.00	15.10	35.00	22.00	WJ	AL	OR				CU
4417E OMEGA	0 80	2.5 V2 A3	.00	.00	.00	22.00	WJ						VRTC
4417C OMEGA	0 80	2.5 V2 A3	.00	.00	.00	22.00	WJ						VRTC
4417D OMEGA	0 80	2.8 V2 A3	15.00	.00	.00	.00	WJ	WINDOWS	OPEN				CU
2112A LE BARON	0 80	5.2 V2 T3	.00	.00	23.00	15.00	WJ						PS
2710B GRAND FURY	0 80	5.3 V2 L3	.00	.00	23.00	15.00	WJ						PS
4511F GRAND PRIX	0 80	3.3 V2 L3	.00	.00	27.00	20.00	WJ						PS
3109E LTD	0 80	5.8 V2 L4	.00	.00	27.00	16.00	WJ						PS
3114D FBIRD	0 80	5.0 V2 T4	.00	.00	29.00	17.00	WJ						PS
3201B COM'L	0 80	5.8 V2 L4	.00	.00	25.00	15.00	WJ						PS
3322E COLT	0 80	1.4 V2 M4	.00	.00	47.00	37.00	WJ						PS
3115J MUSTANG	0 80	2.3 V2 M4	.00	.00	30.00	18.00	WJ	WINDOWS					PS
4323G CREVEETTE	0 80	1.6 V2 M4	18.60	.00	36.00	26.00	WJ	WINDOWS					PS
4325A CITATION	0 80	2.8 V2 M4	14.40	.00	.00	.00	WJ						CU
4525C PHOENIX	0 80	2.5 V2 M4	17.80	.00	.00	.00	WJ						CU
25102A 4WD	0 80	1.6 V2 Y4	.00	.00	33.00	23.00	WJ	WMD					PS
34115A 310	0 80	1.4 V2 M4	21.60	.00	41.00	31.00	WJ						CU
42102L LE CAR	0 80	1.4 V2 M4	.00	.00	40.00	30.00	WJ						PS
25102H COROLIA	0 80	1.5 V2 M5	22.30	.00	43.00	31.00	WJ						CU
23111A FERCEY	0 80	1.5 V2 M5	.00	.00	42.00	31.00	WJ						PS
25101C SUBARU	0 80	1.6 V2 M5	.00	.00	40.00	29.00	WJ						PS
25102R GF	0 80	1.6 V2 M5	.00	.00	33.00	25.00	WJ						CD
34102D 210	0 80	1.4 V2 M5	.00	.00	43.00	31.00	WJ						PS
38104C GIC	0 80	1.4 V2 M5	.00	.00	42.00	30.00	WJ						PS
25102E CIVIC	0 80	1.5 V3 M5	.00	.00	49.00	36.00	WJ						PS
4512F FIREBIRD	0 80	4.9 V4 A2	.00	.00	20.00	14.00	WJ	WINDOWS					PS
4117J LE SABRE	0 80	3.9 V4 T3	.00	.00	23.00	16.00	WJ						PS
4311G CAPRICE	0 80	5.0 V4 T3	.00	.00	25.00	17.00	WJ						PS
4317I MONTECARLO	0 80	3.8 V4 L3	.00	.00	25.00	18.00	WJ	WINDOWS					PS
4313D CAMARO	0 80	5.7 V4 M4	.00	.00	17.00	14.00	WJ						PS
3135A FAIRMONT	1 80	3.3 V1 A3	.00	.00	27.00	20.00	WJ						PS
1326B CONCORD	1 80	3.7 V1 L3	.00	.00	23.00	16.00	WJ						PS
4525R MALIBU	1 80	4.2 V2 A3	.00	.00	25.00	18.00	WJ						PS
5602A TRAVIEF	2 80	3.3 FD M4	.00	.00	26.00	19.00	WJ	WMD					PS
25107A PICKUP	3 80	1.6 FG M4	.00	.00	32.00	23.00	WJ						PS
1200E CHEROKEE	3 80	5.9 V2 A3	.00	.00	16.00	11.00	WJ	WMD					PS
2300E FANCHER	3 80	5.2 V2 A3	.00	.00	16.00	13.00	WJ	WMD					PS
2100B BRONCO	3 80	5.0 V2 A3	.00	.00	16.00	15.00	WJ	WMD					PS
5601A SCOUT	3 80	5.0 V2 A3	.00	.00	17.00	12.00	WJ	WMD					PS
34117E KING CAB	3 80	2.0 V2 M5	.00	.00	32.00	25.00	WJ						PS
4500G BIAZZE	3 80	5.7 V4 A3	.00	.00	17.00	13.00	WJ	WMD					PS

APPENDIX A.2 CONSTANT SPEED FUEL ECONOMY DATA BASE

The Constant Speed Fuel Economy Data Base is structured with the first five data columns identical to the Drive Cycle Data Base (Table A.2-1). Column six lists a speed in miles per hour, and column seven lists the subsequent measured fuel economy in miles per gallon. Column eight lists the vehicle weight when the test was performed, and column nine lists the vehicle inertia weight. In the case of data obtained prior to assignment of inertia weights by EPA, the EPA formula, for calculating inertia weight from curb weight was used.

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE
(8/15/80)

COLUMN	STORED DATA
1	VEHICLE IDENTIFICATION CODE
2	VEHICLE NAME
3	VEHICLE TYPE ^a
4	MODEL YEAR
5	ENGINE DISPLACEMENT (LITERS)
6	SPEED, MPH
7	FUEL ECONOMY, MPG
8	VEHICLE TEST WEIGHT (LBS)
9	VEHICLE INERTIA WEIGHT (LBS)

a. Identifies Body Type: 0- Passenger Car 1- Station Wagon,
2- Van, 3- Pick-Up Truck

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

1307A	AMBASSADOR	0	65	4.7	30	23.50	0	3500
1307A	AMBASSADOR	0	65	4.7	40	21.50	0	3500
1307A	AMBASSADOR	0	65	4.7	50	20.50	0	3500
1307A	AMBASSADOR	0	65	4.7	60	18.00	0	3500
2101A	NEWPORT	0	65	6.3	30	21.00	0	4500
2101A	NEWPORT	0	65	6.3	40	20.50	0	4500
2101A	NEWPORT	0	65	6.3	50	19.00	0	4500
2101A	NEWPORT	0	65	6.3	60	16.50	0	4500
2201A	VALIANT	0	65	2.8	30	28.00	0	3000
2201A	VALIANT	0	65	2.8	40	25.50	0	3000
2201A	VALIANT	0	65	2.8	50	22.50	0	3000
2201A	VALIANT	0	65	2.8	60	19.00	0	3000
2203A	BELVEDERE	0	65	3.7	30	26.00	0	3500
2203A	BELVEDERE	0	65	3.7	40	24.50	0	3500
2203A	BELVEDERE	0	65	3.7	50	23.50	0	3500
2203A	BELVEDERE	0	65	3.7	60	20.50	0	3500
2207A	FURY III	0	65	5.2	30	24.50	0	4000
2207A	FURY III	0	65	5.2	40	23.00	0	4000
2207A	FURY III	0	65	5.2	50	21.00	0	4000
2207A	FURY III	0	65	5.2	60	18.00	0	4000
2306A	CORONET	0	65	4.5	30	25.00	0	4000
2306A	CORONET	0	65	4.5	40	23.50	0	4000
2306A	CORONET	0	65	4.5	50	21.50	0	4000
2306A	CORONET	0	65	4.5	60	19.50	0	4000
3101A	FALCON	0	65	2.8	30	27.00	0	2750
3101A	FALCON	0	65	2.8	40	26.00	0	2750
3101A	FALCON	0	65	2.8	50	24.00	0	2750
3101A	FALCON	0	65	2.8	60	20.50	0	2750
3103A	FAIRLANE	0	65	3.3	30	27.50	0	3000
3103A	FAIRLANE	0	65	3.3	40	25.50	0	3000
3103A	FAIRLANE	0	65	3.3	50	24.50	0	3000
3103A	FAIRLANE	0	65	3.3	60	21.50	0	3000
3107A	GALAXIE	0	65	4.7	30	21.50	0	4000
3107A	GALAXIE	0	65	4.7	40	20.50	0	4000
3107A	GALAXIE	0	65	4.7	50	20.00	0	4000
3107A	GALAXIE	0	65	4.7	60	17.00	0	4000
3107B	GALAXIE	0	65	3.9	30	26.50	0	4000
3107B	GALAXIE	0	65	3.9	40	24.50	0	4000
3107B	GALAXIE	0	65	3.9	50	22.50	0	4000
3107B	GALAXIE	0	65	3.9	60	19.50	0	4000
3115A	MUSTANG	0	65	4.7	30	24.50	0	3000
3115A	MUSTANG	0	65	4.7	40	25.00	0	3000
3115A	MUSTANG	0	65	4.7	50	23.50	0	3000
3115A	MUSTANG	0	65	4.7	60	20.50	0	3000
3308A	MONTEREY	0	65	6.4	30	19.50	0	4500
3308A	MONTEREY	0	65	6.4	40	19.00	0	4500
3308A	MONTEREY	0	65	6.4	50	17.50	0	4500
3308A	MONTEREY	0	65	6.4	60	15.50	0	4500
4101A	SPECIAL	0	65	4.9	30	22.00	0	3500
4101A	SPECIAL	0	65	4.9	40	21.50	0	3500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4101A	SPECIAL	0	65	4.9	50	21.50	0	3500
4101A	SPECIAL	0	65	4.9	60	19.00	0	3500
4117A	LE SABRE	0	65	4.9	30	21.50	0	4000
4117A	LE SABRE	0	65	4.9	40	20.50	0	4000
4117A	LE SABRE	0	65	4.9	50	19.50	0	4000
4117A	LE SABRE	0	65	4.9	60	17.00	0	4000
4306A	CHEVELLE	0	65	3.8	30	26.00	0	3500
4306A	CHEVELLE	0	65	3.8	40	25.00	0	3500
4306A	CHEVELLE	0	65	3.8	50	23.00	0	3500
4306A	CHEVELLE	0	65	3.8	60	19.50	0	3500
4310A	IMPALA	0	65	4.6	30	22.00	0	4000
4310A	IMPALA	0	65	4.6	40	20.00	0	4000
4310A	IMPALA	0	65	4.6	50	19.50	0	4000
4310A	IMPALA	0	65	4.6	60	17.00	0	4000
4405A	DYNAMIC	0	65	7.0	30	19.00	0	4500
4405A	DYNAMIC	0	65	7.0	40	18.50	0	4500
4405A	DYNAMIC	0	65	7.0	50	18.00	0	4500
4405A	DYNAMIC	0	65	7.0	60	16.00	0	4500
4502A	TEMPEST	0	65	3.5	30	26.50	0	3500
4502A	TEMPEST	0	65	3.5	40	26.00	0	3500
4502A	TEMPEST	0	65	3.5	50	24.50	0	3500
4502A	TEMPEST	0	65	3.5	60	21.00	0	3500
4504A	CATALINA	0	65	6.4	30	22.00	0	4500
4504A	CATALINA	0	65	6.4	40	21.00	0	4500
4504A	CATALINA	0	65	6.4	50	21.00	0	4500
4504A	CATALINA	0	65	6.4	60	19.00	0	4500
11101A	SIMCA	0	65	1.0	30	48.50	0	2000
11101A	SIMCA	0	65	1.0	40	43.00	0	2000
11101A	SIMCA	0	65	1.0	50	39.00	0	2000
11101A	SIMCA	0	65	1.0	60	34.50	0	2000
34101A	DATSUN	0	65	1.2	30	41.00	0	2250
34101A	DATSUN	0	65	1.2	40	39.50	0	2250
34101A	DATSUN	0	65	1.2	50	37.50	0	2250
34101A	DATSUN	0	65	1.2	60	32.00	0	2250
46101A	SAAB	0	65	0.8	30	34.00	0	2000
46101A	SAAB	0	65	0.8	40	33.00	0	2000
46101A	SAAB	0	65	0.8	50	30.50	0	2000
46101A	SAAB	0	65	0.8	60	27.00	0	2000
1324A	CLASSIC	1	65	3.8	30	26.50	0	3500
1324A	CLASSIC	1	65	3.8	40	23.00	0	3500
1324A	CLASSIC	1	65	3.8	50	20.50	0	3500
1324A	CLASSIC	1	65	3.8	60	18.00	0	3500
2208A	FURY	1	65	5.2	30	23.50	0	4500
2208A	FURY	1	65	5.2	40	21.50	0	4500
2208A	FURY	1	65	5.2	50	20.00	0	4500
2208A	FURY	1	65	5.2	60	17.00	0	4500
2307A	CORONET	1	65	5.2	30	24.50	0	4500
2307A	CORONET	1	65	5.2	40	22.50	0	4500
2307A	CORONET	1	65	5.2	50	19.50	0	4500
2307A	CORONET	1	65	5.2	60	17.50	0	4500

TABLE A.2-1. CONSTNAT SPEED FUEL ECONOMY DATA BASE (CONT.)

3108A	FORD	1	65	4.7	30	22.00	0	4500
3108A	FORD	1	65	4.7	40	21.00	0	4500
3108A	FORD	1	65	4.7	50	20.00	0	4500
3108A	FORD	1	65	4.7	60	17.00	0	4500
3323A	COMET	1	65	3.3	30	26.50	0	3000
3323A	COMET	1	65	3.3	40	24.50	0	3000
3323A	COMET	1	65	3.3	50	23.00	0	3000
3323A	COMET	1	65	3.3	60	19.50	0	3000
4301A	CHEVROLET	1	65	4.6	30	20.50	0	4000
4301A	CHEVROLET	1	65	4.6	40	19.00	0	4000
4301A	CHEVROLET	1	65	4.6	50	18.50	0	4000
4301A	CHEVROLET	1	65	4.6	60	16.00	0	4000
1301A	AMERICAN	0	66	3.3	30	33.00	0	3000
1301A	AMERICAN	0	66	3.3	40	29.00	0	3000
1301A	AMERICAN	0	66	3.3	50	27.00	0	3000
1301A	AMERICAN	0	66	3.3	60	23.00	0	3000
1323A	CLASSIC	0	66	3.8	30	25.50	0	3500
1323A	CLASSIC	0	66	3.8	40	24.00	0	3500
1323A	CLASSIC	0	66	3.8	50	22.00	0	3500
1323A	CLASSIC	0	66	3.8	60	18.00	0	3500
2101B	NEWPORT	0	66	6.3	30	20.00	0	4500
2101B	NEWPORT	0	66	6.3	40	19.50	0	4500
2101B	NEWPORT	0	66	6.3	50	17.50	0	4500
2101B	NEWPORT	0	66	6.3	60	16.00	0	4500
2204A	BELVEDERE	0	66	5.2	30	24.50	0	4000
2204A	BELVEDERE	0	66	5.2	40	22.50	0	4000
2204A	BELVEDERE	0	66	5.2	50	21.00	0	4000
2204A	BELVEDERE	0	66	5.2	60	17.50	0	4000
2207B	FURY III	0	66	5.2	30	25.50	0	4000
2207B	FURY III	0	66	5.2	40	23.50	0	4000
2207B	FURY III	0	66	5.2	50	21.50	0	4000
2207B	FURY III	0	66	5.2	60	18.00	0	4000
2302A	DART	0	66	2.8	30	30.00	0	3000
2302A	DART	0	66	2.8	40	26.50	0	3000
2302A	DART	0	66	2.8	50	26.00	0	3000
2302A	DART	0	66	2.8	60	21.50	0	3000
2306B	CORONET	0	66	3.7	30	27.00	0	3500
2306B	CORONET	0	66	3.7	40	26.00	0	3500
2306B	CORONET	0	66	3.7	50	24.50	0	3500
2306B	CORONET	0	66	3.7	60	20.50	0	3500
2317A	CHARGER	0	66	5.2	30	24.50	0	4000
2317A	CHARGER	0	66	5.2	40	22.50	0	4000
2317A	CHARGER	0	66	5.2	50	21.50	0	4000
2317A	CHARGER	0	66	5.2	60	17.50	0	4000
3101B	FALCON	0	66	2.8	30	31.00	0	3000
3101B	FALCON	0	66	2.8	40	29.00	0	3000
3101B	FALCON	0	66	2.8	50	26.50	0	3000
3101B	FALCON	0	66	2.8	60	23.00	0	3000
3103B	FAIRLANE	0	66	3.3	30	26.50	0	3500
3103B	FAIRLANE	0	66	3.3	40	26.00	0	3500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

3103B	FAIRLANE	0	66	3.3	50	24.50	0	3500
3103B	FAIRLANE	0	66	3.3	60	22.50	0	3500
3107C	GALAXIE	0	66	4.7	30	20.00	0	4000
3107C	GALAXIE	0	66	4.7	40	20.00	0	4000
3107C	GALAXIE	0	66	4.7	50	19.00	0	4000
3107C	GALAXIE	0	66	4.7	60	17.50	0	4000
3115B	MUSTANG	0	66	3.3	30	26.50	0	3000
3115B	MUSTANG	0	66	3.3	40	26.00	0	3000
3115B	MUSTANG	0	66	3.3	50	25.50	0	3000
3115B	MUSTANG	0	66	3.3	60	21.50	0	3000
3308B	MONTEREY	0	66	6.4	30	19.00	0	4500
3308B	MONTEREY	0	66	6.4	40	18.50	0	4500
3308B	MONTEREY	0	66	6.4	50	17.00	0	4500
3308B	MONTEREY	0	66	6.4	60	14.50	0	4500
4117B	LE SABRE	0	66	5.6	30	19.00	0	4500
4117B	LE SABRE	0	66	5.6	40	18.50	0	4500
4117B	LE SABRE	0	66	5.6	50	17.50	0	4500
4117B	LE SABRE	0	66	5.6	60	16.00	0	4500
4302A	CORVAIR	0	66	2.7	30	28.00	0	2750
4302A	CORVAIR	0	66	2.7	40	27.00	0	2750
4302A	CORVAIR	0	66	2.7	50	25.00	0	2750
4302A	CORVAIR	0	66	2.7	60	22.50	0	2750
4304A	CHEVY II	0	66	3.2	30	27.00	0	3000
4304A	CHEVY II	0	66	3.2	40	25.00	0	3000
4304A	CHEVY II	0	66	3.2	50	24.00	0	3000
4304A	CHEVY II	0	66	3.2	60	21.00	0	3000
4306B	CHEVELLE	0	66	3.2	30	27.50	0	3500
4306B	CHEVELLE	0	66	3.2	40	25.50	0	3500
4306B	CHEVELLE	0	66	3.2	50	24.50	0	3500
4306B	CHEVELLE	0	66	3.2	60	20.50	0	3500
4310B	IMPALA	0	66	4.6	30	20.50	0	4000
4310B	IMPALA	0	66	4.6	40	19.50	0	4000
4310B	IMPALA	0	66	4.6	50	18.50	0	4000
4310B	IMPALA	0	66	4.6	60	17.00	0	4000
4314A	CORVETTE	0	66	5.4	30	19.50	0	3500
4314A	CORVETTE	0	66	5.4	40	19.00	0	3500
4314A	CORVETTE	0	66	5.4	50	19.00	0	3500
4314A	CORVETTE	0	66	5.4	60	18.00	0	3500
4326A	SPORTVAN	0	66	3.8	30	24.50	0	3500
4326A	SPORTVAN	0	66	3.8	40	21.00	0	3500
4326A	SPORTVAN	0	66	3.8	50	18.00	0	3500
4326A	SPORTVAN	0	66	3.8	60	14.50	0	3500
4404A	JETSTAR	0	66	5.4	30	20.50	0	4500
4404A	JETSTAR	0	66	5.4	40	19.50	0	4500
4404A	JETSTAR	0	66	5.4	50	18.00	0	4500
4404A	JETSTAR	0	66	5.4	60	15.50	0	4500
4414A	TORONADO	0	66	7.0	30	18.00	0	5000
4414A	TORONADO	0	66	7.0	40	18.50	0	5000
4414A	TORONADO	0	66	7.0	50	18.50	0	5000
4414A	TORONADO	0	66	7.0	60	16.50	0	5000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4502B	TEMPEST	0	66	3.8	30	25.50	0	3500
4502B	TEMPEST	0	66	3.8	40	24.00	0	3500
4502B	TEMPEST	0	66	3.8	50	23.50	0	3500
4502B	TEMPEST	0	66	3.8	60	20.50	0	3500
4504B	CATALINA	0	66	6.4	30	22.00	0	4500
4504B	CATALINA	0	66	6.4	40	20.50	0	4500
4504B	CATALINA	0	66	6.4	50	19.50	0	4500
4504B	CATALINA	0	66	6.4	60	17.00	0	4500
12201A	OPEL	0	66	1.1	30	45.00	0	2000
12201A	OPEL	0	66	1.1	40	41.00	0	2000
12201A	OPEL	0	66	1.1	50	39.00	0	2000
12201A	OPEL	0	66	1.1	60	32.50	0	2000
22107A	TRIUMPH	0	66	2.0	30	32.50	0	2750
22107A	TRIUMPH	0	66	2.0	40	32.00	0	2750
22107A	TRIUMPH	0	66	2.0	50	30.00	0	2750
22107A	TRIUMPH	0	66	2.0	60	26.00	0	2750
23101A	TOYOTA	0	66	1.9	30	41.50	0	2500
23101A	TOYOTA	0	66	1.9	40	37.00	0	2500
23101A	TOYOTA	0	66	1.9	50	35.50	0	2500
23101A	TOYOTA	0	66	1.9	60	30.50	0	2500
25101A	VW	0	66	1.3	30	43.00	0	2000
25101A	VW	0	66	1.3	40	38.50	0	2000
25101A	VW	0	66	1.3	50	33.50	0	2000
25101A	VW	0	66	1.3	60	28.50	0	2000
27101A	VOLVO	0	66	1.8	30	30.50	0	2750
27101A	VOLVO	0	66	1.8	40	29.00	0	2750
27101A	VOLVO	0	66	1.8	50	27.50	0	2750
27101A	VOLVO	0	66	1.8	60	24.50	0	2750
3323B	COMET	1	66	4.7	30	21.50	0	4000
3323B	COMET	1	66	4.7	40	21.50	0	4000
3323B	COMET	1	66	4.7	50	19.00	0	4000
3323B	COMET	1	66	4.7	60	17.00	0	4000
4102A	SPECIAL	1	66	4.9	30	23.50	0	4000
4102A	SPECIAL	1	66	4.9	40	22.50	0	4000
4102A	SPECIAL	1	66	4.9	50	20.50	0	4000
4102A	SPECIAL	1	66	4.9	60	18.50	0	4000
25102A	VW	1	66	1.6	30	46.50	0	2500
25102A	VW	1	66	1.6	40	38.50	0	2500
25102A	VW	1	66	1.6	50	34.00	0	2500
25102A	VW	1	66	1.6	60	29.50	0	2500
2305A	SPORTSMAN	2	66	4.5	30	21.50	0	4000
2305A	SPORTSMAN	2	66	4.5	40	19.00	0	4000
2305A	SPORTSMAN	2	66	4.5	50	17.50	0	4000
2305A	SPORTSMAN	2	66	4.5	60	14.00	0	4000
3131A	CLUB W	2	66	3.9	30	25.00	0	4000
3131A	CLUB W	2	66	3.9	40	22.00	0	4000
3131A	CLUB W	2	66	3.9	50	19.50	0	4000
3131A	CLUB W	2	66	3.9	60	16.50	0	4000
1301B	AMERICAN	0	67	3.3	30	31.50	0	3000
1301B	AMERICAN	0	67	3.3	40	28.50	0	3000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

1301B	AMERICAN	0	67	3.3	50	26.50	0	3000
1301B	AMERICAN	0	67	3.3	60	23.50	0	3000
1301C	AMERICAN	0	67	3.3	30	33.00	0	3000
1301C	AMERICAN	0	67	3.3	40	31.50	0	3000
1301C	AMERICAN	0	67	3.3	50	28.50	0	3000
1301C	AMERICAN	0	67	3.3	60	24.00	0	3000
1305A	REBEL	0	67	4.8	30	22.00	0	3500
1305A	REBEL	0	67	4.8	40	21.50	0	3500
1305A	REBEL	0	67	4.8	50	20.50	0	3500
1305A	REBEL	0	67	4.8	60	18.00	0	3500
1307B	AMBASSADOR	0	67	4.8	30	22.00	0	4000
1307B	AMBASSADOR	0	67	4.8	40	21.50	0	4000
1307B	AMBASSADOR	0	67	4.8	50	21.00	0	4000
1307B	AMBASSADOR	0	67	4.8	60	19.00	0	4000
2101C	NEWPORT	0	67	6.3	30	21.50	0	4500
2101C	NEWPORT	0	67	6.3	40	20.50	0	4500
2101C	NEWPORT	0	67	6.3	50	18.00	0	4500
2101C	NEWPORT	0	67	6.3	60	16.00	0	4500
2201B	VALIANT	0	67	3.7	30	26.50	0	3000
2201B	VALIANT	0	67	3.7	40	26.50	0	3000
2201B	VALIANT	0	67	3.7	50	23.00	0	3000
2201B	VALIANT	0	67	3.7	60	20.00	0	3000
2203B	BELVEDERE	0	67	4.5	30	23.50	0	3500
2203B	BELVEDERE	0	67	4.5	40	23.50	0	3500
2203B	BELVEDERE	0	67	4.5	50	21.50	0	3500
2203B	BELVEDERE	0	67	4.5	60	18.50	0	3500
2207C	FURY III	0	67	5.2	30	23.00	0	4000
2207C	FURY III	0	67	5.2	40	21.00	0	4000
2207C	FURY III	0	67	5.2	50	19.50	0	4000
2207C	FURY III	0	67	5.2	60	16.50	0	4000
2215A	BARRACUDA	0	67	4.5	30	23.50	0	3500
2215A	BARRACUDA	0	67	4.5	40	24.00	0	3500
2215A	BARRACUDA	0	67	4.5	50	22.50	0	3500
2215A	BARRACUDA	0	67	4.5	60	19.50	0	3500
3101C	FALCON	0	67	3.3	30	27.00	0	3000
3101C	FALCON	0	67	3.3	40	26.00	0	3000
3101C	FALCON	0	67	3.3	50	23.50	0	3000
3101C	FALCON	0	67	3.3	60	20.50	0	3000
3103C	FAIRLANE	0	67	4.7	30	20.50	0	3500
3103C	FAIRLANE	0	67	4.7	40	22.00	0	3500
3103C	FAIRLANE	0	67	4.7	50	20.50	0	3500
3103C	FAIRLANE	0	67	4.7	60	16.50	0	3500
3107D	GALAXIE	0	67	4.7	30	19.50	0	4000
3107D	GALAXIE	0	67	4.7	40	20.50	0	4000
3107D	GALAXIE	0	67	4.7	50	19.50	0	4000
3107D	GALAXIE	0	67	4.7	60	17.00	0	4000
3115C	MUSTANG	0	67	4.7	30	21.00	0	3500
3115C	MUSTANG	0	67	4.7	40	22.00	0	3500
3115C	MUSTANG	0	67	4.7	50	22.00	0	3500
3115C	MUSTANG	0	67	4.7	60	18.50	0	3500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

3308C	MONTEREY	0	67	6.4	30	21.50	0	4500
3308C	MONTEREY	0	67	6.4	40	21.00	0	4500
3308C	MONTEREY	0	67	6.4	50	19.00	0	4500
3308C	MONTEREY	0	67	6.4	60	17.00	0	4500
3320A	COUGAR	0	67	4.7	30	24.50	0	3500
3320A	COUGAR	0	67	4.7	40	23.00	0	3500
3320A	COUGAR	0	67	4.7	50	22.00	0	3500
3320A	COUGAR	0	67	4.7	60	19.50	0	3500
4101B	SPECIAL	0	67	4.9	30	22.00	0	3500
4101B	SPECIAL	0	67	4.9	40	22.00	0	3500
4101B	SPECIAL	0	67	4.9	50	21.50	0	3500
4101B	SPECIAL	0	67	4.9	60	19.00	0	3500
4117C	LE SABRE	0	67	5.6	30	21.50	0	4500
4117C	LE SABRE	0	67	5.6	40	20.50	0	4500
4117C	LE SABRE	0	67	5.6	50	20.00	0	4500
4117C	LE SABRE	0	67	5.6	60	18.00	0	4500
4304B	CHEVY II	0	67	3.2	30	28.00	0	3000
4304B	CHEVY II	0	67	3.2	40	27.50	0	3000
4304B	CHEVY II	0	67	3.2	50	26.00	0	3000
4304B	CHEVY II	0	67	3.2	60	22.50	0	3000
4310C	IMPALA	0	67	4.6	30	22.50	0	4000
4310C	IMPALA	0	67	4.6	40	21.00	0	4000
4310C	IMPALA	0	67	4.6	50	20.00	0	4000
4310C	IMPALA	0	67	4.6	60	18.00	0	4000
4313A	CAMARO	0	67	5.4	30	23.00	0	3500
4313A	CAMARO	0	67	5.4	40	21.00	0	3500
4313A	CAMARO	0	67	5.4	50	20.50	0	3500
4313A	CAMARO	0	67	5.4	60	18.50	0	3500
4324A	MALIBU	0	67	4.6	30	22.50	0	3500
4324A	MALIBU	0	67	4.6	40	21.50	0	3500
4324A	MALIBU	0	67	4.6	50	20.00	0	3500
4324A	MALIBU	0	67	4.6	60	18.50	0	3500
4406A	DELMONT	0	67	7.0	30	19.50	0	4500
4406A	DELMONT	0	67	7.0	40	19.00	0	4500
4406A	DELMONT	0	67	7.0	50	18.00	0	4500
4406A	DELMONT	0	67	7.0	60	15.50	0	4500
4504C	CATALINA	0	67	6.6	30	21.00	0	4500
4504C	CATALINA	0	67	6.6	40	19.50	0	4500
4504C	CATALINA	0	67	6.6	50	18.50	0	4500
4504C	CATALINA	0	67	6.6	60	17.50	0	4500
4512A	FIREBIRD	0	67	5.3	30	22.00	0	3500
4512A	FIREBIRD	0	67	5.3	40	23.00	0	3500
4512A	FIREBIRD	0	67	5.3	50	21.50	0	3500
4512A	FIREBIRD	0	67	5.3	60	20.00	0	3500
10202A	CORTINA	0	67	1.5	30	35.50	0	2250
10202A	CORTINA	0	67	1.5	40	33.00	0	2250
10202A	CORTINA	0	67	1.5	50	31.50	0	2250
10202A	CORTINA	0	67	1.5	60	29.00	0	2250
12201B	OPEL	0	67	1.1	30	51.50	0	2000
12201B	OPEL	0	67	1.1	40	44.50	0	2000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

12201B	OPEL	0	67	1.1	50	41.50	0	2000
12201B	OPEL	0	67	1.1	60	37.00	0	2000
24101A	BMW	0	67	1.6	30	37.50	0	2500
24101A	BMW	0	67	1.6	40	36.00	0	2500
24101A	BMW	0	67	1.6	50	33.50	0	2500
24101A	BMW	0	67	1.6	60	27.00	0	2500
25101B	VW	0	67	1.3	30	47.50	0	2000
25101B	VW	0	67	1.3	40	40.00	0	2000
25101B	VW	0	67	1.3	50	35.50	0	2000
25101B	VW	0	67	1.3	60	28.50	0	2000
26101A	FIAT	0	67	1.2	30	31.50	0	2250
26101A	FIAT	0	67	1.2	40	32.50	0	2250
26101A	FIAT	0	67	1.2	50	30.50	0	2250
26101A	FIAT	0	67	1.2	60	27.00	0	2250
34101B	DATSUN	0	67	1.6	30	41.00	0	2500
34101B	DATSUN	0	67	1.6	40	38.50	0	2500
34101B	DATSUN	0	67	1.6	50	36.00	0	2500
34101B	DATSUN	0	67	1.6	60	31.50	0	2500
42101A	RENAULT	0	67	1.1	30	44.00	0	2000
42101A	RENAULT	0	67	1.1	40	42.00	0	2000
42101A	RENAULT	0	67	1.1	50	39.00	0	2000
42101A	RENAULT	0	67	1.1	60	34.00	0	2000
48101A	PORSCHE	0	67	1.6	30	38.50	0	2500
48101A	PORSCHE	0	67	1.6	40	37.50	0	2500
48101A	PORSCHE	0	67	1.6	50	37.50	0	2500
48101A	PORSCHE	0	67	1.6	60	28.50	0	2500
52901A	SUNBEAM	0	67	1.7	30	31.00	0	2500
52901A	SUNBEAM	0	67	1.7	40	30.00	0	2500
52901A	SUNBEAM	0	67	1.7	50	28.50	0	2500
52901A	SUNBEAM	0	67	1.7	60	25.50	0	2500
2208B	FURY	1	67	6.3	30	22.00	0	5000
2208B	FURY	1	67	6.3	40	20.50	0	5000
2208B	FURY	1	67	6.3	50	18.50	0	5000
2208B	FURY	1	67	6.3	60	16.50	0	5000
3102A	FALCON	1	67	3.3	30	27.50	0	4000
3102A	FALCON	1	67	3.3	40	25.50	0	4000
3102A	FALCON	1	67	3.3	50	23.00	0	4000
3102A	FALCON	1	67	3.3	60	20.00	0	4000
3108B	FORD	1	67	6.4	30	20.00	0	4500
3108B	FORD	1	67	6.4	40	19.00	0	4500
3108B	FORD	1	67	6.4	50	18.00	0	4500
3108B	FORD	1	67	6.4	60	14.50	0	4500
4312A	CAPRICE	1	67	5.4	30	21.50	0	4500
4312A	CAPRICE	1	67	5.4	40	22.00	0	4500
4312A	CAPRICE	1	67	5.4	50	19.50	0	4500
4312A	CAPRICE	1	67	5.4	60	17.50	0	4500
1301D	AMERICAN	0	68	3.3	30	31.50	0	3000
1301D	AMERICAN	0	68	3.3	40	28.50	0	3000
1301D	AMERICAN	0	68	3.3	50	25.50	0	3000
1301D	AMERICAN	0	68	3.3	60	22.00	0	3000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

1301D	AMERICAN	0	68	3.3	70	18.00	0	3000
1305B	REBEL	0	68	4.8	30	23.50	0	4000
1305B	REBEL	0	68	4.8	40	21.00	0	4000
1305B	REBEL	0	68	4.8	50	19.00	0	4000
1305B	REBEL	0	68	4.8	60	17.00	0	4000
1305B	REBEL	0	68	4.8	70	15.50	0	4000
1307C	AMBASSADOR	0	68	4.8	30	22.50	0	4000
1307C	AMBASSADOR	0	68	4.8	40	21.50	0	4000
1307C	AMBASSADOR	0	68	4.8	50	19.50	0	4000
1307C	AMBASSADOR	0	68	4.8	60	17.50	0	4000
1307C	AMBASSADOR	0	68	4.8	70	14.50	0	4000
1309A	JAVELIN	0	68	4.8	30	24.50	0	3500
1309A	JAVELIN	0	68	4.8	40	23.50	0	3500
1309A	JAVELIN	0	68	4.8	50	20.50	0	3500
1309A	JAVELIN	0	68	4.8	60	18.00	0	3500
1309A	JAVELIN	0	68	4.8	70	15.50	0	3500
2101D	NEWPORT	0	68	6.3	30	21.50	0	4500
2101D	NEWPORT	0	68	6.3	40	21.00	0	4500
2101D	NEWPORT	0	68	6.3	50	19.00	0	4500
2101D	NEWPORT	0	68	6.3	60	16.50	0	4500
2101D	NEWPORT	0	68	6.3	70	15.00	0	4500
2302B	DART	0	68	3.7	30	30.50	0	3500
2302B	DART	0	68	3.7	40	29.50	0	3500
2302B	DART	0	68	3.7	50	26.00	0	3500
2302B	DART	0	68	3.7	60	23.00	0	3500
2302B	DART	0	68	3.7	70	20.00	0	3500
2306C	CORONET	0	68	4.5	30	27.00	0	3500
2306C	CORONET	0	68	4.5	40	25.00	0	3500
2306C	CORONET	0	68	4.5	50	24.00	0	3500
2306C	CORONET	0	68	4.5	60	20.50	0	3500
2306C	CORONET	0	68	4.5	70	18.00	0	3500
2317B	CHARGER	0	68	7.2	30	18.00	0	4000
2317B	CHARGER	0	68	7.2	40	18.00	0	4000
2317B	CHARGER	0	68	7.2	50	16.50	0	4000
2317B	CHARGER	0	68	7.2	60	15.00	0	4000
2317B	CHARGER	0	68	7.2	70	12.50	0	4000
2320A	POLARA	0	68	5.2	30	23.50	0	4000
2320A	POLARA	0	68	5.2	40	23.00	0	4000
2320A	POLARA	0	68	5.2	50	22.50	0	4000
2320A	POLARA	0	68	5.2	60	20.00	0	4000
2320A	POLARA	0	68	5.2	70	17.00	0	4000
3101D	FALCON	0	68	3.3	30	29.00	0	3000
3101D	FALCON	0	68	3.3	40	29.00	0	3000
3101D	FALCON	0	68	3.3	50	26.00	0	3000
3101D	FALCON	0	68	3.3	60	23.00	0	3000
3101D	FALCON	0	68	3.3	70	21.00	0	3000
3107E	GALAXIE	0	68	4.9	30	21.00	0	4000
3107E	GALAXIE	0	68	4.9	40	21.50	0	4000
3107E	GALAXIE	0	68	4.9	50	20.00	0	4000
3107E	GALAXIE	0	68	4.9	60	17.50	0	4000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

3107E	GALAXIE	0	68	4.9	70	15.00	0	4000
3114A	TBIRD	0	68	7.0	30	18.50	0	5000
3114A	TBIRD	0	68	7.0	40	18.00	0	5000
3114A	TBIRD	0	68	7.0	50	17.00	0	5000
3114A	TBIRD	0	68	7.0	60	15.50	0	5000
3114A	TBIRD	0	68	7.0	70	15.00	0	5000
3115D	MUSTANG	0	68	4.7	30	23.50	0	3000
3115D	MUSTANG	0	68	4.7	40	24.00	0	3000
3115D	MUSTANG	0	68	4.7	50	21.50	0	3000
3115D	MUSTANG	0	68	4.7	60	19.00	0	3000
3115D	MUSTANG	0	68	4.7	70	16.00	0	3000
3305A	MONTEGO	0	68	4.9	30	24.00	0	3500
3305A	MONTEGO	0	68	4.9	40	23.50	0	3500
3305A	MONTEGO	0	68	4.9	50	24.00	0	3500
3305A	MONTEGO	0	68	4.9	60	22.00	0	3500
3305A	MONTEGO	0	68	4.9	70	18.50	0	3500
3308D	MONTEREY	0	68	6.4	30	19.50	0	4500
3308D	MONTEREY	0	68	6.4	40	20.00	0	4500
3308D	MONTEREY	0	68	6.4	50	18.00	0	4500
3308D	MONTEREY	0	68	6.4	60	15.50	0	4500
3308D	MONTEREY	0	68	6.4	70	13.50	0	4500
4105A	SKYLARK	0	68	5.7	30	22.00	0	4000
4105A	SKYLARK	0	68	5.7	40	21.50	0	4000
4105A	SKYLARK	0	68	5.7	50	20.00	0	4000
4105A	SKYLARK	0	68	5.7	60	17.00	0	4000
4105A	SKYLARK	0	68	5.7	70	15.00	0	4000
4111A	RIVIERA	0	68	7.0	30	19.00	0	5000
4111A	RIVIERA	0	68	7.0	40	19.00	0	5000
4111A	RIVIERA	0	68	7.0	50	17.50	0	5000
4111A	RIVIERA	0	68	7.0	60	16.00	0	5000
4111A	RIVIERA	0	68	7.0	70	14.50	0	5000
4117D	LE SABRE	0	68	5.7	30	21.00	0	4500
4117D	LE SABRE	0	68	5.7	40	20.50	0	4500
4117D	LE SABRE	0	68	5.7	50	21.50	0	4500
4117D	LE SABRE	0	68	5.7	60	19.00	0	4500
4117D	LE SABRE	0	68	5.7	70	16.50	0	4500
4202A	DE VILLE	0	68	7.7	30	18.50	0	5500
4202A	DE VILLE	0	68	7.7	40	17.50	0	5500
4202A	DE VILLE	0	68	7.7	50	17.00	0	5500
4202A	DE VILLE	0	68	7.7	60	15.00	0	5500
4202A	DE VILLE	0	68	7.7	70	13.50	0	5500
4304C	CHEVY II	0	68	3.8	30	27.00	0	3500
4304C	CHEVY II	0	68	3.8	40	26.00	0	3500
4304C	CHEVY II	0	68	3.8	50	23.00	0	3500
4304C	CHEVY II	0	68	3.8	60	20.00	0	3500
4304C	CHEVY II	0	68	3.8	70	17.50	0	3500
4310D	IMPALA	0	68	5.0	30	21.00	0	4000
4310D	IMPALA	0	68	5.0	40	19.50	0	4000
4310D	IMPALA	0	68	5.0	50	19.50	0	4000
4310D	IMPALA	0	68	5.0	60	16.50	0	4000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4310D	IMPALA	0	68	5.0	70	14.00	0	4000
4324B	MALIBU	0	68	5.0	30	22.00	0	3500
4324B	MALIBU	0	68	5.0	40	22.00	0	3500
4324B	MALIBU	0	68	5.0	50	20.00	0	3500
4324B	MALIBU	0	68	5.0	60	18.50	0	3500
4324B	MALIBU	0	68	5.0	70	16.00	0	3500
4406B	DELMONT	0	68	7.5	30	17.50	0	4500
4406B	DELMONT	0	68	7.5	40	17.50	0	4500
4406B	DELMONT	0	68	7.5	50	18.00	0	4500
4406B	DELMONT	0	68	7.5	60	15.00	0	4500
4406B	DELMONT	0	68	7.5	70	13.00	0	4500
4502C	TEMPEST	0	68	5.7	30	21.50	0	4000
4502C	TEMPEST	0	68	5.7	40	21.00	0	4000
4502C	TEMPEST	0	68	5.7	50	21.00	0	4000
4502C	TEMPEST	0	68	5.7	60	19.00	0	4000
4502C	TEMPEST	0	68	5.7	70	16.50	0	4000
4504D	CATALINA	0	68	6.6	30	19.50	0	4500
4504D	CATALINA	0	68	6.6	40	21.50	0	4500
4504D	CATALINA	0	68	6.6	50	22.00	0	4500
4504D	CATALINA	0	68	6.6	60	19.00	0	4500
4504D	CATALINA	0	68	6.6	70	17.50	0	4500
4508A	BONNEVILLE	0	68	6.6	30	20.00	0	5000
4508A	BONNEVILLE	0	68	6.6	40	19.50	0	5000
4508A	BONNEVILLE	0	68	6.6	50	19.00	0	5000
4508A	BONNEVILLE	0	68	6.6	60	17.50	0	5000
4508A	BONNEVILLE	0	68	6.6	70	15.00	0	5000
12201C	OPEL	0	68	1.5	30	45.00	0	2250
12201C	OPEL	0	68	1.5	40	39.00	0	2250
12201C	OPEL	0	68	1.5	50	35.50	0	2250
12201C	OPEL	0	68	1.5	60	29.00	0	2250
12201C	OPEL	0	68	1.5	70	25.00	0	2250
22101A	AUSTIN	0	68	1.3	30	35.00	0	2250
22101A	AUSTIN	0	68	1.3	40	32.00	0	2250
22101A	AUSTIN	0	68	1.3	50	33.50	0	2250
22101A	AUSTIN	0	68	1.3	60	29.50	0	2250
22106A	ROVER	0	68	2.0	30	34.50	0	3000
22106A	ROVER	0	68	2.0	40	31.50	0	3000
22106A	ROVER	0	68	2.0	50	28.00	0	3000
22106A	ROVER	0	68	2.0	60	24.50	0	3000
22106A	ROVER	0	68	2.0	70	21.50	0	3000
23101B	TOYOTA	0	68	1.9	30	34.00	0	2500
23101B	TOYOTA	0	68	1.9	40	32.00	0	2500
23101B	TOYOTA	0	68	1.9	50	32.00	0	2500
23101B	TOYOTA	0	68	1.9	60	28.00	0	2500
23101B	TOYOTA	0	68	1.9	70	24.00	0	2500
25101C	VW	0	68	1.5	30	41.00	0	2250
25101C	VW	0	68	1.5	40	38.00	0	2250
25101C	VW	0	68	1.5	50	33.50	0	2250
25101C	VW	0	68	1.5	60	28.00	0	2250
26101B	FIAT	0	68	0.8	30	39.50	0	1750

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

26101B	FIAT	0	68	0.8	40	35.50	0	1750
26101B	FIAT	0	68	0.8	50	33.50	0	1750
26101B	FIAT	0	68	0.8	60	30.50	0	1750
27101B	VOLVO	0	68	1.8	30	31.50	0	3000
27101B	VOLVO	0	68	1.8	40	31.00	0	3000
27101B	VOLVO	0	68	1.8	50	27.00	0	3000
27101B	VOLVO	0	68	1.8	60	23.00	0	3000
27101B	VOLVO	0	68	1.8	70	20.00	0	3000
32101A	PUEGEOT	0	68	1.6	30	33.00	0	2750
32101A	PUEGEOT	0	68	1.6	40	31.50	0	2750
32101A	PUEGEOT	0	68	1.6	50	29.00	0	2750
32101A	PUEGEOT	0	68	1.6	60	24.50	0	2750
32101A	PUEGEOT	0	68	1.6	70	20.50	0	2750
34101C	DATSUN	0	68	1.6	30	37.50	0	2500
34101C	DATSUN	0	68	1.6	40	37.00	0	2500
34101C	DATSUN	0	68	1.6	50	35.00	0	2500
34101C	DATSUN	0	68	1.6	60	32.00	0	2500
34101C	DATSUN	0	68	1.6	70	25.50	0	2500
40101A	MB	0	68	2.5	30	23.50	0	3500
40101A	MB	0	68	2.5	40	22.00	0	3500
40101A	MB	0	68	2.5	50	21.00	0	3500
40101A	MB	0	68	2.5	60	18.50	0	3500
40101A	MB	0	68	2.5	70	17.50	0	3500
2218A	SATELLITE	1	68	4.5	30	24.00	0	4000
2218A	SATELLITE	1	68	4.5	40	23.00	0	4000
2218A	SATELLITE	1	68	4.5	50	22.00	0	4000
2218A	SATELLITE	1	68	4.5	60	20.00	0	4000
2218A	SATELLITE	1	68	4.5	70	16.00	0	4000
3104A	FAIRLANE	1	68	4.9	30	24.50	0	4000
3104A	FAIRLANE	1	68	4.9	40	22.00	0	4000
3104A	FAIRLANE	1	68	4.9	50	18.50	0	4000
3104A	FAIRLANE	1	68	4.9	60	17.00	0	4000
3104A	FAIRLANE	1	68	4.9	70	14.50	0	4000
4325A	MALIBU	1	68	5.0	30	23.00	0	4000
4325A	MALIBU	1	68	5.0	40	21.00	0	4000
4325A	MALIBU	1	68	5.0	50	18.50	0	4000
4325A	MALIBU	1	68	5.0	60	16.00	0	4000
4325A	MALIBU	1	68	5.0	70	14.00	0	4000
4401A	OLDS	1	68	6.6	30	20.00	0	5000
4401A	OLDS	1	68	6.6	40	18.50	0	5000
4401A	OLDS	1	68	6.6	50	17.00	0	5000
4401A	OLDS	1	68	6.6	60	16.00	0	5000
4401A	OLDS	1	68	6.6	70	15.00	0	5000
1301E	AMERICAN	0	69	3.3	30	33.50	0	3000
1301E	AMERICAN	0	69	3.3	40	29.50	0	3000
1301E	AMERICAN	0	69	3.3	50	26.00	0	3000
1301E	AMERICAN	0	69	3.3	60	22.00	0	3000
1305C	REBEL	0	69	3.8	30	27.50	0	3500
1305C	REBEL	0	69	3.8	40	25.50	0	3500
1305C	REBEL	0	69	3.8	50	22.50	0	3500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

1305C	REBEL	0	69	3.8	60	20.00	0	3500
1307D	AMBASSADOR	0	69	4.8	30	19.00	0	4000
1307D	AMBASSADOR	0	69	4.8	40	19.50	0	4000
1307D	AMBASSADOR	0	69	4.8	50	19.00	0	4000
1307D	AMBASSADOR	0	69	4.8	60	17.00	0	4000
1311A	AMX	0	69	6.4	30	21.00	0	3000
1311A	AMX	0	69	6.4	40	19.00	0	3000
1311A	AMX	0	69	6.4	50	16.00	0	3000
1311A	AMX	0	69	6.4	60	14.50	0	3000
2101D	NEWPORT	0	69	6.3	30	21.00	0	4500
2101E	NEWPORT	0	69	6.3	40	19.00	0	4500
2101E	NEWPORT	0	69	6.3	50	19.00	0	4500
2101E	NEWPORT	0	69	6.3	60	16.00	0	4500
2201C	VALIANT	0	69	2.8	30	34.50	0	3000
2201C	VALIANT	0	69	2.8	40	33.00	0	3000
2201C	VALIANT	0	69	2.8	50	26.50	0	3000
2201C	VALIANT	0	69	2.8	60	24.00	0	3000
2207D	FURY III	0	69	5.2	30	25.50	0	4500
2207D	FURY III	0	69	5.2	40	24.50	0	4500
2207D	FURY III	0	69	5.2	50	21.50	0	4500
2207D	FURY III	0	69	5.2	60	20.00	0	4500
2217A	SATELLITE	0	69	3.7	30	28.50	0	3500
2217A	SATELLITE	0	69	3.7	40	27.00	0	3500
2217A	SATELLITE	0	69	3.7	50	24.00	0	3500
2217A	SATELLITE	0	69	3.7	60	20.50	0	3500
2306D	CORONET	0	69	5.2	30	23.00	0	3500
2306D	CORONET	0	69	5.2	40	22.50	0	3500
2306D	CORONET	0	69	5.2	50	21.00	0	3500
2306D	CORONET	0	69	5.2	60	19.50	0	3500
3101E	FALCON	0	69	2.8	30	36.00	0	3000
3101E	FALCON	0	69	2.8	40	35.00	0	3000
3101E	FALCON	0	69	2.8	50	31.50	0	3000
3101E	FALCON	0	69	2.8	60	25.00	0	3000
3103D	FAIRLANE	0	69	4.1	30	28.50	0	3500
3103D	FAIRLANE	0	69	4.1	40	27.00	0	3500
3103D	FAIRLANE	0	69	4.1	50	23.00	0	3500
3103D	FAIRLANE	0	69	4.1	60	22.50	0	3500
3107F	GALAXIE	0	69	4.9	30	23.00	0	4000
3107F	GALAXIE	0	69	4.9	40	21.50	0	4000
3107F	GALAXIE	0	69	4.9	50	18.50	0	4000
3107F	GALAXIE	0	69	4.9	60	18.00	0	4000
3115E	MUSTANG	0	69	4.9	30	26.00	0	3500
3115E	MUSTANG	0	69	4.9	40	25.00	0	3500
3115E	MUSTANG	0	69	4.9	50	22.00	0	3500
3115E	MUSTANG	0	69	4.9	60	20.00	0	3500
3117A	MAVERICK	0	69	2.8	30	31.50	0	2750
3117A	MAVERICK	0	69	2.8	40	31.00	0	2750
3117A	MAVERICK	0	69	2.8	50	26.50	0	2750
3117A	MAVERICK	0	69	2.8	60	24.00	0	2750
3305B	MONTEGO	0	69	4.9	30	23.50	0	3500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

3305B	MONTEGO	0	69	4.9	40	23.50	0	3500
3305B	MONTEGO	0	69	4.9	50	21.50	0	3500
3305B	MONTEGO	0	69	4.9	60	19.50	0	3500
3308E	MONTEREY	0	69	6.4	30	19.50	0	4500
3308E	MONTEREY	0	69	6.4	40	19.00	0	4500
3308E	MONTEREY	0	69	6.4	50	18.50	0	4500
3308E	MONTEREY	0	69	6.4	60	17.50	0	4500
3320B	COUGAR	0	69	5.8	30	22.50	0	4000
3320B	COUGAR	0	69	5.8	40	21.00	0	4000
3320B	COUGAR	0	69	5.8	50	18.50	0	4000
3320B	COUGAR	0	69	5.8	60	18.00	0	4000
4117E	LE SABRE	0	69	5.7	30	20.50	0	4500
4117E	LE SABRE	0	69	5.7	40	19.00	0	4500
4117E	LE SABRE	0	69	5.7	50	21.00	0	4500
4117E	LE SABRE	0	69	5.7	60	18.50	0	4500
4310E	IMPALA	0	69	5.4	30	21.50	0	4500
4310E	IMPALA	0	69	5.4	40	20.50	0	4500
4310E	IMPALA	0	69	5.4	50	18.00	0	4500
4310E	IMPALA	0	69	5.4	60	17.50	0	4500
4313B	CAMARO	0	69	5.4	30	24.50	0	3500
4313B	CAMARO	0	69	5.4	40	22.50	0	3500
4313B	CAMARO	0	69	5.4	50	21.00	0	3500
4313B	CAMARO	0	69	5.4	60	18.00	0	3500
4315A	NOVA	0	69	3.8	30	29.00	0	3500
4315A	NOVA	0	69	3.8	40	26.50	0	3500
4315A	NOVA	0	69	3.8	50	23.50	0	3500
4315A	NOVA	0	69	3.8	60	20.00	0	3500
4324C	MALIBU	0	69	5.0	30	21.50	0	3500
4324C	MALIBU	0	69	5.0	40	20.00	0	3500
4324C	MALIBU	0	69	5.0	50	18.00	0	3500
4324C	MALIBU	0	69	5.0	60	16.50	0	3500
4324D	MALIBU	0	69	3.8	30	25.50	0	3500
4324D	MALIBU	0	69	3.8	40	24.50	0	3500
4324D	MALIBU	0	69	3.8	50	21.50	0	3500
4324D	MALIBU	0	69	3.8	60	20.00	0	3500
4407A	DELTA 88	0	69	7.5	30	18.50	0	4500
4407A	DELTA 88	0	69	7.5	40	17.50	0	4500
4407A	DELTA 88	0	69	7.5	50	18.00	0	4500
4407A	DELTA 88	0	69	7.5	60	16.50	0	4500
4415A	CUTLASS	0	69	5.7	30	22.50	0	4000
4415A	CUTLASS	0	69	5.7	40	23.00	0	4000
4415A	CUTLASS	0	69	5.7	50	20.00	0	4000
4415A	CUTLASS	0	69	5.7	60	18.50	0	4000
4504E	CATALINA	0	69	6.6	30	19.50	0	4500
4504E	CATALINA	0	69	6.6	40	20.00	0	4500
4504E	CATALINA	0	69	6.6	50	18.00	0	4500
4504E	CATALINA	0	69	6.6	60	16.50	0	4500
4507A	EXECUTIVE	0	69	6.6	30	20.00	0	5000
4507A	EXECUTIVE	0	69	6.6	40	19.50	0	5000
4507A	EXECUTIVE	0	69	6.6	50	20.50	0	5000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4507A	EXECUTIVE	0	69	6.6	60	18.00	0	5000
4511A	GRAND PRIX	0	69	6.6	30	17.00	0	4500
4511A	GRAND PRIX	0	69	6.6	40	16.50	0	4500
4511A	GRAND PRIX	0	69	6.6	50	15.00	0	4500
4511A	GRAND PRIX	0	69	6.6	60	14.50	0	4500
5301A	CHECKER	0	69	5.4	30	21.00	0	4000
5301A	CHECKER	0	69	5.4	40	20.00	0	4000
5301A	CHECKER	0	69	5.4	50	17.50	0	4000
5301A	CHECKER	0	69	5.4	60	15.50	0	4000
10202B	CORTINA	0	69	1.6	30	37.50	0	2250
10202B	CORTINA	0	69	1.6	40	34.50	0	2250
10202B	CORTINA	0	69	1.6	50	29.00	0	2250
10202B	CORTINA	0	69	1.6	60	27.50	0	2250
11101B	SIMCA	0	69	1.2	30	45.50	0	2250
11101B	SIMCA	0	69	1.2	40	42.00	0	2250
11101B	SIMCA	0	69	1.2	50	37.00	0	2250
11101B	SIMCA	0	69	1.2	60	33.00	0	2250
12201D	OPEL	0	69	1.9	30	34.00	0	2500
12201D	OPEL	0	69	1.9	40	31.00	0	2500
12201D	OPEL	0	69	1.9	50	25.50	0	2500
12201D	OPEL	0	69	1.9	60	24.00	0	2500
23101C	TOYOTA	0	69	1.9	30	29.50	0	2500
23101C	TOYOTA	0	69	1.9	40	29.00	0	2500
23101C	TOYOTA	0	69	1.9	50	27.00	0	2500
23101C	TOYOTA	0	69	1.9	60	25.00	0	2500
23101D	TOYOTA	0	69	1.1	30	48.00	0	2000
23101D	TOYOTA	0	69	1.1	40	43.00	0	2000
23101D	TOYOTA	0	69	1.1	50	39.00	0	2000
23101D	TOYOTA	0	69	1.1	60	33.00	0	2000
27101C	VOLVO	0	69	3.0	30	28.50	0	3000
27101C	VOLVO	0	69	3.0	40	29.00	0	3000
27101C	VOLVO	0	69	3.0	50	25.50	0	3000
27101C	VOLVO	0	69	3.0	60	19.50	0	3000
34101D	DATSUN	0	69	1.6	30	34.00	0	2500
34101D	DATSUN	0	69	1.6	40	33.00	0	2500
34101D	DATSUN	0	69	1.6	50	29.00	0	2500
34101D	DATSUN	0	69	1.6	60	27.00	0	2500
42101B	RENAULT	0	69	1.6	30	37.50	0	2500
42101B	RENAULT	0	69	1.6	40	35.50	0	2500
42101B	RENAULT	0	69	1.6	50	32.50	0	2500
42101B	RENAULT	0	69	1.6	60	30.00	0	2500
2220A	PLYMOUTH	1	69	6.3	30	22.00	0	5000
2220A	PLYMOUTH	1	69	6.3	40	20.50	0	5000
2220A	PLYMOUTH	1	69	6.3	50	17.50	0	5000
2220A	PLYMOUTH	1	69	6.3	60	15.50	0	5000
3108C	FORD	1	69	6.4	30	18.00	0	5000
3108C	FORD	1	69	6.4	40	16.50	0	5000
3108C	FORD	1	69	6.4	50	15.50	0	5000
3108C	FORD	1	69	6.4	60	14.50	0	5000
4301B	CHEVROLET	1	69	5.7	30	22.50	0	5000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4301B	CHEVROLET	1	69	5.7	40	21.50	0	5000
4301B	CHEVROLET	1	69	5.7	50	18.50	0	5000
4301B	CHEVROLET	1	69	5.7	60	17.00	0	5000
25102B	VW	1	69	1.6	30	38.00	0	2500
25102B	VW	1	69	1.6	40	35.00	0	2500
25102B	VW	1	69	1.6	50	32.00	0	2500
25102B	VW	1	69	1.6	60	31.00	0	2500
4326B	SPORTVAN	2	69	5.7	30	20.50	0	4500
4326B	SPORTVAN	2	69	5.7	40	18.50	0	4500
4326B	SPORTVAN	2	69	5.7	50	16.00	0	4500
4326B	SPORTVAN	2	69	5.7	60	13.50	0	4500
3102D	LTD	0	70	4.9	55	20.60	0	4000
50901A	CITROEN	0	70	2.2	30	33.50	0	3500
50901A	CITROEN	0	70	2.2	40	31.50	0	3500
50901A	CITROEN	0	70	2.2	50	28.50	0	3500
50901A	CITROEN	0	70	2.2	60	26.50	0	3500
50901A	CITROEN	0	70	2.2	70	24.00	0	3500
1313A	HORNET	0	74	3.8	40	25.00	0	3000
1313A	HORNET	0	74	3.8	50	23.00	0	3000
1313A	HORNET	0	74	3.8	60	21.00	0	3000
1313A	HORNET	0	74	3.8	70	17.00	0	3000
1327A	MATADOR	0	74	4.2	40	21.00	0	4000
1327A	MATADOR	0	74	4.2	50	20.00	0	4000
1327A	MATADOR	0	74	4.2	60	18.50	0	4000
2229A	DUSTER	0	74	3.2	40	29.00	0	3500
2229A	DUSTER	0	74	3.2	50	25.00	0	3500
2229A	DUSTER	0	74	3.2	60	22.00	0	3500
2229A	DUSTER	0	74	3.2	70	19.00	0	3500
2240A	SATELLITE	0	74	3.7	40	25.50	0	4000
2240A	SATELLITE	0	74	3.7	50	23.50	0	4000
2240A	SATELLITE	0	74	3.7	60	21.00	0	4000
2322A	COLT	0	74	1.6	40	40.00	0	2500
2322A	COLT	0	74	1.6	50	35.00	0	2500
2322A	COLT	0	74	1.6	60	30.00	0	2500
3116A	MUSTANG II	0	74	2.3	40	28.00	0	3000
3116A	MUSTANG II	0	74	2.3	50	26.00	0	3000
3116A	MUSTANG II	0	74	2.3	60	23.50	0	3000
3117B	MAVERICK	0	74	3.3	40	27.00	0	3000
3117B	MAVERICK	0	74	3.3	50	24.00	0	3000
3117B	MAVERICK	0	74	3.3	60	22.00	0	3000
3117B	MAVERICK	0	74	3.3	70	19.00	0	3000
3122A	TORINO	0	74	4.2	40	16.50	0	4500
3122A	TORINO	0	74	4.2	50	16.50	0	4500
3122A	TORINO	0	74	4.2	60	16.50	0	4500
3128A	PINTO	0	74	2.0	40	33.50	0	2750
3128A	PINTO	0	74	2.0	50	30.50	0	2750
3128A	PINTO	0	74	2.0	60	27.50	0	2750
4315B	NOVA	0	74	4.1	40	21.00	0	3500
4315B	NOVA	0	74	4.1	50	20.00	0	3500
4315B	NOVA	0	74	4.1	60	18.00	0	3500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4315B	NOVA	0	74	4.1	70	15.00	0	3500
4318A	VEGA	0	74	2.3	40	35.00	0	2750
4318A	VEGA	0	74	2.3	50	31.00	0	2750
4318A	VEGA	0	74	2.3	60	27.00	0	2750
4324E	MALIBU	0	74	4.1	40	20.50	0	4000
4324E	MALIBU	0	74	4.1	50	19.50	0	4000
4324E	MALIBU	0	74	4.1	60	18.00	0	4000
12201E	OPEL	0	74	1.9	40	34.00	0	2500
12201E	OPEL	0	74	1.9	50	31.50	0	2500
12201E	OPEL	0	74	1.9	60	29.00	0	2500
23103A	COROLLA	0	74	1.2	40	42.00	0	2250
23103A	COROLLA	0	74	1.2	50	39.00	0	2250
23103A	COROLLA	0	74	1.2	60	34.50	0	2250
23104A	CORONA	0	74	2.0	40	33.00	0	2750
23104A	CORONA	0	74	2.0	50	27.50	0	2750
23104A	CORONA	0	74	2.0	60	26.50	0	2750
25104A	DASHER	0	74	1.5	40	40.00	0	2500
25104A	DASHER	0	74	1.5	50	33.50	0	2500
25104A	DASHER	0	74	1.5	60	29.50	0	2500
26103A	X1/9	0	74	1.3	40	39.50	0	2250
26103A	X1/9	0	74	1.3	50	35.00	0	2250
26103A	X1/9	0	74	1.3	60	32.00	0	2250
26106A	128	0	74	1.3	40	34.50	0	2250
26106A	128	0	74	1.3	50	30.00	0	2250
26106A	128	0	74	1.3	60	26.00	0	2250
26107A	124 TC	0	74	1.6	40	31.50	0	2500
26107A	124 TC	0	74	1.6	50	29.00	0	2500
26107A	124 TC	0	74	1.6	60	25.00	0	2500
28102A	CIVIC	0	74	1.2	40	40.50	0	2000
28102A	CIVIC	0	74	1.2	50	35.00	0	2000
28102A	CIVIC	0	74	1.2	60	31.50	0	2000
29101A	SUBARU	0	74	1.4	40	40.50	0	2250
29101A	SUBARU	0	74	1.4	50	35.00	0	2250
29101A	SUBARU	0	74	1.4	60	34.00	0	2250
30102A	FOX	0	74	1.5	40	40.00	0	2500
30102A	FOX	0	74	1.5	50	37.00	0	2500
30102A	FOX	0	74	1.5	60	31.00	0	2500
32103A	504	0	74	2.1	40	39.50	0	3500
32103A	504	0	74	2.1	50	35.00	0	3500
32103A	504	0	74	2.1	60	31.50	0	3500
34102A	210	0	74	1.3	40	39.00	0	2250
34102A	210	0	74	1.3	50	36.00	0	2250
34102A	210	0	74	1.3	60	32.50	0	2250
34111A	710	0	74	1.8	40	34.00	0	2750
34111A	710	0	74	1.8	50	30.50	0	2750
34111A	710	0	74	1.8	60	27.00	0	2750
40107A	240D	0	74	2.4	40	31.00	0	3500
40107A	240D	0	74	2.4	50	26.50	0	3500
40107A	240D	0	74	2.4	60	24.50	0	3500
1320A	MATADOR	1	74	5.0	40	21.00	0	4500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

1320A	MATADOR	1	74	5.0	50	18.50	0	4500
1320A	MATADOR	1	74	5.0	60	16.50	0	4500
2307B	CORONET	1	74	5.2	40	20.00	0	4500
2307B	CORONET	1	74	5.2	50	18.00	0	4500
2307B	CORONET	1	74	5.2	60	17.50	0	4500
3124A	TORINO	1	74	4.9	40	18.00	0	5000
3124A	TORINO	1	74	4.9	50	17.00	0	5000
3124A	TORINO	1	74	4.9	60	17.00	0	5000
4120A	CENTURY	1	74	5.7	40	18.00	0	5000
4120A	CENTURY	1	74	5.7	50	16.00	0	5000
4120A	CENTURY	1	74	5.7	60	15.00	0	5000
1318A	GREMLIN	0	75	3.8	40	27.00	0	3000
1318A	GREMLIN	0	75	3.8	50	24.00	0	3000
1318A	GREMLIN	0	75	3.8	60	20.00	0	3000
1319A	MATADOR	0	75	4.2	40	19.00	0	4000
1319A	MATADOR	0	75	4.2	50	17.00	0	4000
1319A	MATADOR	0	75	4.2	60	15.00	0	4000
1321A	PACER	0	75	3.8	40	24.50	0	3500
1321A	PACER	0	75	3.8	50	23.00	0	3500
1321A	PACER	0	75	3.8	60	20.50	0	3500
2201D	VALIANT	0	75	3.7	40	23.50	0	3500
2201D	VALIANT	0	75	3.7	50	22.50	0	3500
2201D	VALIANT	0	75	3.7	60	19.50	0	3500
2210A	GRAND FURY	0	75	5.2	40	20.00	0	5000
2210A	GRAND FURY	0	75	5.2	50	19.50	0	5000
2210A	GRAND FURY	0	75	5.2	60	17.00	0	5000
2231A	FURY	0	75	3.7	40	24.50	0	4000
2231A	FURY	0	75	3.7	50	22.50	0	4000
2231A	FURY	0	75	3.7	60	19.50	0	4000
2302C	DART	0	75	5.2	55	19.50	4140	4500
2322B	COLT	0	75	1.6	40	31.50	0	2500
2322B	COLT	0	75	1.6	50	30.00	0	2500
2322B	COLT	0	75	1.6	55	28.00	0	2500
2322B	COLT	0	75	1.6	60	26.00	0	2500
3109A	LTD	0	75	5.8	40	16.50	4050	5000
3109A	LTD	0	75	5.8	50	16.50	4060	5000
3109A	LTD	0	75	5.8	60	15.50	4060	5000
3116B	MUSTANG II	0	75	4.9	40	17.00	0	3500
3116B	MUSTANG II	0	75	4.9	50	17.00	0	3500
3116B	MUSTANG II	0	75	4.9	60	16.00	0	3500
3117C	MAVERICK	0	75	4.1	40	16.00	0	3500
3117C	MAVERICK	0	75	4.1	50	16.00	0	3500
3117C	MAVERICK	0	75	4.1	60	15.50	0	3500
3128B	PINTO	0	75	2.3	40	28.00	0	3000
3128B	PINTO	0	75	2.3	50	25.00	0	3000
3128B	PINTO	0	75	2.3	60	23.00	0	3000
3128C	PINTO	0	75	2.3	30	31.10	3040	3000
3128C	PINTO	0	75	2.3	45	28.20	3040	3000
3128C	PINTO	0	75	2.3	60	24.20	3040	3000
3128C	PINTO	0	75	2.3	70	20.80	3040	3000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

3128C	PINTO	0	75	2.3	80	17.50	3040	3000
3133A	GRANADA	0	75	4.1	30	17.90	3800	3500
3133A	GRANADA	0	75	4.1	45	19.40	3800	3500
3133A	GRANADA	0	75	4.1	60	16.60	3800	3500
3133A	GRANADA	0	75	4.1	70	14.50	3800	3500
3133A	GRANADA	0	75	4.1	80	10.20	3800	3500
3201A	CONT'I	0	75	7.5	15	14.20	5610	5500
3201A	CONT'I	0	75	7.5	30	17.60	5610	5500
3201A	CONT'L	0	75	7.5	45	18.10	5610	5500
3201A	CONT'L	0	75	7.5	60	16.40	5610	5500
3201A	CONT'L	0	75	7.5	70	14.90	5610	5500
3201A	CONT'L	0	75	7.5	80	13.20	5610	5500
3328A	MONARCH	0	75	4.1	40	16.50	0	3500
3328A	MONARCH	0	75	4.1	50	16.50	0	3500
3328A	MONARCH	0	75	4.1	60	15.50	0	3500
4114A	SKYHAWK	0	75	3.8	40	28.00	0	3500
4114A	SKYHAWK	0	75	3.8	50	26.00	0	3500
4114A	SKYHAWK	0	75	3.8	60	24.00	0	3500
4119A	CENTURY	0	75	3.8	40	22.00	0	4000
4119A	CENTURY	0	75	3.8	50	20.50	0	4000
4119A	CENTURY	0	75	3.8	60	18.50	0	4000
4306C	CHEVELLE	0	75	5.7	30	17.60	4380	4500
4306C	CHEVELLE	0	75	5.7	45	18.90	4380	4500
4306C	CHEVELLE	0	75	5.7	60	17.40	4380	4500
4306C	CHEVELLE	0	75	5.7	70	16.10	4380	4500
4306C	CHEVELLE	0	75	5.7	80	13.90	4380	4500
4309A	BEL AIR	0	75	5.7	40	17.50	0	4500
4309A	BEL AIR	0	75	5.7	50	18.50	0	4500
4309A	BEL AIR	0	75	5.7	60	16.00	0	4500
4315C	NOVA	0	75	4.1	40	22.00	0	3500
4315C	NOVA	0	75	4.1	50	20.50	0	3500
4315C	NOVA	0	75	4.1	60	18.00	0	3500
4321A	MONZA	0	75	4.3	40	24.00	0	3500
4321A	MONZA	0	75	4.3	50	23.00	0	3500
4321A	MONZA	0	75	4.3	60	21.00	0	3500
4324F	MALIBU	0	75	4.1	40	21.00	0	4000
4324F	MALIBU	0	75	4.1	50	19.50	0	4000
4324F	MALIBU	0	75	4.1	60	17.50	0	4000
4504F	CATALINA	0	75	6.6	40	18.50	0	5000
4504F	CATALINA	0	75	6.6	50	18.50	0	5000
4504F	CATALINA	0	75	6.6	60	17.00	0	5000
4512B	FIREBIRD	0	75	4.1	30	29.40	4030	4000
4512B	FIREBIRD	0	75	4.1	45	27.80	4030	4000
4512B	FIREBIRD	0	75	4.1	60	23.80	4030	4000
4512B	FIREBIRD	0	75	4.1	70	20.70	4030	4000
4512B	FIREBIRD	0	75	4.1	80	17.90	4030	4000
4519A	ASTRE	0	75	2.3	40	34.00	0	2750
4519A	ASTRE	0	75	2.3	50	31.00	0	2750
4519A	ASTRE	0	75	2.3	60	27.00	0	2750
10304A	CAPPI	0	75	2.3	40	32.00	0	2750

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

10304A	CAPRI	0	75	2.3	50	29.00	0	2750
10304A	CAPRI	0	75	2.3	55	28.00	0	2750
10304A	CAPRI	0	75	2.3	60	26.50	0	2750
12201F	OPEL	0	75	1.9	40	29.00	0	2500
12201F	OPEL	0	75	1.9	50	30.50	0	2500
12201F	OPEL	0	75	1.9	55	27.50	0	2500
12201F	OPEL	0	75	1.9	60	25.00	0	2500
23103B	COROLLA	0	75	1.6	40	38.00	0	2500
23103B	COROLLA	0	75	1.6	50	35.00	0	2500
23103B	COROLLA	0	75	1.6	60	29.00	0	2500
25105A	RABBIT	0	75	1.5	40	42.00	0	2250
25105A	RABBIT	0	75	1.5	50	34.00	0	2250
25105A	RABBIT	0	75	1.5	60	29.50	0	2250
25105B	RABBIT	0	75	1.5	15	31.10	2430	2250
25105B	RABBIT	0	75	1.5	30	45.50	2430	2250
25105B	RABBIT	0	75	1.5	45	38.40	2430	2250
25105B	RABBIT	0	75	1.5	60	29.20	2430	2250
25105B	RABBIT	0	75	1.5	70	24.80	2430	2250
25105B	RABBIT	0	75	1.5	80	21.60	2430	2250
26108A	131	0	75	1.8	40	33.00	0	2750
26108A	131	0	75	1.8	50	30.50	0	2750
26108A	131	0	75	1.8	55	29.00	0	2750
26108A	131	0	75	1.8	60	27.50	0	2750
27104A	244DL	0	75	2.0	40	26.00	0	3000
27104A	244DL	0	75	2.0	50	24.50	0	3000
27104A	244DL	0	75	2.0	60	22.50	0	3000
28102B	CIVIC	0	75	1.5	40	38.00	0	2000
28102B	CIVIC	0	75	1.5	50	35.00	0	2000
28102B	CIVIC	0	75	1.5	60	31.50	0	2000
30102B	100LS	0	75	1.9	40	36.00	0	3000
30102B	100LS	0	75	1.9	50	29.50	0	3000
30102B	100LS	0	75	1.9	60	23.50	0	3000
32103B	504	0	75	2.0	40	29.50	0	3500
32103B	504	0	75	2.0	50	27.50	0	3500
32103B	504	0	75	2.0	60	25.00	0	3500
42104A	12TI	0	75	1.7	40	35.50	0	2500
42104A	12TL	0	75	1.7	50	32.00	0	2500
42104A	12TL	0	75	1.7	55	30.00	0	2500
42104A	12TL	0	75	1.7	60	27.50	0	2500
46102A	99LE	0	75	2.0	40	32.50	0	3000
46102A	99LE	0	75	2.0	50	29.50	0	3000
46102A	99LE	0	75	2.0	60	26.00	0	3000
2241A	GRAND FURY	1	75	6.6	40	18.50	0	5500
2241A	GRAND FURY	1	75	6.6	50	17.50	0	5500
2241A	GRAND FURY	1	75	6.6	60	15.00	0	5500
3129A	PINTO	1	75	2.8	40	21.00	0	3000
3129A	PINTO	1	75	2.8	50	21.50	0	3000
3129A	PINTO	1	75	2.8	60	20.00	0	3000
23107A	CORONA	1	75	2.2	40	34.00	0	3000
23107A	CORONA	1	75	2.2	50	31.50	0	3000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

23107A	CORONA	1	75	2.2	60	29.00	0	3000
25104B	DASHER	1	75	1.5	40	30.50	0	2500
25104B	DASHER	1	75	1.5	50	31.50	0	2500
25104B	DASHER	1	75	1.5	60	28.00	0	2500
34112A	710	1	75	1.9	40	35.50	0	2750
34112A	710	1	75	1.9	50	29.50	0	2750
34112A	710	1	75	1.9	60	26.50	0	2750
3130A	CLUB W	2	75	5.8	40	17.50	0	5000
3130A	CLUB W	2	75	5.8	50	15.50	0	5000
3130A	CLUB W	2	75	5.8	60	13.50	0	5000
25102C	VW	2	75	1.8	40	24.00	0	3500
25102C	VW	2	75	1.8	50	22.00	0	3500
25102C	VW	2	75	1.8	60	18.00	0	3500
4301C	SUBURBAN	3	75	5.7	40	17.00	0	5000
4301C	SUBURBAN	3	75	5.7	50	16.50	0	5000
4301C	SUBURBAN	3	75	5.7	60	15.50	0	5000
1313B	HORNET	0	76	3.8	40	31.00	0	3500
1313B	HORNET	0	76	3.8	50	28.00	0	3500
1313B	HORNET	0	76	3.8	55	26.00	0	3500
1313B	HORNET	0	76	3.8	60	24.50	0	3500
1319B	MATADOR	0	76	5.0	40	20.00	0	4500
1319B	MATADOR	0	76	5.0	50	18.50	0	4500
1319B	MATADOR	0	76	5.0	55	17.50	0	4500
1319B	MATADOR	0	76	5.0	60	16.50	0	4500
1321B	PACER	0	76	4.2	40	23.50	0	3500
1321B	PACER	0	76	4.2	50	20.50	0	3500
1321B	PACER	0	76	4.2	55	19.50	0	3500
1321B	PACER	0	76	4.2	60	18.00	0	3500
2201E	VALIANT	0	76	3.7	40	32.00	0	3500
2201E	VALIANT	0	76	3.7	50	27.50	0	3500
2201E	VALIANT	0	76	3.7	55	25.50	0	3500
2201E	VALIANT	0	76	3.7	60	24.00	0	3500
2222A	ARROW	0	76	2.0	40	34.00	0	2500
2222A	ARROW	0	76	2.0	50	31.00	0	2500
2222A	ARROW	0	76	2.0	55	29.00	0	2500
2222A	ARROW	0	76	2.0	60	26.50	0	2500
2306E	CORONET	0	76	5.2	40	22.00	0	4500
2306E	CORONET	0	76	5.2	50	20.00	0	4500
2306E	CORONET	0	76	5.2	55	19.50	0	4500
2306E	CORONET	0	76	5.2	60	18.50	0	4500
2325A	ASPEN	0	76	3.7	40	25.50	0	4000
2325A	ASPEN	0	76	3.7	50	24.00	0	4000
2325A	ASPEN	0	76	3.7	55	23.00	0	4000
2325A	ASPEN	0	76	3.7	60	21.50	0	4000
3117D	MAVERICK	0	76	3.3	40	32.00	0	3500
3117D	MAVERICK	0	76	3.3	50	28.50	0	3500
3117D	MAVERICK	0	76	3.3	55	26.50	0	3500
3117D	MAVERICK	0	76	3.3	60	24.00	0	3500
3122B	TORINO	0	76	5.8	40	19.50	0	4500
3122B	TORINO	0	76	5.8	50	18.50	0	4500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

3122B	TORINO	0	76	5.8	55	17.50	0	4500
3122B	TORINO	0	76	5.8	60	16.50	0	4500
3128D	PINTO	0	76	2.3	40	35.00	0	2750
3128D	PINTO	0	76	2.3	50	31.00	0	2750
3128D	PINTO	0	76	2.3	55	29.00	0	2750
3128D	PINTO	0	76	2.3	60	27.00	0	2750
3141A	GRANADA	0	76	4.1	40	22.00	0	4000
3141A	GRANADA	0	76	4.1	50	20.50	0	4000
3141A	GRANADA	0	76	4.1	55	19.50	0	4000
3141A	GRANADA	0	76	4.1	60	18.50	0	4000
4130A	OPEL	0	76	1.8	40	38.00	0	2250
4130A	OPEL	0	76	1.8	50	35.00	0	2250
4130A	OPEL	0	76	1.8	55	31.50	0	2250
4130A	OPEL	0	76	1.8	60	28.50	0	2250
4203A	SEVILLE	0	76	5.7	40	22.50	0	4500
4203A	SEVILLE	0	76	5.7	50	20.50	0	4500
4203A	SEVILLE	0	76	5.7	55	19.50	0	4500
4203A	SEVILLE	0	76	5.7	60	18.50	0	4500
4315D	NOVA	0	76	4.1	40	29.00	0	3500
4315D	NOVA	0	76	4.1	50	25.50	0	3500
4315D	NOVA	0	76	4.1	55	23.50	0	3500
4315D	NOVA	0	76	4.1	60	21.50	0	3500
4323H	CHEVETTE	0	76	1.4	40	40.00	0	2250
4323H	CHEVETTE	0	76	1.4	50	34.00	0	2250
4323H	CHEVETTE	0	76	1.4	55	31.00	0	2250
4323H	CHEVETTE	0	76	1.4	60	27.50	0	2250
4323I	CHEVETTE	0	76	1.6	40	30.00	0	2500
4323I	CHEVETTE	0	76	1.6	50	27.50	0	2500
4323I	CHEVETTE	0	76	1.6	55	26.00	0	2500
4323I	CHEVETTE	0	76	1.6	60	24.00	0	2500
4324G	MALIBU	0	76	5.0	40	22.50	0	4500
4324G	MALIBU	0	76	5.0	50	21.50	0	4500
4324G	MALIBU	0	76	5.0	55	20.00	0	4500
4324G	MALIBU	0	76	5.0	60	18.50	0	4500
4516D	VENTURA	0	76	4.1	40	23.50	0	4000
4516D	VENTURA	0	76	4.1	50	21.00	0	4000
4516D	VENTURA	0	76	4.1	55	19.50	0	4000
4516D	VENTURA	0	76	4.1	60	18.50	0	4000
23103C	COROLLA	0	76	1.6	40	35.00	0	2500
23103C	COROLLA	0	76	1.6	50	31.00	0	2500
23103C	COROLLA	0	76	1.6	55	29.00	0	2500
23103C	COROLLA	0	76	1.6	60	27.00	0	2500
25105C	RABBIT	0	76	1.6	40	35.00	0	2000
25105C	RABBIT	0	76	1.6	50	31.00	0	2000
25105C	RABBIT	0	76	1.6	55	29.50	0	2000
25105C	RABBIT	0	76	1.6	60	27.50	0	2000
28103A	ACCORD	0	76	1.6	40	44.00	0	2250
28103A	ACCORD	0	76	1.6	50	40.00	0	2250
28103A	ACCORD	0	76	1.6	55	37.00	0	2250
28103A	ACCORD	0	76	1.6	60	34.50	0	2250

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

34102B	210	0	76	1.4	40	46.00	0	2250
34102B	210	0	76	1.4	50	40.50	0	2250
34102B	210	0	76	1.4	55	37.50	0	2250
34102B	210	0	76	1.4	60	34.00	0	2250
34104A	F10	0	76	1.4	40	46.50	0	2250
34104A	F10	0	76	1.4	50	41.00	0	2250
34104A	F10	0	76	1.4	55	37.50	0	2250
34104A	F10	0	76	1.4	60	34.00	0	2250
40101B	280S	0	76	2.8	40	21.50	0	4000
40101B	280S	0	76	2.8	50	19.50	0	4000
40101B	280S	0	76	2.8	55	19.00	0	4000
40101B	280S	0	76	2.8	60	18.00	0	4000
42105A	5GTL	0	76	1.3	40	42.50	0	2000
42105A	5GTL	0	76	1.3	50	40.50	0	2000
42105A	5GTL	0	76	1.3	55	37.50	0	2000
42105A	5GTL	0	76	1.3	60	35.50	0	2000
2224A	VOLARE	1	76	5.2	40	20.50	0	4000
2224A	VOIARE	1	76	5.2	50	18.50	0	4000
2224A	VOLARE	1	76	5.2	55	18.00	0	4000
2224A	VOLARE	1	76	5.2	60	17.50	0	4000
3102B	F100	1	76	4.9	40	17.00	0	4000
3102B	F100	1	76	4.9	50	15.00	0	4000
3102B	F100	1	76	4.9	55	14.00	0	4000
3102B	F100	1	76	4.9	60	12.50	0	4000
23109A	SUPRA	1	76	2.6	40	22.50	0	3000
23109A	SUPRA	1	76	2.6	50	21.50	0	3000
23019A	SUPRA	1	76	2.6	55	20.50	0	3000
23109A	SUPRA	1	76	2.6	60	19.00	0	3000
27103A	245	1	76	2.1	40	24.50	0	3500
27103A	245	1	76	2.1	50	22.00	0	3500
27103A	245	1	76	2.1	55	20.50	0	3500
27103A	245	1	76	2.1	60	19.50	0	3500
32103C	504	1	76	2.0	40	24.50	0	3500
32103C	504	1	76	2.0	50	22.00	0	3500
32103C	504	1	76	2.0	55	20.50	0	3500
32103C	504	1	76	2.0	60	19.50	0	3500
2300B	D100	3	76	5.2	40	18.50	0	4000
2300B	D100	3	76	5.2	50	15.50	0	4000
2300B	D100	3	76	5.2	55	14.00	0	4000
2300B	D100	3	76	5.2	60	13.00	0	4000
4300F	C10	3	76	5.7	40	16.00	0	4500
4300F	C10	3	76	5.7	50	14.00	0	4500
4300F	C10	3	76	5.7	55	13.00	0	4500
4300F	C10	3	76	5.7	60	12.00	0	4500
1318B	GREMLIN	0	77	2.0	40	33.50	0	3000
1318B	GREMLIN	0	77	2.0	50	31.00	0	3000
1318B	GREMLIN	0	77	2.0	55	29.50	0	3000
1318B	GREMLIN	0	77	2.0	60	27.50	0	3000
2111A	CORDOBA	0	77	6.6	40	22.00	0	4500
2111A	CORDOBA	0	77	6.6	50	20.00	0	4500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

2111A	CORDOBA	0	77	6.6	55	19.00	0	4500
2111A	CORDOBA	0	77	6.6	60	19.00	0	4500
2223A	VOLARE	0	77	3.7	40	25.50	0	4000
2223A	VOLARE	0	77	3.7	50	23.00	0	4000
2223A	VOLARE	0	77	3.7	55	22.00	0	4000
2223A	VOLARE	0	77	3.7	60	21.00	0	4000
2311A	MONACO	0	77	5.2	40	21.50	0	4500
2311A	MONACO	0	77	5.2	50	18.50	0	4500
2311A	MONACO	0	77	5.2	55	17.50	0	4500
2311A	MONACO	0	77	5.2	60	16.50	0	4500
2322C	COLT	0	77	1.6	40	46.00	0	2250
2322C	COLT	0	77	1.6	50	41.00	0	2250
2322C	COLT	0	77	1.6	55	37.50	0	2250
2322C	COLT	0	77	1.6	60	34.50	0	2250
3114B	TBIRD	0	77	5.8	40	22.50	0	4500
3114B	TBIRD	0	77	5.8	50	21.00	0	4500
3114B	TBIRD	0	77	5.8	55	20.00	0	4500
3114B	TBIRD	0	77	5.8	60	19.00	0	4500
3116C	MUSTANG II	0	77	2.3	40	31.00	0	3000
3116C	MUSTANG II	0	77	2.3	50	28.00	0	3000
3116C	MUSTANG II	0	77	2.3	55	26.50	0	3000
3116C	MUSTANG II	0	77	2.3	60	24.50	0	3000
3133B	GRANADA	0	77	4.1	40	25.00	0	4000
3133B	GRANADA	0	77	4.1	50	23.00	0	4000
3133B	GRANADA	0	77	4.1	55	21.50	0	4000
3133B	GRANADA	0	77	4.1	60	20.00	0	4000
3320C	COUGAR	0	77	4.9	40	21.00	0	4500
3320C	COUGAR	0	77	4.9	50	19.50	0	4500
3320C	COUGAR	0	77	4.9	55	18.50	0	4500
3320C	COUGAR	0	77	4.9	60	17.50	0	4500
4105B	SKYLARK	0	77	3.8	40	25.50	0	3500
4105B	SKYLARK	0	77	3.8	50	23.50	0	3500
4105B	SKYLARK	0	77	3.8	55	22.50	0	3500
4105B	SKYLARK	0	77	3.8	60	21.50	0	3500
4105C	SKYLARK	0	77	3.8	50	24.40	0	4000
4105C	SKYLARK	0	77	3.8	70	18.80	0	4000
4110A	ELECTRA	0	77	5.7	50	20.10	0	4500
4110A	ELECTRA	0	77	5.7	70	15.30	0	4500
4110B	ELECTRA	0	77	5.7	50	20.60	0	4500
4110B	ELECTRA	0	77	5.7	70	16.20	0	4500
4111B	RIVIERA	0	77	5.7	50	20.10	0	4500
4111B	RIVIERA	0	77	5.7	70	15.60	0	4500
4114B	SKYHAWK	0	77	3.8	50	28.40	0	3500
4114B	SKYHAWK	0	77	3.8	70	23.90	0	3500
4114C	SKYHAWK	0	77	3.8	50	27.10	0	3500
4114C	SKYHAWK	0	77	3.8	70	22.50	0	3500
4117F	LE SABRE	0	77	3.8	50	25.00	0	4000
4117F	LE SABRE	0	77	3.8	70	17.80	0	4000
4117G	LE SABRE	0	77	3.8	50	23.50	0	4000
4117G	LE SABRE	0	77	3.8	70	17.40	0	4000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4124A	REGAL	0	77	3.8	50	23.70	0	4000
4124A	REGAL	0	77	3.8	70	18.10	0	4000
4124B	REGAL	0	77	5.7	50	20.90	0	4500
4124B	REGAL	0	77	5.7	70	16.00	0	4500
4202B	DE VILLE	0	77	7.0	50	19.10	0	4500
4202B	DE VILLE	0	77	7.0	70	13.80	0	4500
4203B	SEVILLE	0	77	5.7	50	20.80	0	4500
4203B	SEVILLE	0	77	5.7	70	15.80	0	4500
4206A	ELDORADO	0	77	7.0	50	16.20	0	5500
4206A	ELDORADO	0	77	7.0	70	12.60	0	5500
4310F	IMPALA	0	77	4.1	50	23.20	0	4000
4310F	IMPALA	0	77	4.1	70	18.00	0	4000
4310G	IMPALA	0	77	5.0	50	20.10	0	4000
4310G	IMPALA	0	77	5.0	70	16.70	0	4000
4311A	CAPRICE	0	77	5.0	40	21.50	0	4000
4311A	CAPRICE	0	77	5.0	50	21.00	0	4000
4311A	CAPRICE	0	77	5.0	55	20.00	0	4000
4311A	CAPRICE	0	77	5.0	60	19.50	0	4000
4311B	CAPRICE	0	77	5.7	50	19.90	0	4000
4311B	CAPRICE	0	77	5.7	70	16.40	0	4000
4313C	CAMARO	0	77	5.0	50	21.00	0	4000
4313C	CAMARO	0	77	5.0	70	17.90	0	4000
4315E	NOVA	0	77	4.1	50	25.90	0	3500
4315E	NOVA	0	77	4.1	70	20.80	0	3500
4315F	NOVA	0	77	5.0	50	20.10	0	4000
4315F	NOVA	0	77	5.0	70	16.80	0	4000
4315G	NOVA	0	77	4.1	50	24.10	0	3500
4315G	NOVA	0	77	4.1	70	19.40	0	3500
4315H	NOVA	0	77	4.1	40	25.00	0	4000
4315H	NOVA	0	77	4.1	50	23.50	0	4000
4315H	NOVA	0	77	4.1	55	22.50	0	4000
4315H	NOVA	0	77	4.1	60	21.50	0	4000
4317A	MONTECARLO	0	77	5.7	40	18.50	0	4500
4317A	MONTECARLO	0	77	5.7	50	18.50	0	4500
4317A	MONTECARLO	0	77	5.7	55	18.00	0	4500
4317A	MONTECARLO	0	77	5.7	60	17.50	0	4500
4317B	MONTECARLO	0	77	5.7	50	19.80	0	4500
4317B	MONTECARLO	0	77	5.7	70	16.30	0	4500
4317C	MONTECARLO	0	77	5.0	50	20.90	0	4500
4317C	MONTECARLO	0	77	5.0	70	16.90	0	4500
4318B	VEGA	0	77	2.3	50	30.90	0	3000
4318B	VEGA	0	77	2.3	70	22.40	0	3000
4321B	MONZA	0	77	2.3	50	33.40	0	3000
4321B	MONZA	0	77	2.3	70	24.30	0	3000
4321C	MONZA	0	77	2.3	50	26.40	0	3000
4321C	MONZA	0	77	2.3	70	18.60	0	3000
4321D	MONZA	0	77	5.0	50	24.50	0	3500
4321D	MONZA	0	77	5.0	70	20.00	0	3500
4323A	CHEVETTE	0	77	1.6	40	40.50	0	2250
4323A	CHEVETTE	0	77	1.6	50	35.00	0	2250

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA (CONT.)

4323A	CHEVETTE	0	77	1.6	55	33.00	0	2250
4323A	CHEVETTE	0	77	1.6	60	30.00	0	2250
4323B	CHEVETTE	0	77	1.6	50	30.30	0	2250
4323B	CHEVETTE	0	77	1.6	70	22.30	0	2250
4328A	MALIBU	0	77	4.1	50	22.30	0	4000
4328A	MALIBU	0	77	4.1	70	17.00	0	4000
4328B	MALIBU	0	77	5.0	50	20.00	0	4500
4328B	MALIBU	0	77	5.0	70	16.30	0	4500
4328C	MALIBU	0	77	4.1	50	24.00	0	4000
4328C	MALIBU	0	77	4.1	70	18.40	0	4000
4407B	DELTA 88	0	77	5.7	50	21.30	0	4000
4407B	DELTA 88	0	77	5.7	70	16.40	0	4000
4407C	DELTA 88	0	77	4.3	50	22.70	0	4000
4407C	DELTA 88	0	77	4.3	70	17.50	0	4000
4413A	OLDS 98	0	77	6.6	50	20.60	0	4500
4413A	OLDS 98	0	77	6.6	70	16.80	0	4500
4413B	OLDS 98	0	77	5.7	50	24.40	0	4500
4413B	OLDS 98	0	77	5.7	70	18.60	0	4500
4414B	TORONADO	0	77	6.6	50	18.80	0	5000
4414B	TORONADO	0	77	6.6	70	15.40	0	5000
4415B	CUTLASS	0	77	5.7	50	21.10	0	4500
4415B	CUTLASS	0	77	5.7	70	16.60	0	4500
4419A	CUTLASS	0	77	4.3	40	22.50	0	4500
4419A	CUTLASS	0	77	4.3	50	20.00	0	4500
4419A	CUTLASS	0	77	4.3	55	19.50	0	4500
4419A	CUTLASS	0	77	4.3	60	18.00	0	4500
4504G	CATALINA	0	77	4.9	50	22.70	0	4000
4504G	CATALINA	0	77	4.9	70	17.80	0	4000
4511B	GRAND PRIX	0	77	6.6	40	19.50	0	4500
4511B	GRAND PRIX	0	77	6.6	50	18.50	0	4500
4511B	GRAND PRIX	0	77	6.6	55	17.50	0	4500
4511B	GRAND PRIX	0	77	6.6	60	17.00	0	4500
4511C	GRAND PRIX	0	77	5.7	50	20.30	0	4500
4511C	GRAND PRIX	0	77	5.7	70	17.00	0	4500
4511D	GRAND PRIX	0	77	6.6	50	20.40	0	4500
4511D	GRAND PRIX	0	77	6.6	70	16.60	0	4500
4511E	GRAND PRIX	0	77	4.9	50	23.00	0	4500
4511E	GRAND PRIX	0	77	4.9	70	18.10	0	4500
4512C	FIREBIRD	0	77	6.6	50	19.50	0	4000
4512C	FIREBIRD	0	77	6.6	70	16.40	0	4000
4512D	FIREBIRD	0	77	4.9	50	24.00	0	4000
4512D	FIREBIRD	0	77	4.9	70	20.20	0	4000
4514A	LE MANS	0	77	4.9	50	22.10	0	4000
4514A	LE MANS	0	77	4.9	70	17.50	0	4000
4516A	VENTURA	0	77	2.5	50	25.20	0	3500
4516A	VENTURA	0	77	2.5	70	19.50	0	3500
4516B	VENTURA	0	77	2.5	50	35.60	0	3500
4516B	VENTURA	0	77	2.5	70	25.20	0	3500
4521A	SUNBIRD	0	77	2.5	40	29.50	0	3000
4521A	SUNBIRD	0	77	2.5	50	27.50	0	3000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4521A	SUNBIRD	0	77	2.5	55	25.50	0	3000
4521A	SUNBIRD	0	77	2.5	60	24.00	0	3000
4521B	SUNBIRD	0	77	2.5	50	32.80	0	3000
4521B	SUNBIRD	0	77	2.5	70	24.80	0	3000
23103D	COROLLA	0	77	1.6	40	33.50	0	2500
23103D	COROLLA	0	77	1.6	50	29.50	0	2500
23103D	COROLLA	0	77	1.6	55	27.00	0	2500
23103D	COROLLA	0	77	1.6	60	23.00	0	2500
24102A	3201	0	77	2.0	40	25.50	0	3000
24102A	3201	0	77	2.0	50	22.50	0	3000
24102A	3201	0	77	2.9	55	22.00	0	3000
24102A	3201	0	77	2.0	60	21.00	0	3000
25104C	DASHER	0	77	1.6	40	39.00	0	2500
25104C	DASHER	0	77	1.6	50	36.00	0	2500
25104C	DASHER	0	77	1.6	55	34.00	0	2500
25104C	DASHER	0	77	1.6	60	32.00	0	2500
25105D	RABBIT	0	77	1.6	40	36.00	0	2250
25105D	RABBIT	0	77	1.6	50	31.50	0	2250
25105D	RABBIT	0	77	1.6	55	31.00	0	2250
25105D	RABBIT	0	77	1.6	60	29.50	0	2250
25105E	RABBIT	0	77	1.5	40	59.50	0	2250
25105E	RABBIT	0	77	1.5	50	50.00	0	2250
25105E	RABBIT	0	77	1.5	55	45.00	0	2250
25105E	RABBIT	0	77	1.5	60	41.00	0	2250
28102C	CIVIC	0	77	1.5	40	49.50	0	2000
28102C	CIVIC	0	77	1.5	50	43.60	0	2000
28102C	CIVIC	0	77	1.5	55	39.70	0	2000
28102C	CIVIC	0	77	1.5	60	36.60	0	2000
29101B	SUBARU	0	77	1.6	40	42.50	0	2250
29101B	SUBARU	0	77	1.6	50	36.00	0	2250
29101B	SUBARU	0	77	1.6	55	34.50	0	2250
29101B	SUBARU	0	77	1.6	60	33.00	0	2250
34102C	210	0	77	1.4	40	57.00	0	2250
34102C	210	0	77	1.4	50	49.60	0	2250
34102C	210	0	77	1.4	55	43.70	0	2250
34102C	210	0	77	1.4	60	40.50	0	2250
34106A	810	0	77	2.4	40	29.00	0	3000
34106A	810	0	77	2.4	50	26.00	0	3000
34106A	810	0	77	2.4	55	25.00	0	3000
34106A	810	0	77	2.4	60	23.00	0	3000
38103A	RX-4	0	77	1.3	40	27.00	0	3000
38103A	RX-4	0	77	1.3	50	27.50	0	3000
38103A	RX-4	0	77	1.3	55	25.50	0	3000
38103A	RX-4	0	77	1.3	60	24.00	0	3000
38104A	GLC	0	77	1.3	40	41.80	0	2250
38104A	GLC	0	77	1.3	50	38.00	0	2250
38104A	GLC	0	77	1.3	55	35.20	0	2250
38104A	GLC	0	77	1.3	60	32.50	0	2250
1322A	PACER	1	77	4.2	40	21.00	0	3500
1322A	PACER	1	77	4.2	50	23.50	0	3500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

1322A	PACER	1	77	4.2	55	22.00	0	3500
1322A	PACER	1	77	4.2	60	20.00	0	3500
4120C	CENTURY	1	77	5.7	50	20.00	0	5000
4120C	CENTURY	1	77	5.7	70	15.20	0	5000
4312B	CAPRICE	1	77	5.7	50	18.90	0	4500
4312B	CAPRICE	1	77	5.7	70	14.90	0	4500
4319A	VEGA	1	77	2.3	50	26.90	0	3000
4319A	VEGA	1	77	2.3	70	18.80	0	3000
4327A	MALIBU	1	77	5.7	50	19.10	0	5000
4327A	MALIBU	1	77	5.7	70	14.70	0	5000
4516C	VENTURA	1	77	4.9	50	23.30	0	4000
4516C	VENTURA	1	77	4.9	70	18.60	0	4000
4529A	CATALINA	1	77	4.9	50	22.90	0	4500
4529A	CATALINA	1	77	4.9	70	17.60	0	4500
4529B	CATALINA	1	77	4.9	40	24.00	0	4500
4529B	CATALINA	1	77	4.9	50	21.00	0	4500
4529B	CATALINA	1	77	4.9	55	20.50	0	4500
4529B	CATALINA	1	77	4.9	60	19.50	0	4500
2236A	VOYAGER	2	77	5.9	40	19.00	0	5000
2236A	VOYAGER	2	77	5.9	50	17.50	0	5000
2236A	VOYAGER	2	77	5.9	55	16.50	0	5000
2236A	VOYAGER	2	77	5.9	60	14.50	0	5000
3101F	CLUB W	2	77	5.8	40	18.00	0	5500
3101F	CLUB W	2	77	5.8	50	16.50	0	5500
3101F	CLUB W	2	77	5.8	55	15.00	0	5500
3101F	CLUB W	2	77	5.8	60	14.00	0	5500
4300A	SPORT VAN	2	77	5.7	40	18.00	0	5000
4300A	SPORT VAN	2	77	5.7	50	15.50	0	5000
4300A	SPORT VAN	2	77	5.7	55	14.50	0	5000
4300A	SPORT VAN	2	77	5.7	60	13.00	0	5000
1325A	CONCORD	0	78	3.8	40	28.40	0	3500
1325A	CONCORD	0	78	3.8	50	25.30	0	3500
1325A	CONCORD	0	78	3.8	55	23.40	0	3500
1325A	CONCORD	0	78	3.8	60	21.90	0	3500
2223B	VOLARE	0	78	3.7	40	32.40	0	3500
2223B	VOLARE	0	78	3.7	50	29.00	0	3500
2223B	VOLARE	0	78	3.7	55	25.80	0	3500
2223B	VOLARE	0	78	3.7	60	24.00	0	3500
2225A	SAPPORO	0	78	2.6	40	30.00	0	3000
2225A	SAPPORO	0	78	2.6	50	27.80	0	3000
2225A	SAPPORO	0	78	2.6	55	26.60	0	3000
2225A	SAPPORO	0	78	2.6	60	25.20	0	3000
2319A	MAGNUM	0	78	5.2	40	24.50	0	4500
2319A	MAGNUM	0	78	5.2	50	22.60	0	4500
2319A	MAGNUM	0	78	5.2	55	21.40	0	4500
2319A	MAGNUM	0	78	5.2	60	20.50	0	4500
2327A	OMNI	0	78	1.7	40	43.40	0	2500
2327A	OMNI	0	78	1.7	50	38.70	0	2500
2327A	OMNI	0	78	1.7	55	36.00	0	2500
2327A	OMNI	0	78	1.7	60	32.30	0	2500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

2328A	DIPLOMAT	0	78	5.2	40	27.50	0	4500
2328A	DIPLOMAT	0	78	5.2	50	24.40	0	4500
2328A	DIPLOMAT	0	78	5.2	55	22.20	0	4500
2328A	DIPLOMAT	0	78	5.2	60	20.70	0	4500
3109B	LTD	0	78	5.8	30	21.50	4844	5000
3109B	LTD	0	78	5.8	40	21.20	4844	5000
3109B	LTD	0	78	5.8	50	20.00	4844	5000
3109B	LTD	0	78	5.8	55	19.20	4844	5000
3109B	LTD	0	78	5.8	60	18.30	4844	5000
3109B	LTD	0	78	5.8	70	16.30	4844	5000
3114C	TBIRD	0	78	5.0	30	23.80	4498	4500
3114C	TBIRD	0	78	5.0	40	22.80	4498	4500
3114C	TBIRD	0	78	5.0	50	21.00	4498	4500
3114C	TBIRD	0	78	5.0	55	19.70	4498	4500
3114C	TBIRD	0	78	5.0	60	18.40	4498	4500
3114C	TBIRD	0	78	5.0	70	15.90	4498	4500
3115F	MUSTANG	0	78	2.8	30	26.20	3287	3500
3115F	MUSTANG	0	78	2.8	40	24.20	3287	3500
3115F	MUSTANG	0	78	2.8	50	22.40	3287	3500
3115F	MUSTANG	0	78	2.8	55	21.20	3287	3500
3115F	MUSTANG	0	78	2.8	60	20.20	3287	3500
3115F	MUSTANG	0	78	2.8	70	17.80	3287	3500
3125A	FAIRMONT	0	78	3.3	30	29.00	3233	3000
3125A	FAIRMONT	0	78	3.3	40	26.30	3233	3000
3125A	FAIRMONT	0	78	3.3	50	23.90	3233	3000
3125A	FAIRMONT	0	78	3.3	55	22.80	3233	3000
3125A	FAIRMONT	0	78	3.3	60	21.80	3233	3000
3125A	FAIRMONT	0	78	3.3	70	18.50	3233	3000
3125B	FAIRMONT	0	78	3.3	30	30.10	3250	3000
3125B	FAIRMONT	0	78	3.3	40	30.20	3250	3000
3125B	FAIRMONT	0	78	3.3	50	27.00	3250	3000
3125B	FAIRMONT	0	78	3.3	55	25.50	3250	3000
3125B	FAIRMONT	0	78	3.3	60	24.20	3250	3000
3125B	FAIRMONT	0	78	3.3	70	20.60	3250	3000
3128E	PINTO	0	78	2.3	30	37.90	2800	2750
3128E	PINTO	0	78	2.3	40	38.20	2800	2750
3128E	PINTO	0	78	2.3	50	34.20	2800	2750
3128E	PINTO	0	78	2.3	55	32.20	2800	2750
3128E	PINTO	0	78	2.3	60	29.90	2800	2750
3128E	PINTO	0	78	2.3	70	24.40	2800	2750
3133C	GRANADA	0	78	4.1	30	25.70	3691	3500
3133C	GRANADA	0	78	4.1	40	24.70	3691	3500
3133C	GRANADA	0	78	4.1	50	23.60	3691	3500
3133C	GRANADA	0	78	4.1	55	23.00	3691	3500
3133C	GRANADA	0	78	4.1	60	21.90	3691	3500
3133C	GRANADA	0	78	4.1	70	19.00	3691	3500
3135A	FIESTA	0	78	1.6	40	48.00	0	2000
3135A	FIESTA	0	78	1.6	50	41.60	0	2000
3135A	FIESTA	0	78	1.6	55	38.80	0	2000
3135A	FIESTA	0	78	1.6	60	36.60	0	2000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

3135B	FIESTA	0	78	1.6	30	47.60	2100	2000
3135B	FIESTA	0	78	1.6	40	44.80	2100	2000
3135B	FIESTA	0	78	1.6	50	40.40	2100	2000
3135B	FIESTA	0	78	1.6	55	38.00	2100	2000
3135B	FIESTA	0	78	1.6	60	35.70	2100	2000
3135B	FIESTA	0	78	1.6	70	31.20	2100	2000
3142A	FAIRMONT	0	78	3.3	40	25.80	0	3000
3142A	FAIRMONT	0	78	3.3	50	22.80	0	3000
3142A	FAIRMONT	0	78	3.3	55	21.90	0	3000
3142A	FAIRMONT	0	78	3.3	60	21.00	0	3000
3143A	FAIRMONT	0	78	2.3	40	36.80	0	3000
3143A	FAIRMONT	0	78	2.3	50	33.50	0	3000
3143A	FAIRMONT	0	78	2.3	55	30.90	0	3000
3143A	FAIRMONT	0	78	2.3	60	28.60	0	3000
3144A	FUTURA	0	78	4.9	40	22.90	0	3500
3144A	FUTURA	0	78	4.9	50	22.00	0	3500
3144A	FUTURA	0	78	4.9	55	21.00	0	3500
3144A	FUTURA	0	78	4.9	60	19.70	0	3500
3320D	COUGAR	0	78	5.8	30	21.40	4565	4500
3320D	COUGAR	0	78	5.8	40	21.70	4565	4500
3320D	COUGAR	0	78	5.8	50	20.50	4565	4500
3320D	COUGAR	0	78	5.8	55	20.00	4565	4500
3320D	COUGAR	0	78	5.8	60	18.80	4565	4500
3320D	COUGAR	0	78	5.8	70	16.60	4565	4500
3328B	MONARCH	0	78	4.9	40	23.90	0	4000
3328B	MONARCH	0	78	4.9	50	21.80	0	4000
3328B	MONARCH	0	78	4.9	55	20.90	0	4000
3328B	MONARCH	0	78	4.9	60	20.00	0	4000
3328C	MONARCH	0	78	5.0	30	24.00	3860	4000
3328C	MONARCH	0	78	5.0	40	23.50	3860	4000
3328C	MONARCH	0	78	5.0	50	22.10	3860	4000
3328C	MONARCH	0	78	5.0	55	21.40	3860	4000
3328C	MONARCH	0	78	5.0	60	20.50	3860	4000
3328C	MONARCH	0	78	5.0	70	17.70	3860	4000
3330A	ZEPHYR	0	78	5.0	30	25.20	3456	3500
3330A	ZEPHYR	0	78	5.0	40	24.10	3456	3500
3330A	ZEPHYR	0	78	5.0	50	22.90	3456	3500
3330A	ZEPHYR	0	78	5.0	55	21.80	3456	3500
3330A	ZEPHYR	0	78	5.0	60	20.80	3456	3500
3330A	ZEPHYR	0	78	5.0	70	18.10	3456	3500
4110C	ELECTRA	0	78	5.7	50	21.80	0	4500
4110C	ELECTRA	0	78	5.7	70	17.40	0	4500
4114D	SKYHAWK	0	78	3.8	50	27.90	0	3500
4114D	SKYHAWK	0	78	3.8	70	22.20	0	3500
4117H	LE SABRE	0	78	3.8	50	21.80	0	4000
4117H	LE SABRE	0	78	3.8	70	16.20	0	4000
4117I	LE SABRE	0	78	3.8	50	24.20	0	4000
4117I	LE SABRE	0	78	3.8	70	18.30	0	4000
4124C	REGAL	0	78	3.8	40	25.20	0	3500
4124C	REGAL	0	78	3.8	50	23.30	0	3500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4124C	REGAL	0	78	3.8	55	22.40	0	3500
4124C	REGAL	0	78	3.8	60	21.00	0	3500
4124D	REGAL	0	78	3.8	50	22.90	0	3500
4124D	REGAL	0	78	3.8	70	17.20	0	3500
4202C	DE VILLE	0	78	7.0	50	19.80	0	4500
4202C	DE VILLE	0	78	7.0	70	15.00	0	4500
4202D	DE VILLE	0	78	7.0	50	20.60	0	4500
4202D	DE VILLE	0	78	7.0	70	15.70	0	4500
4203C	SEVILLE	0	78	5.7	50	20.50	0	4500
4203C	SEVILLE	0	78	5.7	70	16.40	0	4500
4206B	ELDORADO	0	78	7.0	50	15.90	0	5500
4206B	ELDORADO	0	78	7.0	70	13.40	0	5500
4317D	MONTECARLO	0	78	5.0	40	25.00	0	3500
4317D	MONTECARLO	0	78	5.0	50	23.00	0	3500
4317D	MONTECARLO	0	78	5.0	55	22.20	0	3500
4317D	MONTECARLO	0	78	5.0	60	20.60	0	3500
4317E	MONTECARLO	0	78	3.8	50	26.70	0	3500
4317E	MONTECARLO	0	78	3.8	70	19.70	0	3500
4317F	MONTECARLO	0	78	3.8	50	26.90	0	3500
4317F	MONTECARLO	0	78	3.8	70	20.30	0	3500
4317G	MONTECARLO	0	78	5.0	50	23.60	0	3500
4317G	MONTECARLO	0	78	5.0	70	17.60	0	3500
4317H	MONTECARLO	0	78	5.0	50	23.60	0	3500
4317H	MONTECARLO	0	78	5.0	70	18.20	0	3500
4321E	MONZA	0	78	2.5	50	33.70	0	3000
4321E	MONZA	0	78	2.5	70	25.60	0	3000
4323C	CHEVETTE	0	78	1.6	40	43.20	0	2500
4323C	CHEVETTE	0	78	1.6	50	36.60	0	2500
4323C	CHEVETTE	0	78	1.6	55	34.50	0	2500
4323C	CHEVETTE	0	78	1.6	60	31.40	0	2500
4323D	CHEVETTE	0	78	1.6	50	36.80	0	2250
4323D	CHEVETTE	0	78	1.6	70	25.80	0	2250
4323E	CHEVETTE	0	78	1.6	50	31.80	0	2250
4323E	CHEVETTE	0	78	1.6	70	22.80	0	2250
4328D	MALIBU	0	78	3.3	40	26.30	0	3500
4328D	MALIBU	0	78	3.3	50	23.90	0	3500
4328D	MALIBU	0	78	3.3	55	22.80	0	5500
4328D	MALIBU	0	78	3.3	60	21.50	0	3500
4328E	MALIBU	0	78	3.3	50	24.70	0	3500
4328E	MALIBU	0	78	3.3	70	18.70	0	3500
4328F	MALIBU	0	78	5.0	50	23.40	0	3500
4328F	MALIBU	0	78	5.0	70	18.60	0	3500
4328G	MALIBU	0	78	5.0	50	24.30	0	3500
4328G	MALIBU	0	78	5.0	70	18.90	0	3500
4407D	DELTA 88	0	78	5.7	50	31.00	0	4500
4407D	DELTA 88	0	78	5.7	70	23.50	0	4500
4407E	DELTA 88	0	78	5.7	50	22.00	0	4000
4407E	DELTA 88	0	78	5.7	70	16.80	0	4000
4407F	DELTA 88	0	78	4.3	50	24.00	0	4000
4407F	DELTA 88	0	78	4.3	70	18.10	0	4000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4412A	STARFIRE	0	78	2.5	40	32.60	0	3000
4412A	STARFIRE	0	78	2.5	50	30.60	0	3000
4412A	STARFIRE	0	78	2.5	55	28.80	0	3000
4412A	STARFIRE	0	78	2.5	60	26.80	0	3000
4413C	OLDS 98	0	78	6.6	50	20.60	0	4500
4413C	OLDS 99	0	78	6.6	70	16.70	0	4500
4415C	CUTLASS	0	78	4.3	40	26.20	0	3500
4415C	CUTLASS	0	78	4.3	50	23.80	0	3500
4415C	CUTLASS	0	78	4.3	55	22.40	0	3500
4415C	CUTLASS	0	78	4.3	60	21.00	0	3500
4415D	CUTLASS	0	78	4.3	50	25.60	0	3500
4415D	CUTLASS	0	78	4.3	70	19.10	0	3500
4430A	DELTA 88	0	78	5.7	40	32.50	0	4500
4430A	DELTA 99	0	78	5.7	50	29.30	0	4500
4430A	DELTA 99	0	78	5.7	55	27.70	0	4500
4430A	DELTA 88	0	78	5.7	60	26.10	0	4500
4504H	CATALINA	0	78	3.8	40	25.80	0	4000
4504H	CATALINA	0	78	3.8	50	24.00	0	4000
4504H	CATALINA	0	78	3.8	55	22.80	0	4000
4504H	CATALINA	0	78	3.8	60	21.00	0	4000
4504I	CATALINA	0	78	4.9	50	22.40	0	4000
4504I	CATALINA	0	78	4.9	70	17.40	0	4000
4508B	BONNEVILLE	0	78	4.9	50	22.00	0	4000
4508B	BONNEVILLE	0	78	4.9	70	15.80	0	4000
4508C	BONNEVILLE	0	78	6.7	50	19.50	0	4500
4508C	BONNEVILLE	0	78	6.7	70	15.70	0	4500
4512E	FIREBIRD	0	78	6.6	50	20.20	0	4000
4512E	FIREBIRD	0	78	6.6	70	16.40	0	4000
4514B	LE MANS	0	78	6.6	50	17.50	0	4000
4514B	LE MANS	0	78	6.6	70	14.60	0	4000
4521C	SUNBIRD	0	78	2.5	50	30.30	0	3000
4521C	SUNBIRD	0	78	2.5	70	23.90	0	3000
4521D	SUNBIRD	0	78	2.5	50	34.50	0	3000
4521D	SUNBIRD	0	78	2.5	70	26.00	0	3000
4525A	PHOENIX	0	78	3.8	40	26.20	0	3500
4525A	PHOENIX	0	78	3.8	50	24.80	0	3500
4525A	PHOENIX	0	78	3.8	55	24.50	0	3500
4525A	PHOENIX	0	78	3.8	60	22.50	0	3500
4525B	PHOENIX	0	78	2.5	50	26.90	0	3500
4525B	PHOENIX	0	78	2.5	70	19.50	0	3500
23102A	CELICA	0	78	2.2	40	30.00	0	2750
23102A	CELICA	0	78	2.2	50	27.00	0	2750
23102A	CELICA	0	78	2.2	55	26.60	0	2750
23102A	CELICA	0	78	2.2	60	25.00	0	2750
23104B	CORONA	0	78	2.2	40	34.80	0	2500
23104B	CORONA	0	78	2.2	50	32.20	0	2500
23104B	CORONA	0	78	2.2	55	30.60	0	2500
23104B	CORONA	0	78	2.2	60	29.50	0	2500
25106A	SCIROCCO	0	78	1.5	40	41.60	0	2250
25106A	SCIROCCO	0	78	1.5	50	38.10	0	2250

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

25106A	SCIROCCO	0	78	1.5	55	35.20	0	2250
25106A	SCIROCCO	0	78	1.5	60	33.70	0	2250
27105A	264GL	0	78	2.7	40	21.90	0	3500
27105A	264GL	0	78	2.7	50	21.00	0	3500
27105A	264GL	0	78	2.7	55	19.90	0	3500
27105A	264GL	0	78	2.7	60	19.60	0	3500
28103B	ACCORD	0	78	1.6	40	45.70	0	2250
28103B	ACCORD	0	78	1.6	50	40.00	0	2250
28103B	ACCORD	0	78	1.6	55	36.40	0	2250
28103B	ACCORD	0	78	1.6	60	33.60	0	2250
30103A	5000	0	78	2.1	40	26.10	0	3000
30103A	5000	0	78	2.1	50	24.10	0	3000
30103A	5000	0	78	2.1	55	23.50	0	3000
30103A	5000	0	78	2.1	60	22.60	0	3000
32104A	604	0	78	2.7	40	20.00	0	3500
32104A	604	0	78	2.7	50	19.60	0	3500
32104A	604	0	78	2.7	55	18.50	0	3500
32104A	604	0	78	2.7	60	17.60	0	3500
34103A	200SX	0	78	1.9	40	29.10	0	2750
34103A	200SX	0	78	1.9	50	28.00	0	2750
34103A	200SX	0	78	1.9	55	26.60	0	2750
34103A	200SX	0	78	1.9	60	25.20	0	2750
34105A	510	0	78	1.9	40	37.00	0	2500
34105A	510	0	78	1.9	50	32.00	0	2500
34105A	510	0	78	1.9	55	30.60	0	2500
34105A	510	0	78	1.9	60	29.30	0	2500
46102B	99	0	78	2.0	40	26.90	0	3000
46102B	99	0	78	2.0	50	25.80	0	3000
46102B	99	0	78	2.0	55	24.20	0	3000
46102B	99	0	78	2.0	60	22.90	0	3000
1326A	CONCORD	1	78	4.2	40	25.10	0	3500
1326A	CONCORD	1	78	4.2	50	22.40	0	3500
1326A	CONCORD	1	78	4.2	55	21.40	0	3500
1326A	CONCORD	1	78	4.2	60	19.70	0	3500
2326A	ASPEN	1	78	3.7	40	28.20	0	4000
2326A	ASPEN	1	78	3.7	50	25.30	0	4000
2326A	ASPEN	1	78	3.7	55	22.00	0	4000
2326A	ASPEN	1	78	3.7	60	20.70	0	4000
3325A	ZEPHYR	1	78	3.3	40	24.90	0	3500
3325A	ZEPHYR	1	78	3.3	50	22.60	0	3500
3325A	ZEPHYR	1	78	3.3	55	21.20	0	3500
3325A	ZEPHYR	1	78	3.3	60	20.20	0	3500
4120B	CENTURY	1	78	3.8	40	27.00	0	3500
4120B	CENTURY	1	78	3.8	50	25.10	0	3500
4120B	CENTURY	1	78	3.8	55	24.00	0	3500
4120B	CENTURY	1	78	3.8	60	22.00	0	3500
4123A	ESTATE	1	78	5.7	50	20.60	0	4500
4123A	ESTATE	1	78	5.7	70	15.90	0	4500
4327B	MALIBU	1	78	3.3	50	26.40	0	3500
4327B	MALIBU	1	78	3.3	70	18.80	0	3500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4327C	MALIBU	1	78	3.3	50	24.60	0	3500
4327C	MALIBU	1	78	3.3	70	17.30	0	3500
4327D	MALIBU	1	78	5.0	50	22.20	0	4000
4327D	MALIBU	1	78	5.0	70	16.90	0	4000
4327E	MALIBU	1	78	5.0	50	22.20	0	4000
4327E	MALIBU	1	78	5.0	70	17.60	0	4000
4416A	CUTLASS	1	78	4.3	50	24.10	0	4000
4416A	CUTLASS	1	78	4.3	70	18.00	0	4000
4416B	CRUISER	1	78	5.7	50	27.60	0	5000
4416B	CRUISER	1	78	5.7	70	19.70	0	5000
4529C	CATALINA	1	78	6.6	50	18.40	0	4500
4529C	CATALINA	1	78	6.6	70	15.10	0	4500
4529D	BONNEVILLE	1	78	4.9	50	22.40	0	4500
4529D	BONNEVILLE	1	78	4.9	70	17.10	0	4500
28102D	CIVIC	1	78	1.5	55	32.50	0	2250
28102D	CIVIC	1	78	1.5	60	28.70	0	2250
28102D	CIVIC	1	78	1.5	70	23.40	0	2250
2300A	ADVENT	3	78	5.2	55	15.20	4060	4000
2300A	ADVENT	3	78	5.2	60	13.80	4060	4000
2300A	ADVENT	3	78	5.2	70	11.10	4060	4000
38100A	COURIER	3	78	2.3	55	25.70	2950	3000
38100A	COURIER	3	78	2.3	60	22.50	2950	3000
38100A	COURIER	3	78	2.3	70	21.00	2950	3000
1325B	CONCORD	0	79	3.8	55	23.60	0	3500
1329F	SPIRIT	0	79	2.0	55	29.40	0	3000
2226A	HORIZON	0	79	1.7	55	30.20	2580	2500
2226A	HORIZON	0	79	1.7	60	27.90	2580	2500
2226A	HORIZON	0	79	1.7	70	23.30	2580	2500
2226B	HORIZON	0	79	1.7	55	38.30	0	2500
2226C	TC3	0	79	1.7	55	37.00	0	2500
2323D	COLT	0	79	1.6	55	41.20	0	2250
2325B	ASPEN	0	79	3.7	55	24.80	3580	3500
2325B	ASPEN	0	79	3.7	60	22.90	3580	3500
2325B	ASPEN	0	79	3.7	70	17.80	3580	3500
2325C	ASPEN	0	79	3.7	55	23.60	0	3500
2333A	ST REGIS	0	79	5.2	55	21.50	0	4000
3109C	LTD	0	79	5.0	30	26.10	4060	4000
3109C	LTD	0	79	5.0	40	25.30	4060	4000
3109C	LTD	0	79	5.0	50	22.80	4060	4000
3109C	LTD	0	79	5.0	55	21.50	4060	4000
3109C	LTD	0	79	5.0	60	20.30	4060	4000
3109C	LTD	0	79	5.0	70	17.90	4060	4000
3115G	MUSTANG	0	79	2.3	30	34.60	2912	3000
3115G	MUSTANG	0	79	2.3	40	34.70	2912	3000
3115G	MUSTANG	0	79	2.3	50	32.30	2912	3000
3115G	MUSTANG	0	79	2.3	55	30.80	2912	3000
3115G	MUSTANG	0	79	2.3	60	28.70	2912	3000
3115G	MUSTANG	0	79	2.3	70	24.80	2912	3000
3115H	MUSTANG	0	79	2.3	55	26.50	0	3000
3115I	MUSTANG	0	79	2.8	55	24.80	0	3000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

3125C	FAIRMONT	0	79	3.3	30	28.30	3139	3000
3125C	FAIRMONT	0	79	3.3	40	26.00	3139	3000
3125C	FAIRMONT	0	79	3.3	50	23.20	3139	3000
3125C	FAIRMONT	0	79	3.3	55	22.10	3139	3000
3125C	FAIRMONT	0	79	3.3	60	20.90	3139	3000
3125C	FAIRMONT	0	79	3.3	70	18.10	3139	3000
3127A	CAPRI	0	79	2.3	30	31.00	2915	3000
3127A	CAPRI	0	79	2.3	40	29.90	2915	3000
3127A	CAPRI	0	79	2.3	50	28.40	2915	3000
3127A	CAPRI	0	79	2.3	55	27.40	2915	3000
3127A	CAPRI	0	79	2.3	60	25.70	2915	3000
3127A	CAPRI	0	79	2.3	70	22.00	2915	3000
3128F	PINTO	0	79	2.3	55	25.30	2880	2750
3128F	PINTO	0	79	2.3	60	23.70	2880	2750
3128F	PINTO	0	79	2.3	70	21.00	2880	2750
3138A	FAIRMONT	0	79	3.3	55	22.50	3160	3000
3138A	FAIRMONT	0	79	3.3	60	21.10	3160	3000
3139A	FAIRMONT	0	79	3.3	70	18.60	3160	3000
3143B	FAIRMONT	0	79	2.3	55	26.00	0	3000
3316A	MARQUIS	0	79	5.8	30	24.10	4196	4000
3316A	MARQUIS	0	79	5.8	40	23.40	4196	4000
3316A	MARQUIS	0	79	5.8	50	21.60	4196	4000
3316A	MARQUIS	0	79	5.8	55	20.60	4196	4000
3316A	MARQUIS	0	79	5.8	60	19.60	4196	4000
3316A	MARQUIS	0	79	5.8	70	16.50	4196	4000
3316B	MARQUIS	0	79	5.8	55	20.00	0	4500
3330B	ZEPHYR	0	79	5.0	30	26.90	3394	3500
3330B	ZEPHYR	0	79	5.0	40	25.80	3394	3500
3330B	ZEPHYR	0	79	5.0	50	24.30	3394	3500
3330B	ZEPHYR	0	79	5.0	55	23.30	3394	3500
3330B	ZEPHYR	0	79	5.0	60	22.00	3394	3500
3330B	ZEPHYR	0	79	5.0	70	19.50	3394	3500
3330C	ZEPHYR	0	79	3.3	55	24.20	0	3000
4206C	ELDORADO	0	79	5.7	55	29.40	0	4000
4311C	CAPRICE	0	79	5.0	50	18.70	4010	4000
4311C	CAPRICE	0	79	5.0	55	17.80	4010	4000
4311C	CAPRICE	0	79	5.0	60	16.20	4010	4000
4311C	CAPRICE	0	79	5.0	65	15.10	4010	4000
4311C	CAPRICE	0	79	5.0	70	13.90	4010	4000
4311D	CAPRICE	0	79	5.0	55	18.90	4010	4000
4311D	CAPRICE	0	79	5.0	70	14.60	4010	4000
4311E	CAPRICE	0	79	5.0	55	18.60	4010	4000
4311E	CAPRICE	0	79	5.0	70	14.40	4010	4000
4311F	CAPRICE	0	79	5.0	55	20.00	0	4000
4323F	CHEVETTE	0	79	1.6	55	22.30	2490	2500
4323F	CHEVETTE	0	79	1.6	60	21.50	2490	2500
4323F	CHEVETTE	0	79	1.6	70	19.10	2490	2500
4415E	CUTLASS	0	79	5.0	55	19.00	0	3500
4415E	CUTLASS	0	79	5.0	70	13.70	0	3500
4415F	CUTLASS	0	79	5.0	55	20.60	0	3500

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4415G	CUTLASS	0	79	3.8	55	24.30	3600	3500
4415G	CUTLASS	0	79	3.8	60	22.50	3600	3500
4415G	CUTLASS	0	79	3.8	70	19.90	3600	3500
4415H	CUTLASS	0	79	4.3	50	30.20	4015	4000
4415H	CUTLASS	0	79	4.3	55	28.20	4015	4000
4415H	CUTLASS	0	79	4.3	60	25.70	4015	4000
4415H	CUTLASS	0	79	4.3	65	24.30	4015	4000
4415H	CUTLASS	0	79	4.3	70	22.00	4015	4000
4415I	CUTLASS	0	79	4.3	55	30.00	4015	4000
4415I	CUTLASS	0	79	4.3	70	23.10	4015	4000
4415J	CUTLASS	0	79	4.3	55	28.80	4015	4000
4415J	CUTLASS	0	79	4.3	70	23.00	4015	4000
4415K	CUTLASS	0	79	5.0	55	18.30	0	3500
4415L	CUTLASS	0	79	5.0	55	19.40	0	3500
4415I	CUTLASS	0	79	5.0	70	15.50	0	3500
4415M	CUTLASS	0	79	4.3	55	29.10	0	4000
4514C	LEMANS	0	79	3.8	55	25.50	0	4000
10302A	CAPRI	0	79	2.3	30	31.00	2915	3000
10302A	CAPRI	0	79	2.3	40	29.90	2915	3000
10302A	CAPRI	0	79	2.3	50	28.40	2915	3000
10302A	CAPRI	0	79	2.3	55	27.40	2915	3000
10302A	CAPRI	0	79	2.3	60	25.70	2915	3000
10302A	CAPRI	0	79	2.3	70	22.00	2915	3000
23103E	COROLLA	0	79	1.6	50	29.10	2490	2500
23103E	COROLLA	0	79	1.6	55	27.40	2490	2500
23103E	COROLLA	0	79	1.6	60	24.10	2490	2500
23103E	COROLLA	0	79	1.6	65	21.00	2490	2500
23103E	COROLLA	0	79	1.6	70	18.10	2490	2500
23103F	COROLLA	0	79	1.6	55	28.10	2490	2500
23103F	COROLLA	0	79	1.6	70	19.10	2490	2500
23103G	COROLLA	0	79	1.6	55	27.70	2490	2500
23103G	COROLLA	0	79	1.6	70	19.00	2490	2500
25105F	RABBIT	0	79	1.5	55	34.00	0	2250
26107B	STRADA	0	79	1.5	55	37.30	0	2250
32102D	504	0	79	2.3	55	31.80	0	3000
34100A	210	0	79	1.4	55	34.80	0	2250
38104B	GLC	0	79	1.4	55	37.10	0	2250
40107B	300D	0	79	2.4	55	28.70	0	4000
2110A	LEBARON	1	79	5.9	55	21.80	0	4500
3108D	FORD	1	79	5.8	55	18.10	0	4500
4127B	ESTATE	1	79	5.0	55	19.40	0	4500
4327F	MALIBU	1	79	4.4	55	20.50	0	5000
4300B	GMC VAN	2	79	5.7	50	15.40	4925	5000
4300B	GMC VAN	2	79	5.7	55	14.50	4925	5000
4300B	GMC VAN	2	79	5.7	60	13.20	4925	5000
4300B	GMC VAN	2	79	5.7	65	12.10	4925	5000
4300B	GMC VAN	2	79	5.7	70	10.40	4925	5000
4300C	GMC VAN	2	79	5.7	55	14.90	4925	5000
4300C	GMC VAN	2	79	5.7	70	10.90	4925	5000
4300D	GMC VAN	2	79	5.7	55	14.50	4925	5000

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4300D	GMC VAN	2	79	5.7	70	10.50	4925	5000
2300C	D150	3	79	5.2	55	17.90	0	4500
2300D	D50	3	79	2.0	55	31.60	0	2750
3100A	F150	3	79	4.9	55	17.10	0	4500
4300C	BIG 10	3	79	5.0	55	14.50	0	4500
4300D	LUV	3	79	1.8	55	28.30	0	2750
38100B	COURIER	3	79	2.3	55	29.50	0	3000
1325C	CONCORD	0	80	2.5	55	29.20	0	3500
1330A	EAGLE	0	80	4.2	35	21.20	0	4000
1330A	EAGLE	0	80	4.2	55	17.80	0	4000
2111B	CORDOBA	0	80	3.7	0	.00	0	3500
2112A	LE BARON	0	80	5.2	35	24.10	0	4000
2112A	LE BARON	0	80	5.2	45	22.70	0	4000
2112A	LE BARON	0	80	5.2	55	19.60	0	4000
2210B	GRAND FURY	0	80	5.3	35	24.20	0	4000
2210B	GRAND FURY	0	80	5.3	45	22.30	0	4000
2210B	GRAND FURY	0	80	5.3	55	19.40	0	4000
2322E	COLT	0	80	1.4	35	52.20	0	2250
2322E	COLT	0	80	1.4	45	45.10	0	2250
2322E	COLT	0	80	1.4	55	38.40	0	2250
2322F	COLT	0	80	2.6	55	30.90	0	3000
2326B	ASPEN	0	80	3.7	55	23.80	0	3500
2334A	MIRADA	0	80	5.2	0	.00	0	3500
3109E	LTD	0	80	5.8	35	23.20	0	4000
3109E	LTD	0	80	5.8	45	23.90	0	4000
3109E	LTD	0	80	5.8	55	20.50	0	4000
3114D	FBIRD	0	80	5.0	0	.00	0	3500
3115J	MUSTANG	0	80	2.3	35	29.70	0	3000
3115J	MUSTANG	0	80	2.3	55	22.50	0	3000
3125D	FAIRMONT	0	80	2.3	55	29.60	0	3000
3201B	CONT'L	0	80	5.8	35	26.00	0	4500
3201B	CONT'L	0	80	5.8	45	23.00	0	4500
3201B	CONT'L	0	80	5.8	55	20.70	0	4500
4105D	SKYLARK	0	80	2.5	55	33.50	0	3000
4117J	LE SABRE	0	80	3.8	35	20.70	0	4000
4117J	LE SABRE	0	80	3.8	45	18.30	0	4000
4117J	LE SABRE	0	80	3.8	55	16.20	0	4000
4203D	SEVILLE	0	80	5.7	35	28.50	0	4500
4203D	SEVILLE	0	80	5.7	45	30.30	0	4500
4203D	SEVILLE	0	80	5.7	55	26.30	0	4500
4311G	CAPRICE	0	80	5.0	35	23.30	0	4000
4311G	CAPRICE	0	80	5.0	45	23.30	0	4000
4311G	CAPRICE	0	80	5.0	55	21.60	0	4000
4313D	CAMARO	0	80	5.7	35	22.70	0	4000
4313D	CAMARO	0	80	5.7	55	17.60	0	4000
4317I	MONTECARLO	0	80	3.8	0	.00	0	3500
4323G	CHEVETTE	0	80	1.6	55	33.90	0	2250
4329A	CITATION	0	80	2.8	55	31.60	0	2875
4329B	CITATION	0	80	2.5	55	32.40	0	3000
4417A	OMEGA	0	80	2.5	50	28.80	2845	2750

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

4417A	OMEGA	0	80	2.5	55	28.00	2845	2750
4417A	OMEGA	0	80	2.5	60	26.40	2845	2750
4417A	OMEGA	0	80	2.5	65	24.60	2845	2750
4417A	OMEGA	0	80	2.5	70	23.10	2845	2750
4417B	OMEGA	0	80	2.5	55	30.00	2845	2750
4417B	OMEGA	0	80	2.5	70	24.00	2845	2750
4417C	OMEGA	0	80	2.5	55	29.90	2840	2750
4417C	OMEGA	0	80	2.5	70	24.00	2840	2750
4417D	OMEGA	0	80	2.8	55	29.40	0	3000
4508D	BONNEVILLE	0	80	5.7	35	35.30	0	4000
4508D	BONNEVILLE	0	80	5.7	45	30.10	0	4000
4508D	BONNEVILLE	0	80	5.7	55	27.50	0	4000
4511F	GRAND PRIX	0	80	3.8	0	.00	0	3500
4512F	FIREBIRD	0	80	4.9	35	20.30	0	4000
4512F	FIREBIRD	0	80	4.9	55	15.50	0	4000
4525C	PHOENIX	0	80	2.5	55	37.90	0	2875
22108A	TR-7	0	80	2.0	55	33.40	0	2750
23103H	COROLLA	0	80	1.5	55	39.50	0	2500
23103I	COROLLA	0	80	1.8	55	36.60	0	3500
23108A	CORONA	0	80	2.2	55	34.90	0	3000
23111A	TERCEL	0	80	1.5	35	50.50	0	2250
23111A	TERCEL	0	80	1.5	45	42.10	0	2250
23111A	TERCEL	0	80	1.5	55	38.20	0	2250
23111B	TERCEL	0	80	1.5	55	39.50	0	2250
24103A	528I	0	80	2.8	0	.00	0	3500
24103A	528I	0	80	2.8	0	.00	0	3500
24103A	528I	0	80	2.8	0	.00	0	3500
25105G	RABBIT	0	80	1.5	55	45.70	0	2250
25105H	RABBIT	0	80	1.5	35	64.70	0	2250
25105H	RABBIT	0	80	1.5	45	55.70	0	2250
25105H	RABBIT	0	80	1.5	55	45.10	0	2250
25105I	RABBIT	0	80	1.5	35	53.10	0	2000
25105I	RABBIT	0	80	1.5	45	49.00	0	2000
25105I	RABBIT	0	80	1.5	55	39.50	0	2000
28102E	CIVIC	0	80	1.5	35	51.50	0	2000
28102E	CIVIC	0	80	1.5	45	45.90	0	2000
28102E	CIVIC	0	80	1.5	55	36.90	0	2000
29101C	SUBARU	0	80	1.6	35	43.50	0	2500
29101C	SUBARU	0	80	1.6	45	41.30	0	2500
29101C	SUBARU	0	80	1.6	55	35.30	0	2500
29102A	4WD	0	80	1.6	35	36.60	0	2250
29102A	4WD	0	80	1.6	55	28.00	0	2250
29103A	GF	0	80	1.6	30	46.00	0	2250
29103A	GF	0	80	1.6	40	47.00	0	2250
29103A	GF	0	80	1.6	50	42.00	0	2250
29103A	GF	0	80	1.6	60	36.00	0	2250
29103A	GF	0	80	1.6	70	31.00	0	2250
29103A	GF	0	80	1.6	80	27.00	0	2250
30104A	AUDI 4000	0	80	1.6	55	35.80	0	2500
34102D	210	0	80	1.4	35	67.60	0	2250

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

34102D	210	0	80	1.4	45	50.80	0	2250
34102D	210	0	80	1.4	55	37.30	0	2250
34105B	510	0	80	2.0	55	42.70	0	2750
34115A	310	0	80	1.4	55	42.00	0	2250
34115A	280-ZX	0	80	2.8	55	32.50	0	3000
38104C	GLC	0	80	1.4	35	43.30	0	2250
38104C	GLC	0	80	1.4	45	38.60	0	2250
38104C	GLC	0	80	1.4	55	32.50	0	2250
38105A	626	0	80	2.0	55	36.80	0	2750
38106A	RX-7	0	80	1.1	55	27.20	0	2750
40107B	240D	0	80	2.4	30	50.00	0	3500
40107B	240D	0	80	2.4	40	40.00	0	3500
40107B	240D	0	80	2.4	50	34.00	0	3500
40107B	240D	0	80	2.4	60	28.00	0	3500
40107B	240D	0	80	2.4	70	22.00	0	3500
40107B	240D	0	80	2.4	80	18.00	0	3500
40108A	300SD	0	80	3.0	35	37.00	0	4000
40108A	300SD	0	80	3.0	45	35.50	0	4000
40108A	300SD	0	80	3.0	55	31.70	0	4000
42102A	LE CAR	0	80	1.4	35	43.50	0	2000
42102A	LE CAR	0	80	1.4	45	42.10	0	2000
42102A	LE CAR	0	80	1.4	55	35.90	0	2000
1326B	CONCORD	1	80	4.2	35	26.70	0	3000
1326B	CONCORD	1	80	4.2	55	21.10	0	3000
2110B	LE BARON	1	80	3.7	35	23.10	0	4000
2110B	LE BARON	1	80	3.7	55	17.60	0	4000
3139A	FAIRMONT	1	80	3.3	35	25.80	0	3000
3139A	FAIRMONT	1	80	3.3	55	19.50	0	3000
4325B	MALIBU	1	80	3.8	35	26.30	0	3500
4325B	MALIBU	1	80	3.8	55	19.00	0	3500
1300A	CHEROKEE	3	80	5.9	35	14.20	0	4500
1300A	CHEROKEE	3	80	5.9	45	13.50	0	4500
1300A	CHEROKEE	3	80	5.9	55	12.40	0	4500
2300E	RAMCHGR	3	80	5.2	35	15.30	0	4500
2300E	RAMCHGR	3	80	5.2	45	13.90	0	4500
2300E	RAMCHGR	3	80	5.2	55	12.60	0	4500
3100B	BRONCO	3	80	5.0	35	16.30	0	4500
3100B	BRONCO	3	80	5.0	45	14.60	0	4500
3100B	BRONCO	3	80	5.0	55	12.10	0	4500
4300F	BLAZER	3	80	5.7	35	21.70	0	5000
4300F	BLAZER	3	80	5.7	45	19.00	0	5000
4300F	BLAZER	3	80	5.7	55	15.80	0	5000
5601A	SCOUT	3	80	5.0	35	15.30	0	4000
5601A	SCOUT	3	80	5.0	45	14.20	0	4000
5601A	SCOUT	3	80	5.0	55	12.40	0	4000
5602A	TRAVLER	3	80	3.3	35	26.30	0	4500
5602A	TRAVLER	3	80	3.3	45	24.00	0	4500
5602A	TRAVLER	3	80	3.3	55	19.10	0	4500
25107A	PICKUP	3	80	1.6	35	25.80	0	2250
25107A	PICKUP	3	80	1.6	55	23.60	0	2250

TABLE A.2-1. CONSTANT SPEED FUEL ECONOMY DATA BASE (CONT.)

34117A	KING CAB	3	80	2.0	35	28.00	0	2750
34117A	KING CAB	3	80	2.0	55	27.90	0	2750

APPENDIX B

VEHICLE SPEED DISTRIBUTION STATISTICS ON ALL HIGHWAYS FOR YEARS 1972 AND 1979

B.1 RURAL INTERSTATE VEHICLE SPEED DISTRIBUTIONS

- TABLE B.1-1 - 1972 AUTOMOBILE SPEED DISTRIBUTIONS, RURAL INTERSTATE
- TABLE B.1-2 - 1972 ALL VEHICLES SPEED DISTRIBUTIONS, RURAL INTERSTATE
- TABLE B.1-3 - 1979 AUTOMOBILE SPEED DISTRIBUTIONS, RURAL INTERSTATE
- TABLE B.1-4 - 1979 ALL VEHICLES SPEED DISTRIBUTIONS, RURAL INTERSTATE

B.2 URBAN INTERSTATE VEHICLE SPEED DISTRIBUTIONS

- TABLE B.2-1 - 1972 AUTOMOBILE SPEED DISTRIBUTIONS, URBAN INTERSTATE
- TABLE B.2-2 - 1972 ALL VEHICLES SPEED DISTRIBUTIONS, URBAN INTERSTATE
- TABLE B.2-3 - 1979 AUTOMOBILE SPEED DISTRIBUTIONS, URBAN INTERSTATE
- TABLE B.2-4 - 1979 ALL VEHICLES SPEED DISTRIBUTIONS, URBAN INTERSTATE

B.3 VEHICLE SPEED DISTRIBUTIONS FOR OTHER PRIMARY ROADS

- TABLE B.3-1 - 1972 AUTOMOBILE SPEED DISTRIBUTIONS, MAIN RURAL ROADS
- TABLE B.3-2 - 1972 ALL VEHICLES SPEED DISTRIBUTIONS, MAIN RURAL ROADS
- TABLE B.3-3 - 1979 AUTOMOBILE SPEED DISTRIBUTIONS, PRIMARY ROADS
- TABLE B.3-4 - 1979 ALL VEHICLES SPEED DISTRIBUTIONS, PRIMARY ROADS

B.4 ALL HIGHWAYS CUMULATIVE VEHICLE SPEED DISTRIBUTIONS

- TABLE B.4-1 - 1972 AUTOMOBILE SPEED DISTRIBUTIONS, ALL HIGHWAYS
- TABLE B.4-2 - 1979 AUTOMOBILE SPEED DISTRIBUTIONS, ALL HIGHWAYS

TABLE B.1-1. 1972 AUTOMOBILE SPEED DISTRIBUTIONS,
RURAL INTERSTATE

REFERENCES: 1973 "TRAFFIC SPEED TRENDS" REPORT
FHWA, HRP-13, JULY 31, 1973*

DATA AS INPUT: MEAN SPEED=66.20
ONE STD= 7.50

SPEED (MPH)	% AUTOMOBILES WITHIN .5 MPH OF SPEED	% AUTOMOBILES EXCEEDING SPEED
41.0	0.0	100.0
42.0	0.0	99.9
43.0	0.1	99.9
44.0	0.1	99.8
45.0	0.1	99.7
46.0	0.1	99.6
47.0	0.2	99.4
48.0	0.4	99.0
49.0	0.4	98.6
50.0	0.7	98.0
51.0	1.1	97.1
52.0	1.4	95.7
53.0	1.7	93.9
54.0	2.1	91.8
55.0	2.6	89.2
56.0	3.1	86.1
57.0	3.7	82.4
58.0	4.4	78.0
59.0	5.1	72.9
60.0	5.9	67.0
61.0	6.8	60.2
62.0	7.8	52.4
63.0	8.9	43.5
64.0	10.1	33.6
65.0	11.4	22.7
66.0	12.8	10.0
67.0	14.3	14.0
68.0	15.9	12.0
69.0	17.6	6.6
70.0	19.4	2.0
71.0	21.3	0.0
72.0	23.3	0.0
73.0	25.4	0.0
74.0	27.6	0.0
75.0	30.0	0.0
76.0	32.5	0.0
77.0	35.1	0.0
78.0	37.8	0.0
79.0	40.6	0.0
80.0	43.5	0.0
81.0	46.5	0.0
82.0	49.6	0.0
83.0	52.8	0.0
84.0	56.1	0.0
85.0	59.5	0.0
86.0	63.0	0.0
87.0	66.6	0.0
88.0	70.3	0.0
89.0	74.1	0.0
90.0	78.0	0.0
91.0	82.0	0.0

(100)*

(98)

(93)

(80)

(58)

(30)

(12)

* DATA IN PARENTHESES FROM
INDICATED REFERENCE.

TABLE B.1-2. 1972 ALL VEHICLES SPEED DISTRIBUTIONS,
RURAL INTERSTATE

REFERENCES: 1973 "TRAFFIC SPEED TRENDS" REPORT
FHWA, HRP-13, JULY 31, 1973*

DATA AS INPUT: MEAN SPEED=64.60
ONE STD= 7.88

SPEED (MPH)	% VEHICLES WITHIN .5 MPH OF SPEED	% VEHICLES EXCEEDING SPEED	
38.0	0.0	100.0	
39.0	0.0	99.9	
40.0	0.0	99.9	(100)*
41.0	0.1	99.9	
42.0	0.1	99.8	
43.0	0.1	99.7	
44.0	0.2	99.6	
45.0	0.2	99.4	(99)
46.0	0.3	99.1	
47.0	0.4	98.8	
48.0	0.5	98.3	
49.0	0.7	97.7	
50.0	0.9	96.9	(97)
51.0	1.1	95.9	
52.0	1.4	94.7	
53.0	1.7	93.2	
54.0	2.0	91.3	
55.0	2.4	89.1	(89)
56.0	2.8	86.5	
57.0	3.2	83.5	
58.0	3.6	80.1	
59.0	4.0	76.4	
60.0	4.3	72.3	(71)
61.0	4.6	67.8	
62.0	4.8	63.1	
63.0	5.0	58.1	
64.0	5.1	53.1	
65.0	5.1	48.0	(49)
66.0	5.0	42.9	
67.0	4.9	37.9	
68.0	4.6	33.1	
69.0	4.4	28.6	
70.0	4.0	24.4	(24)
71.0	3.7	20.6	
72.0	3.3	17.1	
73.0	2.9	14.1	
74.0	2.5	11.4	
75.0	2.1	9.1	(9)
76.0	1.8	7.0	
77.0	1.4	5.6	
78.0	1.2	4.3	
79.0	0.9	3.3	
80.0	0.7	2.4	
81.0	0.6	1.8	* DATA IN PARENTHESES FROM INDICATED REFERENCE.
82.0	0.4	1.3	
83.0	0.3	0.9	
84.0	0.2	0.6	
85.0	0.2	0.4	
86.0	0.1	0.3	
87.0	0.1	0.2	
88.0	0.1	0.1	
89.0	0.0	0.1	
90.0	0.0	0.1	
91.0	0.0	0.0	

TABLE B.1-3. 1979 AUTOMOBILE SPEED DISTRIBUTIONS,
RURAL INTERSTATE

REFERENCES: 1973 "TRAFFIC SPEED TRENDS" REPORT
FHWA, HRP-12, JULY 31, 1973
FHWA, HRP-44, NOVEMBER 21, 1979
DATA AS INPUT: MEAN SPEED=59.10
ONE STDEV= 5.30

SPEED (MPH)	% AUTOMOBILES WITHIN .5 MPH OF SPEED	% AUTOMOBILES EXCEEDING SPEED
41.0	0.0	100.0
42.0	0.0	99.9
43.0	0.1	99.9
44.0	0.1	99.8
45.0	0.2	99.7
46.0	0.4	99.6
47.0	0.7	99.3
48.0	1.1	98.9
49.0	1.7	98.3
50.0	2.3	97.7
51.0	3.1	96.9
52.0	4.0	95.9
53.0	4.9	94.7
54.0	5.6	93.3
55.0	6.3	91.7
56.0	7.0	89.7
57.0	7.7	87.4
58.0	8.4	84.7
59.0	9.1	81.6
60.0	9.8	78.1
61.0	10.5	74.3
62.0	11.2	70.1
63.0	11.9	65.6
64.0	12.6	60.8
65.0	13.3	55.7
66.0	14.0	50.3
67.0	14.7	44.6
68.0	15.4	38.6
69.0	16.1	32.2
70.0	16.8	25.5
71.0	17.5	18.5
72.0	18.2	11.3
73.0	18.9	4.0
74.0	19.6	0.7
75.0	20.3	0.4
76.0	21.0	0.1
77.0	21.7	0.0

END OF EXECUTION
CPU TIME: 0.84 ELAPSED TIME: 5:46.78
EXIT

TABLE B.1-4. 1979 ALL VEHICLES SPEED DISTRIBUTIONS,
RURAL INTERSTATE

REFERENCES: FHWA, HRP-44, NOVEMBER 21, 1979 *

DATA AS INPUT * MEAN SPEED=57.70
ONE STD= 5.50

SPEED (MPH)	% VEHICLES WITHIN .5 MPH OF SPEED	% VEHICLES EXCEEDING SPEED
39.0	0.0	100.0
40.0	0.1	99.9
41.0	0.1	99.8
42.0	0.1	99.7
43.0	0.2	99.5
44.0	0.3	99.2
45.0	0.5	98.7
46.0	0.8	98.0
47.0	1.1	97.1
48.0	1.6	95.5
49.0	2.1	93.4
50.0	2.7	90.9
51.0	3.4	87.5
52.0	4.2	83.3
53.0	5.0	78.3
54.0	5.9	72.4
55.0	6.8	65.6
56.0	7.7	58.1
57.0	8.7	49.1
58.0	9.7	39.0
59.0	10.7	28.0
60.0	11.7	16.0
61.0	12.7	3.0
62.0	13.7	0.0
63.0	14.7	0.0
64.0	15.7	0.0
65.0	16.7	0.0
66.0	17.7	0.0
67.0	18.7	0.0
68.0	19.7	0.0
69.0	20.7	0.0
70.0	21.7	0.0
71.0	22.7	0.0
72.0	23.7	0.0
73.0	24.7	0.0
74.0	25.7	0.0
75.0	26.7	0.0
76.0	27.7	0.0
77.0	28.7	0.0

* DATA IN PARENTHESES FROM INDICATED REFERENCE.

TABLE B.2-1. 1972 AUTOMOBILE SPEED DISTRIBUTIONS,
URBAN INTERSTATE

REFERENCES: 1973 "TRAFFIC SPEED TRENDS" REPORT
FHWA, HRP-13, JULY 31, 1973 *

DATA AS INPUT: MEAN SPEED=56.80
ONE STD= 8.58

SPEED (MPH)	% AUTOMOBILES WITHIN .5 MPH OF SPEED	% AUTOMOBILES EXCEEDING SPEED
28.0	0.0	100.0
29.0	0.0	100.0
30.0	0.0	100.0
31.0	0.1	100.0
32.0	0.1	100.0
33.0	0.1	100.0
34.0	0.1	100.0
35.0	0.1	100.0
36.0	0.1	100.0
37.0	0.1	100.0
38.0	0.1	100.0
39.0	0.1	100.0
40.0	0.1	100.0
41.0	0.1	100.0
42.0	0.1	100.0
43.0	0.1	100.0
44.0	0.1	100.0
45.0	0.1	100.0
46.0	0.1	100.0
47.0	0.1	100.0
48.0	0.1	100.0
49.0	0.1	100.0
50.0	0.1	100.0
51.0	0.1	100.0
52.0	0.1	100.0
53.0	0.1	100.0
54.0	0.1	100.0
55.0	0.1	100.0
56.0	0.1	100.0
57.0	0.1	100.0
58.0	0.1	100.0
59.0	0.1	100.0
60.0	0.1	100.0
61.0	0.1	100.0
62.0	0.1	100.0
63.0	0.1	100.0
64.0	0.1	100.0
65.0	0.1	100.0
66.0	0.1	100.0
67.0	0.1	100.0
68.0	0.1	100.0
69.0	0.1	100.0
70.0	0.1	100.0
71.0	0.1	100.0
72.0	0.1	100.0
73.0	0.1	100.0
74.0	0.1	100.0
75.0	0.1	100.0
76.0	0.1	100.0
77.0	0.1	100.0
78.0	0.1	100.0
79.0	0.1	100.0
80.0	0.1	100.0
81.0	0.1	100.0
82.0	0.1	100.0
83.0	0.1	100.0
84.0	0.1	100.0
85.0	0.0	100.0

(99)*

(97)

(92)

(79)

(60)

(35)

(17)

(5)

(1)

*DATA IN PARENTHESES FROM
INDICATED REFERENCE.

TABLE B.2-2. 1972 ALL VEHICLES SPEED DISTRIBUTIONS,
 URBAN INTERSTATE
 REFERENCES: 1973 "TRAFFIC SPEED TRENDS" REPORT
 FHWA, HHP-13, JULY 31, 1973 *

DATA AS INPUT: MEAN SPEED=55.70
 ONE STD= 8.40

<u>SPEED (MPH)</u>	<u>% VEHICLES WITHIN .5 MPH OF SPEED</u>	<u>% VEHICLES EXCEEDING SPEED</u>
28.0	0.0	100.0
29.0	0.0	99.9
30.0	0.0	99.9
31.0	0.1	99.8
32.0	0.1	99.8
33.0	0.1	99.7
34.0	0.2	99.5
35.0	0.2	99.3 (99)*
36.0	0.3	99.0
37.0	0.4	98.7
38.0	0.5	98.0
39.0	0.7	97.7
40.0	0.8	96.9 (96)
41.0	1.0	96.0
42.0	1.3	94.9
43.0	1.5	93.5
44.0	1.8	91.8
45.0	2.1	89.9 (90)
46.0	2.4	87.6
47.0	2.8	85.0
48.0	3.1	82.0
49.0	3.5	78.7
50.0	3.8	75.1 (75)
51.0	4.1	71.0
52.0	4.3	67.0
53.0	4.5	62.6
54.0	4.7	58.0
55.0	4.7	53.3 (55)
56.0	4.7	48.6
57.0	4.7	43.9
58.0	4.6	39.0
59.0	4.4	34.7
60.0	4.2	30.4 (30)
61.0	3.9	26.4
62.0	3.6	22.7
63.0	3.3	19.0
64.0	2.9	16.2
65.0	2.6	13.4 (14)
66.0	2.2	11.0
67.0	1.9	8.9
68.0	1.6	7.0
69.0	1.4	5.7
70.0	1.1	4.4 (4)
71.0	0.9	3.4
72.0	0.7	2.6
73.0	0.6	2.0
74.0	0.4	1.6
75.0	0.3	1.1 (1)
76.0	0.3	0.8
77.0	0.2	0.6
78.0	0.1	0.4
79.0	0.1	0.3
80.0	0.1	0.2
81.0	0.1	0.1
82.0	0.0	0.1
83.0	0.1	0.1
84.0	0.1	0.0

*DATA IN PARENTHESES FROM
 INDICATED REFERENCE.

TABLE B.2-3. 1979 AUTOMOBILE SPEED DISTRIBUTIONS,
URBAN INTERSTATE

REFERENCES: 1973 "TRAFFIC SPEED TRENDS" REPORT
FHWA, HHP-13, JULY 31, 1973
FHWA, HHP-44, NOVEMBER 21, 1979

DATA AS INPUT: MEAN SPEED=56.60
ONE STD= 5.40

SPEED (MPH)	% AUTOMOBILES WITHIN .5 MPH OF SPEED	% AUTOMOBILES EXCEEDING SPEED
38.0	0.0	100.0
39.0	0.1	99.9
40.0	0.1	99.9
41.0	0.1	99.8
42.0	0.2	99.7
43.0	0.3	99.4
44.0	0.5	99.0
45.0	0.7	98.4
46.0	1.1	97.5
47.0	1.5	96.2
48.0	2.1	94.4
49.0	2.7	92.0
50.0	3.5	88.9
51.0	4.3	85.0
52.0	5.1	80.3
53.0	5.9	74.8
54.0	6.6	68.0
55.0	7.1	61.6
56.0	7.3	54.4
57.0	7.4	47.0
58.0	7.1	39.0
59.0	6.7	32.0
60.0	6.1	26.4
61.0	5.3	20.0
62.0	4.5	15.0
63.0	3.7	11.0
64.0	2.9	8.5
65.0	2.2	6.0
66.0	1.6	4.1
67.0	1.2	2.7
68.0	0.8	1.7
69.0	0.5	1.1
70.0	0.3	0.7
71.0	0.2	0.4
72.0	0.1	0.2
73.0	0.1	0.1
74.0	0.1	0.1
75.0	0.0	0.0

END OF EXECUTION
CPU TIME: 1.85 ELAPSED TIME: 6:13.75
EXIT

TABLE B.2-4. 1979 ALL VEHICLES SPEED DISTRIBUTIONS,
URBAN INTERSTATE

REFERENCES: FHWA, HHP-44, NOVEMBER 21, 1979*

DATA AS INPUT: MEAN SPEED=55.50
ONE STD= 5.30

SPEED (MPH)	% VEHICLES WITHIN .5 MPH OF SPEED	% VEHICLES EXCEEDING SPEED
38.0	0.0	100.0
39.0	0.1	99.9
40.0	0.1	99.8 (99.9)*
41.0	0.2	99.7
42.0	0.3	99.7
43.0	0.5	99.4
44.0	0.7	99.0
45.0	1.1	97.9 (97.4)
46.0	1.5	96.4
47.0	2.1	94.3
48.0	2.8	91.5
49.0	3.6	87.9
50.0	4.4	83.5 (84.6)
51.0	5.2	78.3
52.0	6.0	72.3
53.0	6.7	65.6
54.0	7.2	58.4
55.0	7.5	50.9 (54.6)
56.0	7.5	43.4
57.0	7.2	35.9
58.0	6.7	28.4
59.0	6.0	20.9
60.0	5.2	13.4 (18.8)
61.0	4.4	7.2
62.0	3.6	3.6
63.0	2.8	0.9
64.0	2.1	0.4
65.0	1.5	0.2 (3.9)
66.0	1.1	0.1
67.0	0.7	0.1
68.0	0.5	0.1
69.0	0.3	0.1
70.0	0.2	0.1 (0.4)
71.0	0.1	0.1
72.0	0.1	0.1
73.0	0.0	0.0

*DATA IN PARENTHESES FROM INDICATED REFERENCE.

TABLE B.3-1. 1972 AUTOMOBILE SPEED DISTRIBUTIONS,
MAIN RURAL ROADS

REFERENCES: 1973 "TRAFFIC SPEED TRENDS" REPORT
FHWA, HRP-13, JULY 31, 1973 *

DATA AS INPUT: MEAN SPEED=61.30
ONE STD= 9.60

SPEED (MPH)	% AUTOMOBILES WITHIN .5 MPH OF SPEED	% AUTOMOBILES EXCEEDING SPEED
29.0	0.0	100.0
30.0	0.0	99.9
31.0	0.0	99.9
32.0	0.0	99.9
33.0	0.1	99.8
34.0	0.1	99.8
35.0	0.1	99.7 (100)*
36.0	0.1	99.6
37.0	0.2	99.4
38.0	0.2	99.2
39.0	0.3	99.0
40.0	0.4	98.7 (98)
41.0	0.4	98.3
42.0	0.6	97.6
43.0	0.7	97.2
44.0	0.8	96.4
45.0	1.0	95.5 (95)
46.0	1.2	94.5
47.0	1.4	93.2
48.0	1.6	91.7
49.0	1.8	90.0
50.0	2.1	88.0 (87)
51.0	2.3	85.8
52.0	2.6	83.4
53.0	2.9	80.6
54.0	3.1	77.6
55.0	3.3	74.4 (75)
56.0	3.6	71.0
57.0	3.8	67.3
58.0	3.9	63.4
59.0	4.0	59.5
60.0	4.1	55.4 (56)
61.0	4.2	51.2
62.0	4.1	47.1
63.0	4.1	43.0
64.0	4.0	38.9
65.0	3.9	35.0 (36)
66.0	3.7	31.2
67.0	3.5	27.6
68.0	3.3	24.3
69.0	3.0	21.1
70.0	2.8	18.2 (17)
71.0	2.5	15.6
72.0	2.2	13.3
73.0	2.0	11.1
74.0	1.7	9.3 (7)
75.0	1.5	7.7
76.0	1.3	6.3
77.0	1.1	5.1
78.0	0.9	4.1
79.0	0.8	3.3
80.0	0.6	2.6
81.0	0.5	2.0
82.0	0.4	1.6
83.0	0.3	1.2
84.0	0.3	0.9
85.0	0.2	0.7
86.0	0.2	0.5
87.0	0.1	0.4
88.0	0.1	0.3
89.0	0.1	0.2
90.0	0.0	0.1
91.0	0.0	0.1
92.0	0.0	0.1
93.0	0.0	0.0

*DATA IN PARENTHESES FROM
INDICATED REFERENCE.

TABLE B.3-2. 1972 ALL VEHICLES SPEED DISTRIBUTIONS,
MAIN RURAL ROADS

REFERENCES: 1973 "TRAFFIC SPEED TRENDS" REPORT
FHWA, HRP-13, JULY 31, 1973*

DATA AS INPUT: MEAN SPEED=59.90
ONE STD= 9.50

SPEED (MPH)	% VEHICLES WITHIN .5 MPH OF SPEED	% VEHICLES EXCEEDING SPEED
28.0	0.0	100.0
29.0	0.0	99.9
30.0	0.0	99.9
31.0	0.0	99.9
32.0	0.1	99.8
33.0	0.1	99.8
34.0	0.1	99.7
35.0	0.1	99.6 (100)*
36.0	0.2	99.4
37.0	0.2	99.2
38.0	0.3	98.9
39.0	0.4	98.6
40.0	0.5	98.2 (98)
41.0	0.6	97.7
42.0	0.7	97.0
43.0	0.9	96.0
44.0	1.0	95.0
45.0	1.2	94.0 (94)
46.0	1.4	92.8
47.0	1.7	91.0
48.0	1.9	89.5
49.0	2.2	87.4 (85)
50.0	2.4	85.1
51.0	2.7	82.6
52.0	3.0	79.7
53.0	3.2	76.6
54.0	3.5	73.0
55.0	3.7	69.7 (70)
56.0	3.9	65.9
57.0	4.0	62.0
58.0	4.1	57.9
59.0	4.2	53.0 (50)
60.0	4.2	48.5
61.0	4.2	45.4
62.0	4.1	41.0
63.0	4.0	37.0
64.0	3.8	33.0
65.0	3.6	29.0 (30)
66.0	3.4	26.0
67.0	3.2	22.7
68.0	3.0	19.7
69.0	2.7	16.9
70.0	2.4	14.4 (14)
71.0	2.1	12.1
72.0	1.9	10.1
73.0	1.6	8.4
74.0	1.4	7.0
75.0	1.2	5.9 (5)
76.0	1.0	4.9
77.0	0.8	4.1
78.0	0.7	3.4
79.0	0.6	2.9
80.0	0.4	2.4 (14)
81.0	0.4	1.9
82.0	0.3	1.6
83.0	0.2	1.3
84.0	0.2	1.1
85.0	0.1	0.9
86.0	0.1	0.8
87.0	0.1	0.7
88.0	0.1	0.6
89.0	0.0	0.5
90.0	0.0	0.4
91.0	0.0	0.3
92.0	0.0	0.2

*DATA IN PARENTHESES FROM
INDICATED REFERENCE.

TABLE B.3-3. 1979 AUTOMOBILE SPEED DISTRIBUTIONS,
PRIMARY ROADS

REFERENCES: HHP-44, NOVEMBER 21, 1979
1973 "TRAFFIC SPEED TRENDS" REPORT
FHWA, HHP-13, JULY 31, 1973

DATA AC NPUT: MEAN SPEED=56.00
ONE STD= 6.30

<u>SPEED (MPH)</u>	<u>% AUTOMOBILES WITHIN .5 MPH OF SPEED</u>	<u>% AUTOMOBILES EXCEEDING SPEED</u>
34.0	0.0	100.0
35.0	0.0	100.0
36.0	0.0	99.9
37.0	0.1	99.9
38.0	0.1	99.8
39.0	0.2	99.7
40.0	0.3	99.4
41.0	0.4	99.1
42.0	0.5	98.7
43.0	0.8	98.0
44.0	1.0	97.0
45.0	1.4	96.0
46.0	1.8	94.4
47.0	2.3	92.0
48.0	2.8	89.8
49.0	3.4	86.7
50.0	4.0	83.0
51.0	4.6	78.6
52.0	5.2	73.7
53.0	5.8	68.3
54.0	6.0	62.5
55.0	6.2	56.3
56.0	6.3	50.0
57.0	6.2	43.7
58.0	6.0	37.5
59.0	5.6	31.7
60.0	5.2	26.3
61.0	4.6	21.4
62.0	4.0	17.0
63.0	3.4	13.0
64.0	2.8	10.2
65.0	2.3	7.7
66.0	1.8	5.6
67.0	1.4	4.0
68.0	1.0	2.8
69.0	0.8	2.0
70.0	0.5	1.3
71.0	0.4	0.9
72.0	0.3	0.6
73.0	0.2	0.3
74.0	0.1	0.2
75.0	0.1	0.1
76.0	0.0	0.1
77.0	0.0	0.0
78.0	0.0	0.0

TABLE B.3-4. 1979 ALL VEHICLES SPEED DISTRIBUTIONS,
PRIMARY ROADS

REFERENCES: FHWA, HHP-44, NOVEMBER 21, 1979*

DATA AS INPUT: MEAN SPEED=54.70
ONE STD= 6.20

<u>SPEED (MPH)</u>	<u>% VEHICLES WITHIN .5 MPH OF SPEED</u>	<u>% VEHICLES EXCEEDING SPEED</u>
34.0	0.0	100.0
35.0	0.0	99.9 (99.8)*
36.0	0.1	99.9
37.0	0.1	99.8
38.0	0.2	99.6
39.0	0.3	99.4
40.0	0.4	99.1 (98.7)
41.0	0.6	98.6
42.0	0.8	98.0
43.0	1.1	97.0
44.0	1.5	95.8
45.0	1.9	94.1 (93.2)
46.0	2.4	92.0
47.0	3.0	89.0
48.0	3.6	86.0
49.0	4.2	82.1
50.0	4.8	77.6 (77.8)
51.0	5.4	72.5
52.0	5.8	66.8
53.0	6.2	60.8
54.0	6.4	54.5
55.0	6.4	48.1 (48.5)
56.0	6.3	41.7
57.0	6.0	35.5
58.0	5.6	29.7
59.0	5.1	24.4
60.0	4.5	19.6 (18.9)
61.0	3.8	15.5
62.0	3.2	12.0
63.0	2.6	9.0
64.0	2.1	6.7
65.0	1.6	4.8 (4.8)
66.0	1.2	3.4
67.0	0.9	2.4
68.0	0.6	1.6
69.0	0.5	1.1
70.0	0.3	0.7 (0.8)
71.0	0.2	0.4
72.0	0.1	0.3
73.0	0.1	0.2
74.0	0.1	0.1
75.0	0.0	0.1 (0.0)
76.0	0.0	0.0

*DATA IN PARENTHESES FROM INDICATED
REFERENCE.

END OF EXECUTION
CPU TIME: 0.88 ELAPSED TIME: 6:41.42

TABLE B.4-1. 1972 AUTOMOBILE SPEED DISTRIBUTIONS,
ALL HIGHWAYS

SPEED (MPH)	% AUTOMOBILES WITHIN .5 MPH OF SPEED	% AUTOMOBILES EXCEEDING SPEED
32.0	0.1	100
33	0.1	99.9
34	0.1	99.8
35	0.2	99.6
36	0.2	99.4
37	0.3	99.2
38	0.3	98.9
39	0.4	98.5
40	0.4	98.1
41	0.5	97.7
42	0.5	97.2
43	0.6	96.6
44	0.8	95.9
45	1.0	95.1
46	1.2	93.9
47	1.4	92.6
48	1.7	91.1
49	1.9	89.3
50	2.1	86.9
51	2.3	85.1
52	2.5	82.7
53	2.7	80.1
54	2.9	77.3
55	3.1	74.6
56	3.4	71.0
57	3.6	67.5
58	3.8	63.8
59	3.9	60.0
60	4.0	55.4
61	4.1	51.9
62	4.1	49.8
63	4.1	43.7
64	4.1	39.6
65	4.1	35.4
66	4.0	31.5
67	3.9	27.5
68	3.7	23.7
69	3.5	20.1
70	3.2	16.6
71	2.9	13.7
72	2.6	11.0
73	2.3	8.5
74	2.0	6.4
75	1.5	4.6
76	1.0	3.4
77	0.8	2.5
78	0.6	1.8
79	0.5	1.2
80	0.4	0.8
81	0.3	0.4
82	0.2	0.2
83	0.1	0.1
84	0.0	0.0

TABLE B.4-2. 1979 AUTOMOBILE SPEED DISTRIBUTIONS,
ALL HIGHWAYS

REFERENCES: 1979 "TRAFFIC SPEED TRENDS" REPORT
FHWA, HRP-3, JULY 31, 1979

FHWA, HRP-44, NOVEMBER 21, 1979

DATA AS INPUT: MEAN SPEED=56.40
ONE STD= 6.10

SPEED (MPH)	% AUTOMOBILES WITHIN .5 MPH OF SPEED	% AUTOMOBILES EXCEEDING SPEED
35.0	0.0	100.0
36.0	0.0	100.0
37.0	0.0	99.9
38.0	0.1	99.9
39.0	0.1	99.8
40.0	0.2	99.6
41.0	0.3	99.4
42.0	0.4	99.1
43.0	0.6	98.6
44.0	0.8	97.9
45.0	1.1	96.9
46.0	1.5	95.6
47.0	2.0	93.9
48.0	2.9	91.6
49.0	3.1	88.7
50.0	3.8	85.3
51.0	4.4	81.6
52.0	5.0	76.8
53.0	5.6	71.1
54.0	6.0	65.0
55.0	6.4	58.1
56.0	6.8	50.6
57.0	6.9	42.1
58.0	6.9	32.7
59.0	6.8	22.7
60.0	6.5	12.0
61.0	4.9	7.1
62.0	4.3	4.9
63.0	3.6	3.0
64.0	3.0	1.8
65.0	2.4	1.0
66.0	1.9	0.6
67.0	1.4	0.4
68.0	1.1	0.3
69.0	0.9	0.2
70.0	0.8	0.1
71.0	0.5	0.1
72.0	0.4	0.0
73.0	0.3	0.0
74.0	0.2	0.0
75.0	0.1	0.0
76.0	0.0	0.0
77.0	0.0	0.0

APPENDIX C
 ESTIMATED SPEED DISTRIBUTION FOR
 COMPLIANCE LEVELS BETWEEN 20 AND 90 PERCENT

90% COMPLIANCE

REFERENCES:

DATA AS INPUT: MEAN SPEED=50.23
 ONE STD= 3.72

SPEED (MPH) -----	% VEHICLES WITHIN .5 MPH OF SPEED -----	% VEHICLES WITHI EXCEEDING SPEED -----
37.0	0.0	100.0
38.0	0.0	99.9
39.0	0.1	99.9
40.0	0.2	99.7
41.0	0.5	99.0
42.0	0.9	98.7
43.0	1.6	97.4
44.0	2.7	95.0
45.0	4.0	92.0
46.0	5.6	87.2
47.0	7.4	80.7
48.0	8.9	72.6
49.0	10.1	63.0
50.0	10.7	52.5
51.0	10.5	41.8
52.0	9.6	31.7
53.0	8.1	22.0
54.0	6.4	15.5
55.0	4.7	10.0
56.0	3.2	6.0
57.0	2.1	3.4
58.0	1.2	1.8
59.0	0.7	0.9
60.0	0.3	0.4
61.0	0.2	0.2
62.0	0.1	0.1
63.0	0.0	0.0

80% COMPLIANCE

REFERENCES:

DATA AS INPUT: MEAN SPEED=51.50
 ONE STD= 4.15

SPEED (MPH)	% VEHICLES WITHIN .5 MPH OF SPEED	% VEHICLES WITHIN EXCEEDING SPEED
-----	-----	-----
37.0	0.0	100.0
38.0	0.0	99.9
39.0	0.1	99.9
40.0	0.2	99.7
41.0	0.4	99.4
42.0	0.7	98.9
43.0	1.2	98.0
44.0	1.9	96.5
45.0	2.8	94.1
46.0	4.0	90.7
47.0	5.3	86.1
48.0	6.7	80.0
49.0	8.0	72.7
50.0	9.0	64.1
51.0	9.5	54.8
52.0	9.5	45.2
53.0	9.0	35.9
54.0	8.0	27.3
55.0	6.7	20.0
56.0	5.3	13.6
57.0	4.0	9.0
58.0	2.8	5.9
59.0	1.9	3.5
60.0	1.2	2.0
61.0	0.7	1.1
62.0	0.4	0.6
63.0	0.2	0.3
64.0	0.1	0.1
65.0	0.0	0.1
66.0	0.0	0.0

70% COMPLIANCE

REFERENCES:

DATA AS INPUT: MEAN SPEED=52.64
ONE STD= 4.50

SPEED (MPH)	% VEHICLES WITHIN .5 MPH OF SPEED	% VEHICLES WITHI EXCEEDING SPEED
-----	-----	-----
37.0	0.0	100.0
38.0	0.0	99.9
39.0	0.1	99.9
40.0	0.2	99.8
41.0	0.3	99.5
42.0	0.5	99.1
43.0	0.9	98.4
44.0	1.4	97.0
45.0	2.1	95.0
46.0	3.0	90.0
47.0	4.0	80.0
48.0	5.2	64.9
49.0	6.4	49.1
50.0	7.5	32.1
51.0	8.0	14.2
52.0	8.0	5.7
53.0	8.0	0.0
54.0	8.5	0.0
55.0	7.7	0.0
56.0	6.7	0.0
57.0	5.5	0.0
58.0	4.4	0.0
59.0	3.3	0.0
60.0	2.3	0.0
61.0	1.6	0.0
62.0	1.0	0.0
63.0	0.6	0.0
64.0	0.4	0.0
65.0	0.2	0.0
66.0	0.1	0.0
67.0	0.1	0.0
68.0	0.0	0.0

60% COMPLIANCE

REFERENCES:

DATA AS INPUT: MEAN SPEED=53.76
ONE STD= 4.90

SPEED (MPH)	% VEHICLES WITHIN .5 MPH OF SPEED	% VEHICLES WITHI EXCEEDING SPEED
37.0	0.0	100.0
38.0	0.0	99.9
39.0	0.1	99.9
40.0	0.2	99.8
41.0	0.3	99.5
42.0	0.5	99.0
43.0	0.7	98.6
44.0	1.1	97.7
45.0	1.7	96.3
46.0	2.3	94.3
47.0	3.1	91.6
48.0	4.1	88.0
49.0	5.1	83.4
50.0	6.1	77.9
51.0	6.9	71.0
52.0	7.6	64.0
53.0	8.0	56.0
54.0	8.1	48.0
55.0	7.9	40.0
56.0	7.3	32.4
57.0	6.5	25.4
58.0	5.6	19.0
59.0	4.6	14.2
60.0	3.6	10.1
61.0	2.7	7.0
62.0	2.0	4.6
63.0	1.4	3.0
64.0	0.9	1.8
65.0	0.6	1.1
66.0	0.4	0.6
67.0	0.2	0.3
68.0	0.1	0.2
69.0	0.1	0.1
70.0	0.0	0.0

50% COMPLIANCE

REFERENCES:

DATA AS INPUT: MEAN SPEED=55.00
ONE STD= 5.35

SPEED (MPH)	% VEHICLES WITHIN .5 MPH OF SPEED	% VEHICLES WITHI EXCEEDING SPEED
37.0	0.0	100.0
38.0	0.0	99.9
39.0	0.1	99.9
40.0	0.1	99.7
41.0	0.2	99.6
42.0	0.4	99.2
43.0	0.6	98.8
44.0	0.9	98.0
45.0	1.3	96.9
46.0	1.8	95.4
47.0	2.4	93.0
48.0	3.2	90.0
49.0	4.0	86.9
50.0	4.8	83.0
51.0	5.6	77.0
52.0	6.4	71.0
53.0	6.9	64.6
54.0	7.0	57.4
55.0	7.4	50.0
56.0	7.0	42.6
57.0	6.9	35.4
58.0	6.4	28.7
59.0	5.6	22.7
60.0	4.8	17.0
61.0	4.0	13.1
62.0	3.2	9.0
63.0	2.4	6.7
64.0	1.8	4.6
65.0	1.3	3.1
66.0	0.9	2.0
67.0	0.6	1.0
68.0	0.4	0.0
69.0	0.2	0.4
70.0	0.1	0.0
71.0	0.1	0.1
72.0	0.0	0.1
73.0	0.0	0.0

40% COMPLIANCE

REFERENCES:

DATA AS INPUT: MEAN SPEED=56.49
ONE STD= 5.90

SPEED (MPH)	% VEHICLES WITHIN .5 MPH OF SPEED	% VEHICLES WITHI EXCEEDING SPEED
37.0	0.0	100.0
38.0	0.1	99.9
39.0	0.1	99.8
40.0	0.1	99.7
41.0	0.2	99.6
42.0	0.3	99.3
43.0	0.5	98.9
44.0	0.7	98.3
45.0	1.0	97.4
46.0	1.4	96.0
47.0	1.9	94.6
48.0	2.4	92.5
49.0	3.0	89.8
50.0	3.7	86.4
51.0	4.4	82.4
52.0	5.1	77.7
53.0	5.7	72.3
54.0	6.2	66.3
55.0	6.5	60.0
56.0	6.7	53.3
57.0	6.7	46.6
58.0	6.5	39.9
59.0	6.2	33.0
60.0	5.7	27.6
61.0	5.0	22.0
62.0	4.4	17.0
63.0	3.7	13.0
64.0	3.0	10.2
65.0	2.4	7.5
66.0	1.9	5.0
67.0	1.4	3.7
68.0	1.0	2.6
69.0	0.7	1.7
70.0	0.5	1.1
71.0	0.3	0.7
72.0	0.2	0.4
73.0	0.1	0.3
74.0	0.1	0.1
75.0	0.0	0.1
76.0	0.0	0.0

REFERENCES:

30% COMPLIANCE

DATA AS INPUT:

MEAN SPEED=58.40

ONE STD= 6.50

<u>SPEED</u> <u>(MPH)</u>	<u>% VEHICLES WITHIN</u> <u>.5 MPH OF SPEED</u>	<u>% VEHICLES WITHI</u> <u>EXCEEDING SPEED</u>
37.0	0.0	100.0
38.0	0.0	99.9
39.0	0.1	99.9
40.0	0.1	99.8
41.0	0.2	99.6
42.0	0.3	99.4
43.0	0.4	99.1
44.0	0.5	98.7
45.0	0.7	98.0
46.0	1.0	97.2
47.0	1.3	96.0
48.0	1.7	94.5
49.0	2.2	92.8
50.0	2.7	90.2
51.0	3.2	87.0
52.0	3.8	83.0
53.0	4.3	79.7
54.0	4.9	75.1
55.0	5.3	70.0
56.0	5.7	64.4
57.0	6.0	58.5
58.0	6.1	52.5
59.0	6.1	46.0
60.0	5.9	40.0
61.0	5.7	34.0
62.0	5.3	29.0
63.0	4.8	24.0
64.0	4.2	19.4
65.0	3.7	15.5
66.0	3.1	12.1
67.0	2.6	9.0
68.0	2.1	7.0
69.0	1.6	5.1
70.0	1.3	3.7
71.0	0.9	2.6
72.0	0.7	1.8
73.0	0.5	1.2
74.0	0.3	0.8
75.0	0.2	0.5
76.0	0.2	0.3
77.0	0.1	0.2
78.0	0.1	0.1
79.0	0.0	0.1
80.0	0.0	0.0

REFERENCES:

MEAN SPEED=61.05
ONE STD= 7.20

20% COMPLIANCE

DATA AS INPUT:

<u>SPEED</u> <u>(MPH)</u>	<u>% VEHICLES WITHIN</u> <u>.5 MPH OF SPEED</u>	<u>% VEHICLES WITHI</u> <u>EXCEEDING SPEED</u>
37.0	0.0	100.0
38.0	0.0	99.9
39.0	0.1	99.9
40.0	0.1	99.8
41.0	0.1	99.7
42.0	0.2	99.6
43.0	0.2	99.4
44.0	0.3	99.1
45.0	0.5	98.7
46.0	0.6	98.2
47.0	0.8	97.4
48.0	1.1	96.3
49.0	1.4	95.0
50.0	1.7	93.6
51.0	2.1	91.9
52.0	2.5	89.6
53.0	3.0	86.8
54.0	3.4	83.6
55.0	3.9	80.0
56.0	4.3	75.8
57.0	4.7	71.0
58.0	5.1	66.4
59.0	5.6	61.0
60.0	5.5	55.0
61.0	5.5	50.0
62.0	5.5	44.0
63.0	5.3	39.0
64.0	5.1	34.1
65.0	4.8	29.0
66.0	4.4	24.6
67.0	3.9	20.4
68.0	3.5	16.7
69.0	3.0	13.5
70.0	2.6	10.7
71.0	2.1	8.0
72.0	1.7	6.4
73.0	1.4	4.8
74.0	1.1	3.6
75.0	0.8	2.6
76.0	0.6	1.9
77.0	0.5	1.3
78.0	0.3	0.9
79.0	0.2	0.6
80.0	0.2	0.4
81.0	0.1	0.3
82.0	0.1	0.2
83.0	0.1	0.1
84.0	0.0	0.1
85.0	0.0	0.0

APPENDIX D
FHWA-SUPPLIED SPEED DISTRIBUTION
AND VMT DATA

Form FHWA 121 (Rev. 5-73)

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

DATE: NOV 21 1979

In reply
refer to: HHP-44


SUBJECT: Speed Distribution Data

FROM : Chief, Planning Services Branch
Washington, D.C. 20590

TO : Mr. Bob Mason
DTS-331 Transportation Systems Center
Cambridge, Massachusetts 02142

As discussed during our November 16 phone conversation, attached are the following:

1. Speed distribution curves. These are based on more detailed data submitted with the quarterly speed monitoring reports by several state highway agencies. Each plot includes a series of curves based on free flow speed data collected by the states during the third quarter of fiscal year 1979. Each curve reflects data from a selected station in a particular state. It should be noted that the number of curves for any particular highway category varies since all states do not monitor speeds on every highway system. The states for which more complete data were available include Oregon, Nevada, Kansas, Missouri, Illinois, Kentucky, New Jersey, Delaware, and Vermont.
2. Speed trends reports. These reports include free flow speed data collected during the period 1970-1975, prior to enactment of the 55 mile per hour speed limit.
3. Report titled, "Highway Travel Forecasts" issued in November 1974 by FHWA.


Frank E. Jarema

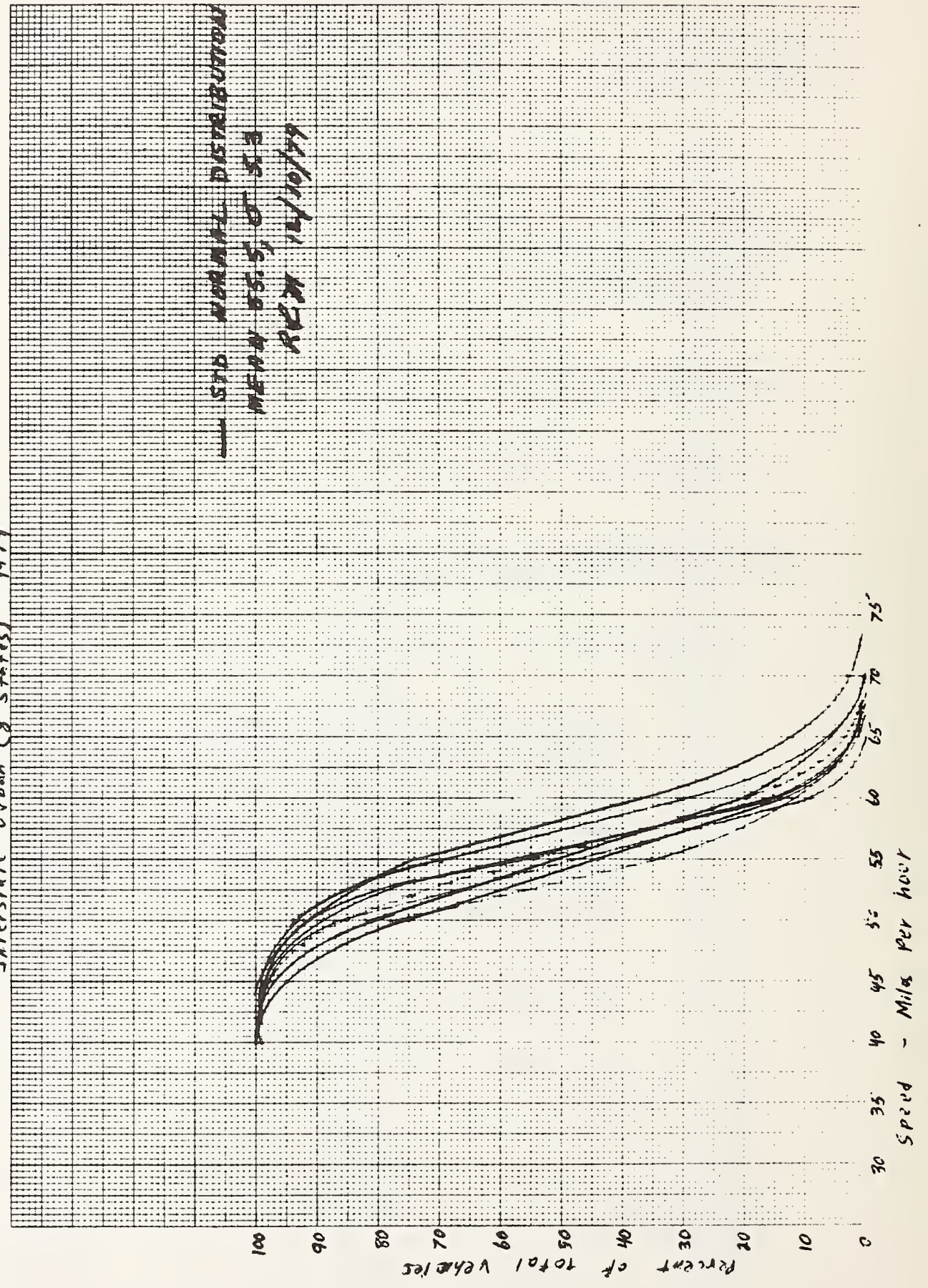
3 Attachments

HWP-44
11/20/79

AQUADUCE
MADE IN USA

DRAWING PAPER NO. 1100-101
TRACING PAPER NO. 1127-101
CROSS SECTION - 10/10 TO 1/4 INCH

Percent of Vehicles Exceeding Indicated Speeds Interstate Urban (8 States) 1979

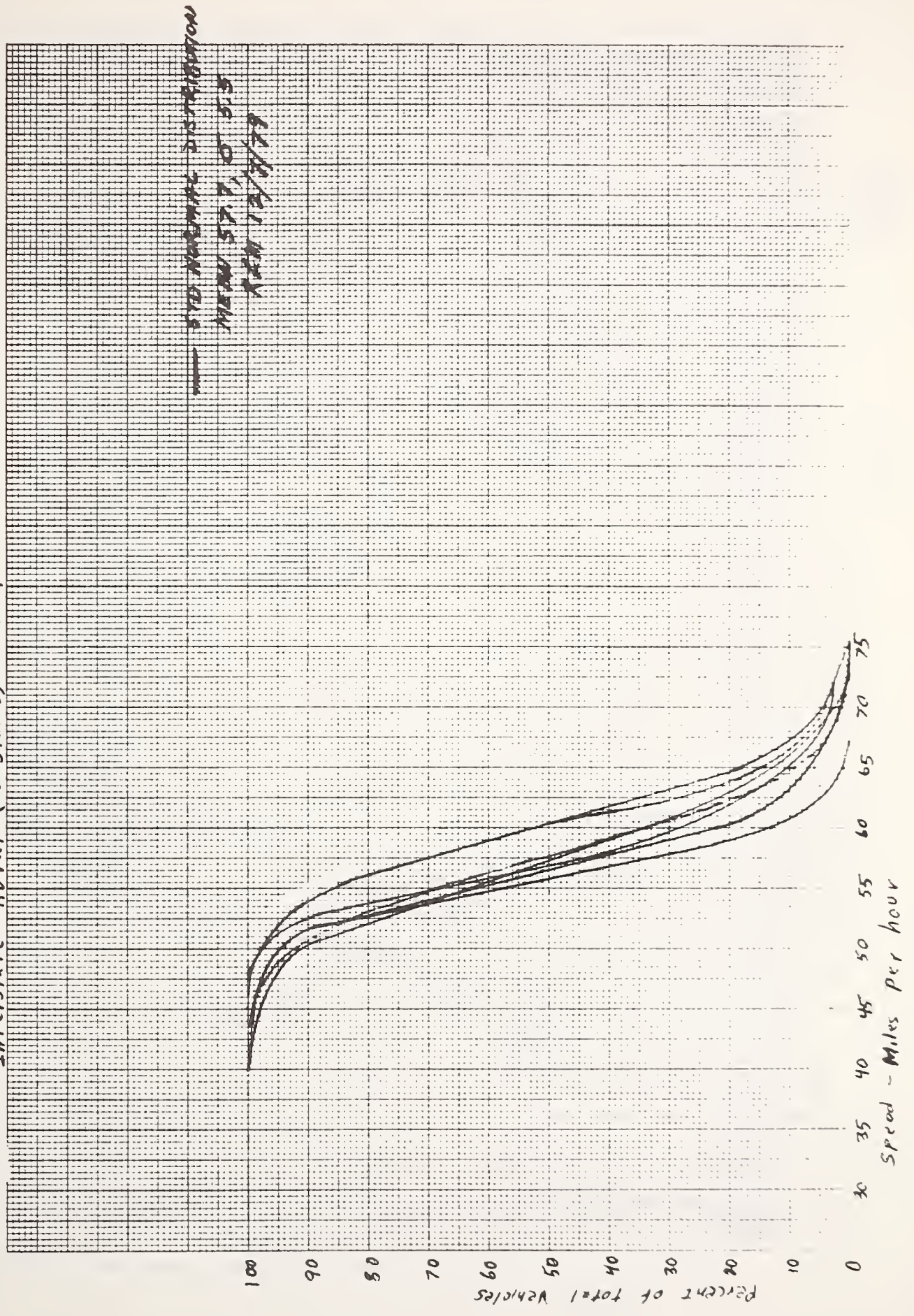


HHP-44
11/20/79

AQUABEE
MADE IN USA

DRAWING PAPER NO. 1280-101
TRACING PAPER NO. 1227-101
CROSS SECTION-TORXIO TO 1 INCH

Percent of Vehicles exceeding indicated speeds
Interstate Royal (8 States) 1979

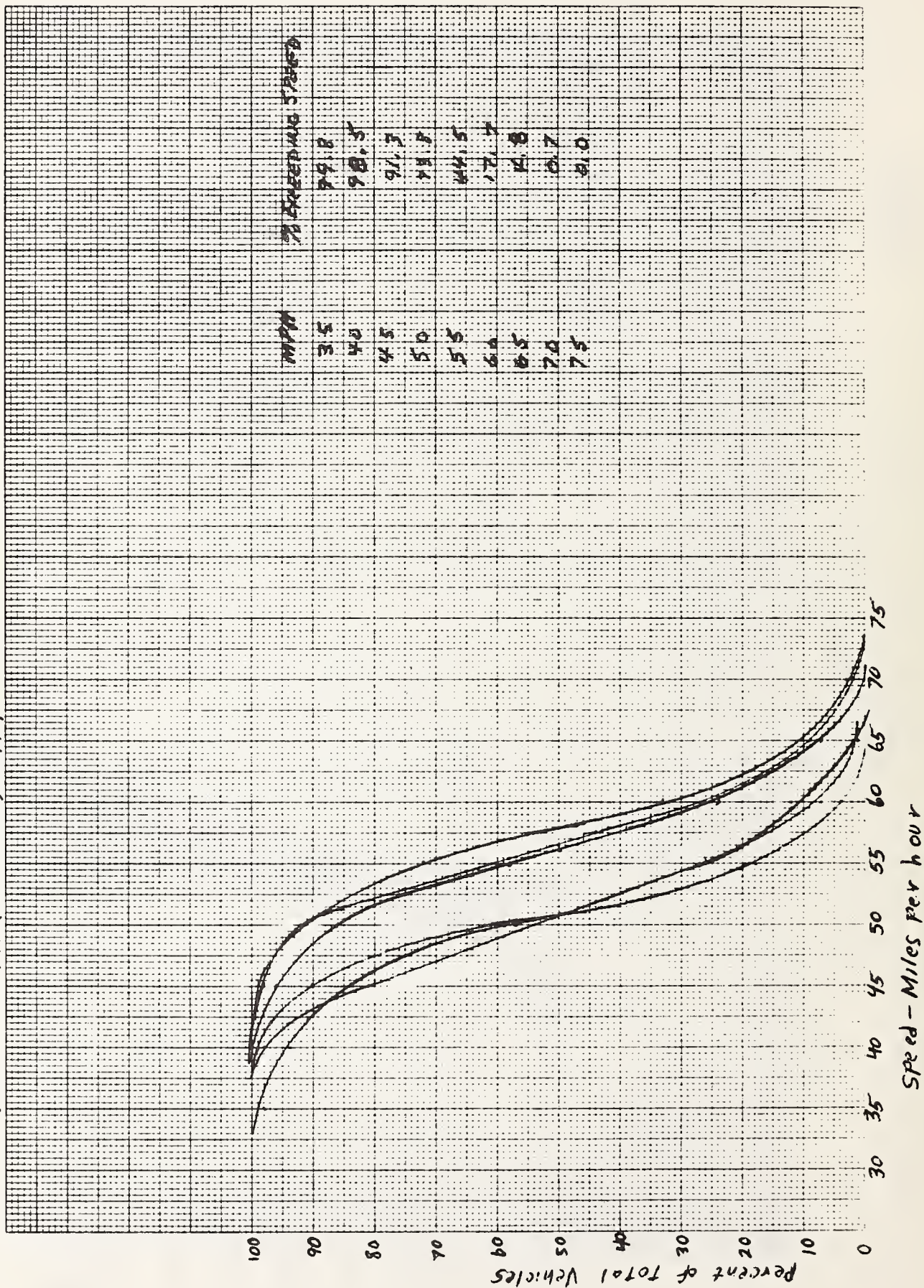


4HP-44
11/20/79

AQUADEE
MADE IN USA

GRAPHING PAPER NO. 1220-104
TRACING PAPER NO. 1227-104
CROSS SECTION - 10X10 TO 1 INCH

Percent of Vehicles exceeding indicated speeds
2 Lane Rural (6 States) 1979

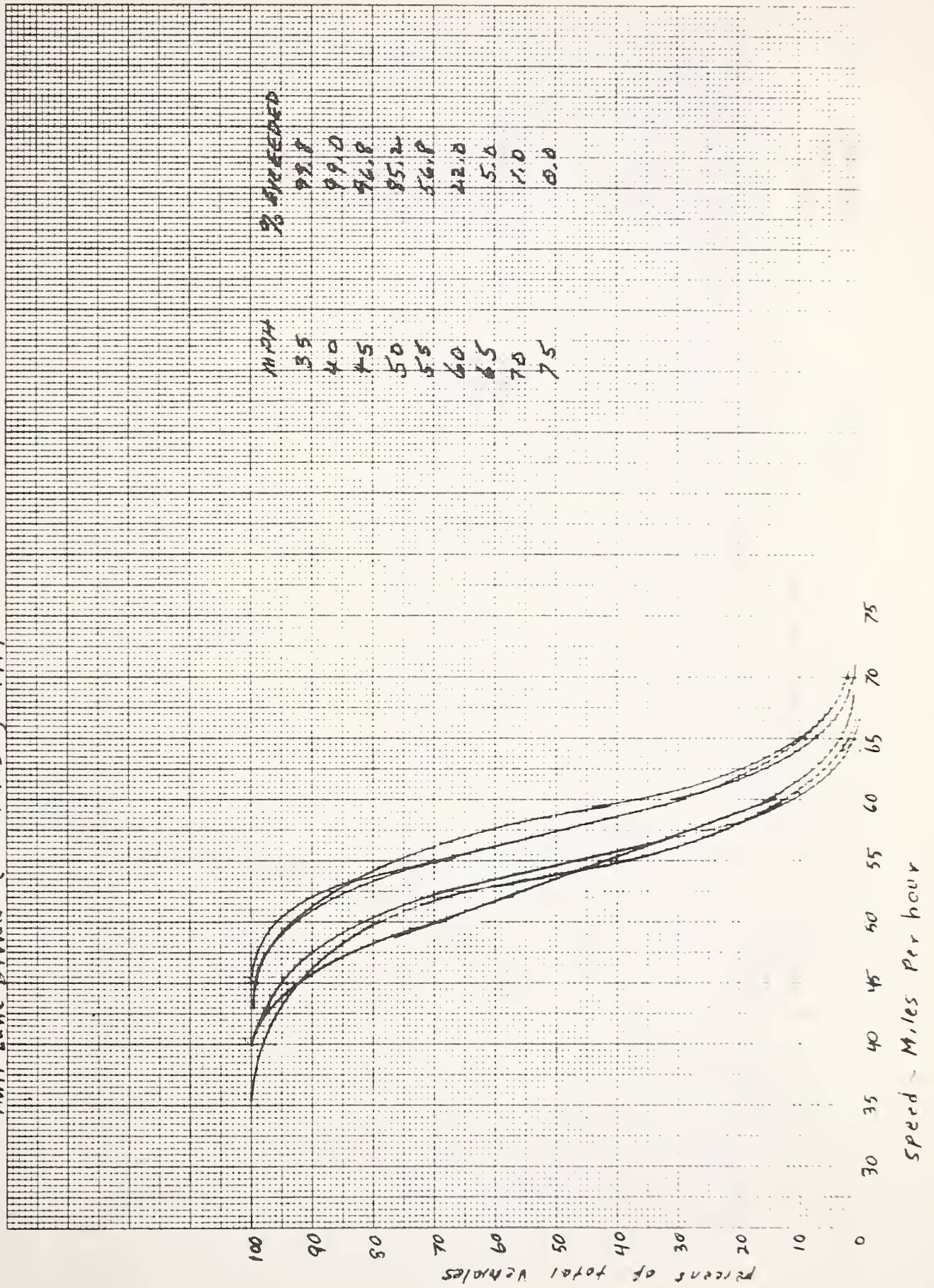


AHP-44
11/20/79

AQUADRIE
MADE IN USA

DRAWING PAPER NO. 1290-104
TRACING PAPER NO. 1227-104
CROSS SECTION - 10X10 TO 1/4 INCH

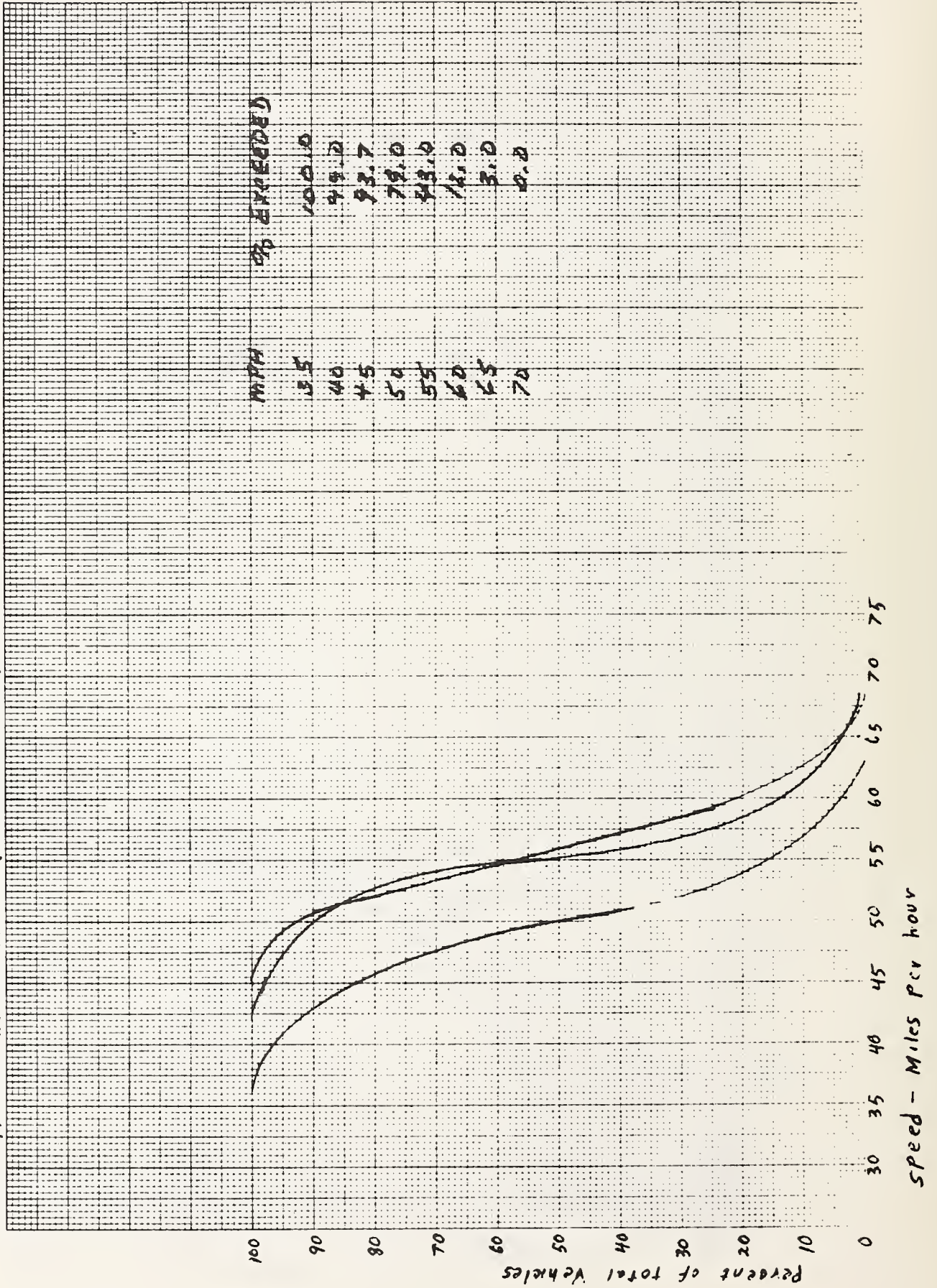
Percent of Vehicles exceeding indicated speeds
Multi Lane Divided (6 states) 1979



HHP-44
11/20/79

AQUABEE
MADE IN USA

ORAVIMA PAPER NO. 1280-101
TACICIMA PAPER NO. 1227-101
CROSS SECTION - 10X10 TO 1 INCH
Percent of Vehicles exceeding indicated speeds
Multi Lane Undivided. (3 States) 1979



Determination of Travel on Highways Unrestricted by Traffic Conditions

1978 Annual Vehicle-Miles of Travel (VMT)		
Functional Classification	Percent of VMT	VMT (in Millions) (1)
All Non-Local Systems	83	1,287,651
All Local Systems	17	260,562
All Systems	100	1,548,213

Distribution (from NHIPS) ^{1/} of Non-Local VMT by Category and 55MPH Posted Speed		
Category	Percent of Total Non-Local VMT (2)	Percent of VMT in Each Category on Sections Posted at 55 MPH
Interstate Urban	13	94
Interstate Rural	12	99
Multi-lane Divided	25	51
Multi-lane Undivided	15	12
2-Lane Rural	35	77
Total	100	65

^{1/} NHIPS - National Highway Inventory and Performance Study (1976).

Assuming NHIPS Relationships Hold for 1978

Category	Total NHIPS 1978 VMT (3) <u>1/</u>	1978 VMT from Table VM-2	Difference	Factor	Adjusted NHIPS	
					1978 VMT	Percent
Interstate Urban	167,395	157,412	-9,983	-9,983	157,412	12
Interstate Rural	154,518	136,535	-17,983	-17,983	136,535	11
Multi-lane Divided	321,913			+9,229	331,142	26
Multi-lane Undivided	193,148			+5,593	198,741	15
2-Lane Rural	450,677			+13,144	463,821	36
Total <u>2/</u>	1,287,651		-27,966	0	1,287,651	100

1/ VMT in Column (3) are obtained by multiplying total VMT for All Systems from Column (1) times each percent in column (2).

2/ Does not include roads functionally classified as local.

Category	1978 VMT x	Percent of VMT on Roads posted at 55 MPH	=	1978 VMT on Roads with 55 MPH Speed Limit
Interstate Urban	157,412	94		147,967
Interstate Rural	136,535	99		135,170
Multi-Lane Divided	331,142	51		168,882
Multi-Lane Undivided	198,741	12		23,849
2-Lane Rural	463,821	77		357,142
Total ^{1/}	1,287,651	64.7		833,010

^{1/} Does not include roads functionally classed as local.

1978 VMT (in millions)

Category	All Non-Local VMT	Non-Local Roads With 55 MPH Speed Limit				55 MPH Uncongested VMT as Percent of All Non-Local
		Percent of All Non-Local	All VMT on 55 MPH Roads	Percent of VMT on Roads Posted at 55 MPH ^{2/}	VMT not Affected by Congestion	
Interstate Urban	157,412	94	147,967	97.8	144,712	91.9
Interstate Rural	136,535	99	135,170	83.0	112,191	82.2
Multi-Lane Divided	331,142	51	168,882	90.9	153,514	46.4
Multi-Lane Undivided	198,741	12	23,849	86.3	20,582	10.4
2-Lane Rural	463,821	77	357,142	81.8	292,142	63.0
<u>Total</u>	1,287,651	65	833,010	86.8	723,141	56.2

^{1/} Does not include roads functionally classed as local.

^{2/} Method for Determining Percent of Congested VMT:

Interstate Rural - The percentage is based on the sum of the eight highest one hour counts divided by the sum of all counts for all hours in the month.

Interstate Urban - The percentage is based on the sum of the two highest hourly counts divided by the total day count. Average for seven station days.

Multi-Lane Divided - The percentage is based on the highest hour of the day divided by the total day count.

Multi-Lane Undivided - The percentage is based on the highest 1 1/2 hours of the day divided by the total day count.

2-Lane Rural - The percentage is based on the highest two hours of the day divided by the total day count.

Traffic counts used are from selected Automatic Traffic Recorder (ATR) stations.

UNWEIGHTED AVERAGE OF QUALITY SPEED MEASUREMENTS FOR FISCAL YEAR 1970
 (JULY 1970 - SEP 1970)

HIGHWAY STATISTICS DIVISION
 OFFICE OF HIGHWAY PLANNING, TOLSON

STATE-11 DATA
 UNWEIGHTED

WPP 48

STANDARD TOTALS

COUNTRY AND STATE	PERCENT LACED				PERCENT LACED				PERCENT LACED				PERCENT LACED			
	AVG. SPEED	MIN. SPEED	MAX. SPEED	STDEV.	AVG. SPEED	MIN. SPEED	MAX. SPEED	STDEV.	AVG. SPEED	MIN. SPEED	MAX. SPEED	STDEV.	AVG. SPEED	MIN. SPEED	MAX. SPEED	STDEV.
1 CONNECTICUT	37.0	31.1	42.9	5.9	37.1	31.1	42.9	5.9	37.2	31.1	42.8	5.9	37.3	31.1	42.7	5.9
2 DELAWARE	38.4	32.2	44.6	6.2	38.5	32.2	44.6	6.2	38.6	32.2	44.5	6.2	38.7	32.2	44.4	6.2
3 DISTRICT OF COLUMBIA	39.0	33.0	45.0	6.5	39.1	33.0	45.0	6.5	39.2	33.0	44.9	6.5	39.3	33.0	44.8	6.5
4 FLORIDA	40.0	34.0	46.0	6.8	40.1	34.0	46.0	6.8	40.2	34.0	45.9	6.8	40.3	34.0	45.8	6.8
5 GEORGIA	41.0	35.0	47.0	7.1	41.1	35.0	47.0	7.1	41.2	35.0	46.9	7.1	41.3	35.0	46.8	7.1
6 ILLINOIS	42.0	36.0	48.0	7.4	42.1	36.0	48.0	7.4	42.2	36.0	47.9	7.4	42.3	36.0	47.8	7.4
7 INDIANA	43.0	37.0	49.0	7.7	43.1	37.0	49.0	7.7	43.2	37.0	48.9	7.7	43.3	37.0	48.8	7.7
8 IOWA	44.0	38.0	50.0	8.0	44.1	38.0	50.0	8.0	44.2	38.0	49.9	8.0	44.3	38.0	49.8	8.0
9 KANSAS	45.0	39.0	51.0	8.3	45.1	39.0	51.0	8.3	45.2	39.0	50.9	8.3	45.3	39.0	50.8	8.3
10 MARYLAND	46.0	40.0	52.0	8.6	46.1	40.0	52.0	8.6	46.2	40.0	51.9	8.6	46.3	40.0	51.8	8.6
11 MASSACHUSETTS	47.0	41.0	53.0	8.9	47.1	41.0	53.0	8.9	47.2	41.0	52.9	8.9	47.3	41.0	52.8	8.9
12 MICHIGAN	48.0	42.0	54.0	9.2	48.1	42.0	54.0	9.2	48.2	42.0	53.9	9.2	48.3	42.0	53.8	9.2
13 MINNESOTA	49.0	43.0	55.0	9.5	49.1	43.0	55.0	9.5	49.2	43.0	54.9	9.5	49.3	43.0	54.8	9.5
14 MISSISSIPPI	50.0	44.0	56.0	9.8	50.1	44.0	56.0	9.8	50.2	44.0	55.9	9.8	50.3	44.0	55.8	9.8
15 MISSOURI	51.0	45.0	57.0	10.1	51.1	45.0	57.0	10.1	51.2	45.0	56.9	10.1	51.3	45.0	56.8	10.1
16 MONTANA	52.0	46.0	58.0	10.4	52.1	46.0	58.0	10.4	52.2	46.0	57.9	10.4	52.3	46.0	57.8	10.4
17 NEBRASKA	53.0	47.0	59.0	10.7	53.1	47.0	59.0	10.7	53.2	47.0	58.9	10.7	53.3	47.0	58.8	10.7
18 NEVADA	54.0	48.0	60.0	11.0	54.1	48.0	60.0	11.0	54.2	48.0	59.9	11.0	54.3	48.0	59.8	11.0
19 NEW HAMPSHIRE	55.0	49.0	61.0	11.3	55.1	49.0	61.0	11.3	55.2	49.0	60.9	11.3	55.3	49.0	60.8	11.3
20 NEW JERSEY	56.0	50.0	62.0	11.6	56.1	50.0	62.0	11.6	56.2	50.0	61.9	11.6	56.3	50.0	61.8	11.6
21 NEW YORK	57.0	51.0	63.0	11.9	57.1	51.0	63.0	11.9	57.2	51.0	62.9	11.9	57.3	51.0	62.8	11.9
22 NORTH CAROLINA	58.0	52.0	64.0	12.2	58.1	52.0	64.0	12.2	58.2	52.0	63.9	12.2	58.3	52.0	63.8	12.2
23 NORTH DAKOTA	59.0	53.0	65.0	12.5	59.1	53.0	65.0	12.5	59.2	53.0	64.9	12.5	59.3	53.0	64.8	12.5
24 OHIO	60.0	54.0	66.0	12.8	60.1	54.0	66.0	12.8	60.2	54.0	65.9	12.8	60.3	54.0	65.8	12.8
25 OKLAHOMA	61.0	55.0	67.0	13.1	61.1	55.0	67.0	13.1	61.2	55.0	66.9	13.1	61.3	55.0	66.8	13.1
26 OREGON	62.0	56.0	68.0	13.4	62.1	56.0	68.0	13.4	62.2	56.0	67.9	13.4	62.3	56.0	67.8	13.4
27 PENNSYLVANIA	63.0	57.0	69.0	13.7	63.1	57.0	69.0	13.7	63.2	57.0	68.9	13.7	63.3	57.0	68.8	13.7
28 RHODE ISLAND	64.0	58.0	70.0	14.0	64.1	58.0	70.0	14.0	64.2	58.0	69.9	14.0	64.3	58.0	69.8	14.0
29 SOUTH CAROLINA	65.0	59.0	71.0	14.3	65.1	59.0	71.0	14.3	65.2	59.0	70.9	14.3	65.3	59.0	70.8	14.3
30 SOUTH DAKOTA	66.0	60.0	72.0	14.6	66.1	60.0	72.0	14.6	66.2	60.0	71.9	14.6	66.3	60.0	71.8	14.6
31 TENNESSEE	67.0	61.0	73.0	14.9	67.1	61.0	73.0	14.9	67.2	61.0	72.9	14.9	67.3	61.0	72.8	14.9
32 TEXAS	68.0	62.0	74.0	15.2	68.1	62.0	74.0	15.2	68.2	62.0	73.9	15.2	68.3	62.0	73.8	15.2
33 UTAH	69.0	63.0	75.0	15.5	69.1	63.0	75.0	15.5	69.2	63.0	74.9	15.5	69.3	63.0	74.8	15.5
34 VERMONT	70.0	64.0	76.0	15.8	70.1	64.0	76.0	15.8	70.2	64.0	75.9	15.8	70.3	64.0	75.8	15.8
35 VIRGINIA	71.0	65.0	77.0	16.1	71.1	65.0	77.0	16.1	71.2	65.0	76.9	16.1	71.3	65.0	76.8	16.1
36 WASHINGTON	72.0	66.0	78.0	16.4	72.1	66.0	78.0	16.4	72.2	66.0	77.9	16.4	72.3	66.0	77.8	16.4
37 WEST VIRGINIA	73.0	67.0	79.0	16.7	73.1	67.0	79.0	16.7	73.2	67.0	78.9	16.7	73.3	67.0	78.8	16.7
38 WISCONSIN	74.0	68.0	80.0	17.0	74.1	68.0	80.0	17.0	74.2	68.0	79.9	17.0	74.3	68.0	79.8	17.0
39 WYOMING	75.0	69.0	81.0	17.3	75.1	69.0	81.0	17.3	75.2	69.0	80.9	17.3	75.3	69.0	80.8	17.3
40 DISTRICT OF COLUMBIA	76.0	70.0	82.0	17.6	76.1	70.0	82.0	17.6	76.2	70.0	81.9	17.6	76.3	70.0	81.8	17.6

UNWEIGHTED AVERAGE OF QUALITY SPEED MEASUREMENTS FOR FISCAL YEAR 1970 (JULY 1970 - SEP 1970)

HIGHWAY STATISTICS DIVISION OFFICE OF HIGHWAY PLANNING, TOLSON

STATE-11 DATA UNWEIGHTED WPP 48 STANDARD TOTALS

1. THE AVERAGE IS THE UNWEIGHTED AVERAGE OF THE SPEEDS OF THE QUALITY SPEED MEASUREMENTS.

2. THE STANDARD DEVIATION IS THE STANDARD DEVIATION OF THE QUALITY SPEED MEASUREMENTS.

3. THE PERCENT LACED IS THE PERCENT OF THE QUALITY SPEED MEASUREMENTS WHICH ARE ABOVE THE INDICATED SPEED.

4. THE PERCENT LACED IS THE PERCENT OF THE QUALITY SPEED MEASUREMENTS WHICH ARE ABOVE THE INDICATED SPEED.

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