

SECTION 11
COMPARISON OF RESULTS

A comparison was made of three (3) inventories:

- The TRW inventory using Air Resources Board (ARB) emission factors;
- The TRW inventory using Environmental Protection Agency (EPA) emission factors;
- An inventory developed by the ARB [27].

As shown in Table 34, the TRW inventories show substantially higher emissions for all pollutants than does the ARB inventory. This is true even for the TRW inventory that uses the same emission factors. Tables 35 through 54 present comparisons of the three (3) inventories in greater detail.

Since the TRW estimates were developed on a link-by-link basis (see Section 5) and the ARB estimates on a county-wide basis, direct comparisons are not possible. However, some basis for the differences can be determined.

As shown in Tables 55 through 58, the ARB's vehicle miles traveled (VMT) estimates are an average of 36% lower than TRW's. Tables 59 through 63 present the VMT estimates by body type for the Basin and each county. (The TRW VMT estimates were obtained directly from the Los Angeles Regional Transportation Study (LARTS) computerized traffic model.) It is believed that the VMT difference is the primary reason for the large differences in emissions estimates.

Other reasons are:

- The TRW inventory used peak and off-peak link speeds instead of a daily average;
- The speed correction factors used were those developed in the previous study of light-duty vehicles (LDV) [2];
- A complex system of allocating HDV traffic by hour-of-day, day-of-week and location was employed by TRW.

Since different procedures and different data bases were used in developing the inventories, it is not surprising that substantially different results were obtained. It is probable that in the future the reasons for the differences can be clarified and new, more accurate, inventories developed.

Table 34. 1975 Annual Average Daily Emissions from All Heavy-Duty Vehicles

	TRW INVENTORIES		ARB INVENTORY, [25] tons/day	% DIFFERENCE	
	ARB Emission Factors, [13] tons/day	EPA Emission Factors, [5] tons/day		TRW Inventory and ARB Inventory	Alternative TRW Inventory and ARB Inventory
Hydrocarbons	119.2	147.1	113.3	- 5	- 23
Carbon Monoxide	876.7	938.7	770.0	- 12	- 18
Nitrogen Oxides	302.9	293.1	185.6	- 39	- 37
Sulfur Dioxide	22.6	21.6	15.7	- 31	- 27
Particulates	24.2	24.2	16.6	- 31	- 31

Table 35. 1975 Annual Average Daily Organic Emissions
from All Heavy-Duty Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors, tons/day	EPA Emission Factors, tons/day	
Los Angeles*	81.3	99.7	76.4
Orange	22.1	27.2	20.9
Riverside*	6.4	9.1	6.4
San Bernardino*	9.4	11.1	9.7
Basin Total	119.2	147.1	113.3**

*SCAB portion only.

**Rounding error

Table 36. 1975 Annual Average Daily Organic Emissions
from Medium-Duty Gasoline Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	18.0	22.3	10.5
Orange	5.0	6.1	2.9
Riverside*	1.4	2.1	0.9
San Bernardino*	2.1	2.4	1.3
Basin Total	26.5	33.0**	15.6

*SCAB portion only.

**Rounding error

Table 37. 1975 Annual Average Daily Organic Emissions from Heavy-Duty Gasoline Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	53.5	66.7	56.5
Orange	14.4	17.9	15.4
Riverside*	4.5	6.4	4.7
San Bernardino*	6.0	7.3	7.2
Basin Total	78.4	98.2**	83.8

*SCAB portion only.

**Rounding error

Table 38. 1975 Annual Average Daily Organic Emissions from Heavy-Duty Diesel Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY
	ARB Emission Factors _i	EPA Emission Factors	
	tons/day	tons/day	tons/day
Los Angeles*	9.7	10.8	9.4
Orange	2.8	3.1	2.6
Riverside*	0.5	0.6	0.8
San Bernardino*	1.2	1.3	1.2
Basin Total	14.3 **	15.7**	13.9**

*SCAB portion only.

**Rounding error

Table 39. 1975 Annual Average Daily Carbon Monoxide Emissions from All Heavy-Duty Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	605.5	648.4	519.2
Orange	161.8	173.3	142.0
Riverside*	36.2	38.7	42.9
San Bernardino*	73.1	78.3	66.4
Basin Total	876.7**	938.7	770.0**

*SCAB portion only.

**Rounding error

Table 40. 1975 Annual Average Daily Carbon Monoxide Emissions from Medium-Duty Gasoline Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	113.2	102.5	59.6
Orange	30.2	27.3	16.2
Riverside*	6.8	6.2	4.9
San Bernardino*	13.6	12.3	7.6
Basin Total	163.9**	148.3	88.3

*SCAB portion only.

**Rounding error

Table 41. 1975 Annual Average Daily Carbon Monoxide Emissions from Heavy-Duty Gasoline Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	463.2	511.5	420
Orange	124.4	137.1	115
Riverside*	27.8	30.7	34.7
San Bernardino*	56.5	62.2	53.7
Basin Total	671.9	741.7**	623**

*SCAB portion only.

**Rounding error

Table 42. 1975 Annual Average Daily Carbon Monoxide Emissions from Heavy-Duty Diesel Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	29.0	34.4	39.6
Orange	7.5	8.8	10.8
Riverside*	1.4	1.7	3.3
San Bernardino*	3.2	3.8	5.1
Basin Total	41.0 **	48.8**	58.7**

*SCAB portion only.

** Rounding error

Table 43. 1975 Annual Average Daily NO_x Emissions from All Heavy-Duty Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	203.7	197.1	125.5
Orange	59.1	57.2	34.2
Riverside*	13.5	13.1	10.4
San Bernardino*	26.7	25.8	16.1
Basin Total	302.9**	293.1**	185.6**

*SCAB portion only.

**Rounding error

Table 44. 1975 Annual Average Daily NO_x Emissions from Medium-Duty Gasoline Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY
	ARB Emission Factors	EPA Emission Factors	
	tons/day	tons/day	tons/day
Los Angeles*	31.7	21.5	8.3
Orange	9.1	6.2	2.3
Riverside*	2.1	1.5	0.7
San Bernardino*	4.3	2.8	1.1
Basin Total	47.2	32.0	12.3**

*SCAB portion only.

**Rounding error

Table 45. 1975 Annual Average Daily NO_x Emissions from Heavy-Duty Gasoline Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	60.2	63.0	35.9
Orange	17.2	17.9	9.8
Riverside*	3.9	4.1	3.0
San Bernardino*	7.9	8.4	4.6
Basin Total	89.4**	93.4	53.3

*SCAB portion only.

**Rounding error

Table 46. 1975 Annual Average Daily NO_x Emissions from Heavy-Duty Diesel Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	111.7	112.4	81.3
Orange	32.8	33.1	22.1
Riverside*	7.3	7.4	6.7
San Bernardino*	14.4	14.5	10.4
Basin Total	166.3**	167.4	120**

*SCAB portion only.

**Rounding error

Table 47. 1975 Annual Average Daily SO₂ Emissions from All Heavy-Duty Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	15.3	14.6	10.6
Orange	4.4	4.2	2.8
Riverside*	1.0	0.9	0.9
San Bernardino*	2.0	1.9	1.3
Basin Total	22.6**	21.6**	15.7**

*SCAB portion only.
 **Rounding error

Table 48. 1975 Annual Average Daily SO₂ Emissions from Medium-Duty Gasoline Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	1.1	1.0	0.2
Orange	.3	.3	-
Riverside*	.1	.1	-
San Bernardino*	.1	.1	-
Basin Total	1.6	1.6**	0.2

*SCAB portion only.

**Rounding error

Table 49. 1975 Annual Average Daily SO₂ Emissions from Heavy-Duty Gasoline Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	2.5	1.6	1.1
Orange	0.7	0.3	0.3
Riverside*	0.1	0.1	0.1
San Bernardino*	0.2	0.1	0.1
Basin Total	3.7**	2.5**	1.7**

*SCAB portion only.
 **Rounding error

Table 50. 1975 Annual Average Daily SO₂ Emissions from Heavy-Duty Diesel Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY.
	ARB Emission Factors, tons/day	EPA Emission Factors tons/day	
Los Angeles*	11.6	11.8	9.3
Orange	3.7	3.6	2.5
Riverside*	0.7	0.7	0.8
San Bernardino*	1.4	1.4	1.2
Basin Total	17.3**	17.6**	13.8

*SCAB portion only.

**Rounding error

Table 51. 1975 Annual Average Daily Particulate Emissions from All Heavy-Duty Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	16.3	16.3	11.2
Orange	4.7	4.7	3.1
Riverside*	1.1	1.1	0.9
San Bernardino*	2.1	2.1	1.4
Basin Total	24.2	24.2	16.6

*SCAB portion only.

**Rounding error

Table 52. 1975 Annual Average Daily Particulate Emissions
from Medium-Duty Gasoline Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY
	ARB Emission Factors	EPA Emission Factors	
	tons/day	tons/day	tons/day
Los Angeles*	1.8	1.8	0.7
Orange	0.5	0.5	0.2
Riverside*	0.1	0.1	0.1
San Bernardino*	0.2	0.2	0.1
Basin Total	2.6	2.6	1.0**

*SCAB portion only.

**Rounding error

Table 53. 1975 Annual Average Daily Particulate Emissions from Heavy-Duty Gasoline Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY tons/day
	ARB Emission Factors tons/day	EPA Emission Factors tons/day	
Los Angeles*	5.6	5.6	4.0
Orange	1.4	1.4	1.1
Riverside*	0.2	0.2	0.3
San Bernardino*	0.7	0.7	0.5
Basin Total	8.1**	8.1**	5.9

*SCAB portion only.

**Rounding error

Table 54. 1975 Annual Average Daily Particulate Emissions from Heavy-Duty Diesel Powered Vehicles

	TRW INVENTORIES		ARB INVENTORY
	ARB Emission Factors	EPA Emission Factors	
	tons/day	tons/day	tons/day
Los Angeles*	9.1	9.1	6.5
Orange	2.5	2.5	1.8
Riverside*	0.6	0.6	0.5
San Bernardino*	1.0	1.0	0.8
Basin Total	13.3**	13.3**	9.7**

*SCAB portion only.

**Rounding error

Table 55. 1975 Annual Average Daily VMT for All Heavy-Duty Vehicles

County	VMT ESTIMATES		% Difference
	TRW VMT Estimate	ARB VMT Estimate [25]	
Los Angeles*	1.10×10^7	0.70×10^7	- 36
Orange	0.31×10^7	0.18×10^7	- 42
Riverside*	0.07×10^7	0.06×10^7	- 14
San Bernardino*	0.14×10^7	0.09×10^7	- 36
SCAB	$1.63 \times 10^{7**}$	$1.04 \times 10^{7**}$	- 36

*SCAB portion only.

**Rounding Error

Table 56. 1975 Annual Average Daily VMT for Heavy-Duty Gasoline Powered Vehicles

County	VMT ESTIMATES		% Difference
	TRW VMT Estimate	ARB VMT Estimate [25]	
Los Angeles*	4.23×10^6	2.89×10^6	- 32
Orange	1.19×10^6	0.78×10^6	- 34
Riverside*	0.27×10^6	0.23×10^6	- 15
San Bernardino*	0.54×10^6	0.38×10^6	- 30
SCAB	6.23×10^6	4.29×10^6 **	- 31

*SCAB portion only.

**Rounding Error

Table 57. 1975 Annual Average Daily VMT for Medium-Duty Gasoline Powered Vehicles

County	VMT ESTIMATES		% Difference
	TRW VMT Estimate	ARB VMT Estimate [25]	
Los Angeles*	2.95×10^6	1.10×10^6	- 63
Orange	0.83×10^6	0.30×10^6	- 64
Riverside*	0.19×10^6	0.09×10^6	- 53
San Bernardino*	0.38×10^6	0.14×10^6	- 63
SCAB	$4.36 \times 10^{6**}$	1.63×10^6	- 63

*SCAB portion only.

**Rounding error

Table 58. 1975 Annual Average Daily VMT for Heavy-Duty Diesel Powered Vehicles

County	VMT ESTIMATES		% Difference
	TRW VMT Estimate	ARB VMT Estimate [25]	
Los Angeles*	3.84×10^6	3.02×10^6	- 21
Orange	1.12×10^6	0.82×10^6	- 27
Riverside*	0.25×10^6	0.25×10^6	0
San Bernardino*	0.49×10^6	0.39×10^6	- 20
SCAB	5.70×10^6	4.48×10^6	- 21

*SCAB portion only.

Table 59. South Coast Air Basin VMT Summary for 1975

				SOUTH COAST AIR BASIN		
		NON-FREEWAY	FREEWAY	TOTAL		
		VMT	VMT	VMT		
WINTER						
WEEK DAY		2.9834E+06	1.3042E+07	1.6026E+07		
WEEK END		2.3634E+06	1.0611E+07	1.3174E+07		
SPRING						
WEEK DAY		3.0738E+06	1.4368E+07	1.7442E+07		
WEEK END		2.4303E+06	1.2453E+07	1.4884E+07		
SUMMER						
WEEK DAY		3.0638E+06	1.5087E+07	1.6151E+07		
WEEK END		2.4545E+06	1.2970E+07	1.5424E+07		
FALL						
WEEK DAY		3.0388E+06	1.3681E+07	1.6720E+07		
WEEK END		2.3188E+06	1.1421E+07	1.3740E+07		
ANNUAL AVG.						
WEEK DAY		3.0399E+06	1.4045E+07	1.7085E+07		
WEEK END		2.3917E+06	1.1914E+07	1.4305E+07		
DAY		2.8547E+06	1.3436E+07	1.6291E+07		
PICKUP	GAS 6000	7.0871E+05	3.2573E+06	3.9660E+06		
PICKUP	GAS 8500	7.5721E+05	3.4739E+06	4.2312E+06		
TRAC.	GAS 10000	4.4909E+04	2.2776E+05	2.7267E+05		
TRAC.	DSL 10000	6.7253E+05	3.5686E+06	4.2411E+06		
BUS	GAS 10000	4.9074E+04	1.1060E+05	1.5967E+05		
BUS	DSL 10000	2.3762E+04	1.0884E+05	1.3261E+05		
DUMP	GAS 10000	1.7056E+04	7.0978E+04	8.8034E+04		
DUMP	DSL 10000	5.5571E+04	2.3209E+05	2.8766E+05		
FLAT.	GAS 6000	3.9843E+04	1.6792E+05	2.0776E+05		
FLAT.	GAS 8500	4.2982E+04	1.7690E+05	2.1988E+05		
FLAT.	GAS 10000	6.5963E+04	3.6082E+05	4.4678E+05		
FLAT.	DSL 10000	2.2046E+04	9.4532E+04	1.1658E+05		
TANK	GAS 10000	1.0576E+04	5.2342E+04	6.2917E+04		
TANK	DSL 10000	4.3947E+04	2.2636E+05	2.7031E+05		
VAN	GAS 6000	3.1702E+04	1.5000E+05	1.8170E+05		
VAN	GAS 8500	3.2954E+04	1.5621E+05	1.8916E+05		
VAN	GAS 10000	1.0211E+05	4.3147E+05	5.3358E+05		
VAN	DSL 10000	2.2046E+04	9.4532E+04	1.1658E+05		
TRAC	GAS NONCAL	5.2191E+03	2.8943E+04	3.4163E+04		
TRAC	DSL NONCAL	5.6540E+04	4.4581E+05	5.3235E+05		

Table 60. Los Angeles County VMT Summary (SCAB Portion) for 1975

		LOS ANGELES COUNTY		
		NON-FREEWAY	FREEWAY	TOTAL
		VMT	VMT	VMT
WINTER				
WEEK DAY		1.9786E+06	9.0665E+06	1.1065E+07
WEEK END		1.5315E+06	7.1276E+06	8.6592E+06
SPRING				
WEEK DAY		2.0282E+06	9.9231E+06	1.1951E+07
WEEK END		1.5743E+06	8.0931E+06	9.6679E+06
SUMMER				
WEEK DAY		2.0677E+06	1.0283E+07	1.2350E+07
WEEK END		1.6301E+06	8.4253E+06	1.0055E+07
FALL				
WEEK DAY		2.0311E+06	9.4169E+06	1.1448E+07
WEEK END		1.5240E+06	7.3786E+06	8.9026E+06
ANNUAL AVG.				
WEEK DAY		2.0264E+06	9.6773E+06	1.1704E+07
WEEK END		1.5651E+06	7.7562E+06	9.3213E+06
DAY		1.8946E+06	9.1284E+06	1.1023E+07
PICKUP	GAS 6000	4.6878E+05	2.2129E+06	2.6817E+06
PICKUP	GAS 8500	5.0089E+05	2.3601E+06	2.8610E+06
TRAC.	GAS 10000	2.9984E+04	1.5351E+05	1.8350E+05
TRAC.	DSL 10000	4.4890E+05	2.4053E+06	2.8542E+06
BUS	GAS 10000	3.2542E+04	7.5104E+04	1.0765E+05
BUS	DSL 10000	1.5721E+04	7.3902E+04	8.9623E+04
DUMP	GAS 10000	1.1338E+04	4.9284E+04	6.0622E+04
DUMP	DSL 10000	3.6906E+04	1.8121E+05	1.9812E+05
FLAT.	GAS 6000	2.6471E+04	1.1563E+05	1.4310E+05
FLAT.	GAS 8500	2.8549E+04	1.2285E+05	1.5140E+05
FLAT.	GAS 10000	5.7097E+04	2.5060E+05	3.0770E+05
FLAT.	DSL 10000	1.4641E+04	6.5649E+04	8.0290E+04
TANK	GAS 10000	7.0574E+03	3.5298E+04	4.2356E+04
TANK	DSL 10000	2.9342E+04	1.5260E+05	1.8194E+05
VAN	GAS 6000	2.0954E+04	1.0189E+05	1.2285E+05
VAN	GAS 8500	2.1779E+04	1.0612E+05	1.2789E+05
VAN	GAS 10000	6.7796E+04	2.9969E+05	3.6748E+05
VAN	DSL 10000	1.4641E+04	6.5649E+04	8.0290E+04
TRAC	GAS NONCAL	3.4739E+03	1.9521E+04	2.2995E+04
TRAC	DSL NONCAL	5.7746E+04	3.0050E+05	3.5825E+05

Table 61. Orange County VMT Summary for 1975

	NON-FREEWAY VMT	ORANGE COUNTY FREEWAY VMT	TOTAL VMT
WINTER			
WEEK DAY	6.0853E+05	2.3537E+06	2.9923E+06
WEEK END	4.7334E+05	2.1166E+06	2.5900E+06
SPRING			
WEEK DAY	6.2454E+05	2.6574E+06	3.2820E+06
WEEK END	4.8673E+05	2.4945E+06	2.9812E+06
SUMMER			
WEEK DAY	6.3383E+05	2.8670E+06	3.5003E+06
WEEK END	5.0130E+05	2.6186E+06	3.1199E+06
FALL			
WEEK DAY	6.2381E+05	2.5825E+06	3.2063E+06
WEEK END	4.6955E+05	2.3313E+06	2.8009E+06
ANNUAL AVG.			
WEEK DAY	6.2270E+05	2.6226E+06	3.2454E+06
WEEK END	4.8275E+05	2.3903E+06	2.8730E+06
DAY	5.8272E+05	2.5563E+06	3.1390E+06
PICKUP GAS 6000	1.4428E+05	6.1562E+05	7.5990E+05
PICKUP GAS 8500	1.5416E+05	6.5657E+05	8.1073E+05
TRAC. GAS 10000	9.2110E+03	4.4478E+04	5.3689E+04
TRAC. DSL 10000	1.3791E+05	6.9696E+05	8.3487E+05
BUS GAS 10000	1.0011E+04	2.0921E+04	3.0931E+04
BUS DSL 10000	4.8384E+03	2.0605E+04	2.5444E+04
DUMP GAS 10000	3.4860E+03	1.2910E+04	1.6396E+04
DUMP DSL 10000	1.1349E+04	4.2171E+04	5.3520E+04
FLAT. GAS 6000	6.1398E+03	3.0517E+04	3.8557E+04
FLAT. GAS 8500	8.7791E+03	3.2166E+04	4.0945E+04
FLAT. GAS 10000	1.7558E+04	6.5584E+04	8.3143E+04
FLAT. DSL 10000	4.5025E+03	1.7185E+04	2.1688E+04
TANK GAS 10000	2.1682E+03	1.0206E+04	1.2375E+04
TANK DSL 10000	9.0137E+03	4.4183E+04	5.3197E+04
VAN. GAS 6000	6.4501E+03	2.8363E+04	3.4813E+04
VAN. GAS 8500	6.7043E+03	2.9533E+04	3.6238E+04
VAN. GAS 10000	2.0850E+04	7.8407E+04	9.9257E+04
VAN. DSL 10000	4.5025E+03	1.7185E+04	2.1688E+04
TRAC GAS NONCAL	1.0678E+03	5.6348E+03	6.7026E+03
TRAC DSL NONCAL	1.7741E+04	8.7046E+04	1.0479E+05

Table 62. Riverside County VMT Summary (SCAB Portion) for 1975

		RIVERSIDE COUNTY		
		NON-FREEWAY	FREEWAY	TOTAL
		VMT	VMT	VMT
WINTER				
WEEK DAY		1.6230E+05	4.6483E+05	6.2713E+05
WEEK END		1.4920E+05	5.1066E+05	6.5989E+05
SPRING				
WEEK DAY		1.7314E+05	5.5020E+05	7.2334E+05
WEEK END		1.5345E+05	6.4160E+05	7.9505E+05
SUMMER				
WEEK DAY		1.4604E+05	6.3083E+05	7.7687E+05
WEEK END		1.3217E+05	6.7021E+05	8.0239E+05
FALL				
WEEK DAY		1.5624E+05	5.1768E+05	6.7393E+05
WEEK END		1.3412E+05	5.5966E+05	7.2378E+05
ANNUAL AVG.				
WEEK DAY		1.5943E+05	5.4089E+05	7.0032E+05
WEEK END		1.4224E+05	6.0304E+05	7.4527E+05
DAY		1.5452E+05	5.5864E+05	7.1316E+05
PICKUP	GAS 6000	3.9262E+04	1.3609E+05	1.7535E+05
PICKUP	GAS 8500	4.1931E+04	1.4515E+05	1.8708E+05
TRAC.	GAS 10000	2.3274E+03	9.7412E+03	1.2069E+04
TRAC.	DSL 10000	3.4929E+04	1.5246E+05	1.8739E+05
BUS	GAS 10000	2.6717E+03	4.6367E+03	7.3084E+03
BUS	DSL 10000	1.3143E+03	4.5642E+03	5.8785E+03
DUMP	GAS 10000	9.1272E+02	2.6574E+03	3.5701E+03
DUMP	DSL 10000	2.9937E+03	8.6954E+03	1.1689E+04
FLAT.	GAS 6000	2.1403E+03	6.2912E+03	8.4315E+03
FLAT.	GAS 8500	2.3133E+03	6.6215E+03	8.9348E+03
FLAT.	GAS 10000	4.6266E+03	1.3510E+04	1.8136E+04
FLAT.	DSL 10000	1.1875E+03	3.5411E+03	4.7290E+03
TANK	GAS 10000	5.5019E+02	2.2324E+03	2.7825E+03
TANK	DSL 10000	2.2780E+03	9.6745E+03	1.1953E+04
VAN	GAS 6000	1.7651E+03	6.2679E+03	8.0330E+03
VAN	GAS 8500	1.8364E+03	6.5301E+03	8.3665E+03
VAN	GAS 10000	5.5106E+03	1.6162E+04	2.1673E+04
VAN	DSL 10000	1.1875E+03	3.5411E+03	4.7290E+03
TRAC	GAS NONCAL	2.7665E+02	1.2326E+03	1.5093E+03
TRAC	DSL NONCAL	4.5049E+03	1.9042E+04	2.3547E+04

Table 63. San Bernardino County VMT Summary (SCAB Portion) for 1975

				SAN BERNARDINO COUNTY		
				NON-FREEWAY	FREEWAY	TOTAL
				VMT	VMT	VMT
WINTER						
WEEK DAY			2.3390E+05	1.1074E+06	1.3413E+06	
WEEK END			2.0932E+05	1.0560E+06	1.2653E+06	
SPRING						
WEEK DAY			2.4789E+05	1.2374E+06	1.4853E+06	
WEEK END			2.1527E+05	1.2241E+06	1.4393E+06	
SUMMER						
WEEK DAY			2.1616E+05	1.3069E+06	1.5231E+06	
WEEK END			1.9085E+05	1.2557E+06	1.4466E+06	
FALL						
WEEK DAY			2.2768E+05	1.1643E+06	1.3919E+06	
WEEK END			1.9108E+05	1.1213E+06	1.3123E+06	
ANNUAL AVG.						
WEEK DAY			2.3141E+05	1.2040E+06	1.4354E+06	
WEEK END			2.0163E+05	1.1643E+06	1.3659E+06	
DAY			2.2290E+05	1.1926E+06	1.4155E+06	
PICKUP	GAS	6000	5.6386E+04	2.9264E+05	3.4902E+05	
PICKUP	GAS	8500	6.0224E+04	3.1210E+05	3.7232E+05	
TRAC.	GAS	10000	3.3861E+03	2.0034E+04	2.3420E+04	
TRAC.	DSL	10000	5.0795E+04	3.1387E+05	3.6467E+05	
BUS	GAS	10000	3.8498E+03	9.9379E+03	1.3788E+04	
BUS	DSL	10000	1.8861E+03	9.7725E+03	1.1661E+04	
DUMP	GAS	10000	1.3195E+03	6.1268E+03	7.4463E+03	
DUMP	DSL	10000	4.3224E+03	2.0014E+04	2.4337E+04	
FLAT.	GAS	6000	3.0920E+03	1.4479E+04	1.7571E+04	
FLAT.	GAS	8500	3.3407E+03	1.5256E+04	1.3597E+04	
FLAT.	GAS	10000	6.6813E+03	3.1118E+04	3.7800E+04	
FLAT.	DSL	10000	1.7150E+03	8.1565E+03	9.8715E+03	
TANK	GAS	10000	7.9983E+02	4.6047E+03	5.4045E+03	
TANK	DSL	10000	3.3141E+03	1.9904E+04	2.3218E+04	
VAN	GAS	6000	2.5326E+03	1.3474E+04	1.6006E+04	
VAN	GAS	8500	2.6345E+03	1.4031E+04	1.6666E+04	
VAN	GAS	10000	7.9537E+03	3.7210E+04	4.5164E+04	
VAN	DSL	10000	1.7150E+03	8.1565E+03	9.8715E+03	
TRAC	GAS	NONCAL	4.0070E+02	2.5547E+03	2.9554E+03	
TRAC	DSL	NONCAL	6.5482E+03	3.9213E+04	4.5761E+04	

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APPENDIX A
HEAVY-DUTY VEHICLE INPUT DATA

This section lists the input data unique to heavy-duty vehicles that was used to develop the inventory. The significance of each set of data is explained in the text of the report. The data are presented in two formats that may be confusing. Figure A-1 explains the format for Annual Average Mileage, Vehicle Population Distribution by Year, and Emission Factors. Figure A-2 explains the format for HDV Factors (that is, HDV grid square hourly traffic distribution). Emission factors labeled "ARB" are those produced by the California Air Resources Board (except for SO_x factors which were determined by TRW), [13]. Those labeled "EPA" are those recommended by the U. S. Environmental Protection Agency (AP-42, Supplement 5) [5].

AVERAGE ANNUAL MILEAGE

1	2	3	4	5	6	7	8	9	10	Body Type
16350	19700	78600	78600	78600	78600	19700	19700	16350	19700	1976
15190	19700	78600	78600	78600	78600	19700	19700	15190	19700	1975
13650	19700	78600	78600	78600	78600	19700	19700	13650	19700	1974
12000	18000	72000	72000	72000	72000	18000	18000	12000	18000	1973
10450	18000	72000	72000	72000	72000	18000	18000	10450	18000	1972
9060	15100	60200	60200	60200	60200	15100	15100	9060	15100	1971
7770	15100	60200	60200	60200	60200	15100	15100	7770	15100	1970
6610	11500	45700	45700	45700	45700	11500	11500	6610	11500	1969
5570	11500	45700	45700	45700	45700	11500	11500	5570	11500	1968
4650	10000	39900	39900	39900	39900	10000	10000	4650	10000	1967
3860	10000	39900	39900	39900	39900	10000	10000	3860	10000	1966
3189	7370	29400	29400	29400	29400	7370	7370	3189	7370	1965
2640	7370	29400	29400	29400	29400	7370	7370	2640	7370	1964
2220	7370	29400	29400	29400	29400	7370	7370	2220	7370	1963
2000	7370	29400	29400	29400	29400	7370	7370	2000	7370	1962
2000	7370	29400	29400	29400	29400	7370	7370	2000	7370	1961
2000	7370	29400	29400	29400	29400	7370	7370	2000	7370	Pre-1961
11	12	13	14	15	16	17	18	19	20	Body Type
19700	19700	19700	78600	16350	19700	19700	19700	78600	78600	
19700	19700	19700	78600	15190	19700	19700	19700	78600	78600	
19700	19700	19700	78600	13650	19700	19700	19700	78600	78600	
18000	18000	18000	72000	12000	18000	18000	18000	72000	72000	
18000	18000	18000	72000	10450	18000	18000	18000	72000	72000	
15100	15100	15100	60200	9060	15100	15100	15100	60200	60200	
15100	15100	15100	60200	7770	15100	15100	15100	60200	60200	
11500	11500	11500	45700	6610	11500	11500	11500	45700	45700	
11500	11500	11500	45700	5570	11500	11500	11500	45700	45700	
10000	10000	10000	39900	4650	10000	10000	10000	39900	39900	
10000	10000	10000	39900	3860	10000	10000	10000	39900	39900	
7370	7370	7370	29400	3189	7370	7370	7370	29400	29400	
7370	7370	7370	29400	2640	7370	7370	7370	29400	29400	
7370	7370	7370	29400	2220	7370	7370	7370	29400	29400	
7370	7370	7370	29400	2000	7370	7370	7370	29400	29400	
7370	7370	7370	29400	2000	7370	7370	7370	29400	29400	
7370	7370	7370	29400	2000	7370	7370	7370	29400	29400	

Figure A-1. Data Input Format for Annual Average Mileage, Vehicle Population Distribution and Emission Factors

HDV FACTOR FOR GRID TYPE 101 ON WEEKDAYS

1	2	3	4	5	6	7	8	9	10	Body Type
.0191	.0203	.0202	.3164	.0017	.0017	.0000	.0000	.0000	.0000	0100
.0217	.0232	.0230	.3602	.0020	.0020	.0000	.0000	.0000	.0000	0200
.0226	.0241	.0239	.3743	.0021	.0021	.0000	.0000	.0000	.0000	0300
.0214	.0228	.0226	.3546	.0020	.0020	.0000	.0000	.0000	.0000	0400
.0196	.0209	.0208	.3256	.0018	.0018	.0000	.0000	.0000	.0000	0500
.0179	.0191	.0189	.2966	.0016	.0016	.0000	.0000	.0000	.0000	0600
.0918	.0979	.0049	.0762	.0032	.0032	.0034	.0111	.0081	.0085	0700
.0814	.0868	.0043	.0676	.0028	.0028	.0030	.0099	.0071	.0075	0800
.0773	.0824	.0041	.0642	.0027	.0027	.0029	.0094	.0068	.0072	0900
.0795	.0848	.0042	.0660	.0028	.0027	.0030	.0096	.0070	.0074	1000
.0807	.0860	.0043	.0670	.0028	.0028	.0030	.0098	.0071	.0075	1100
.0824	.0878	.0044	.0684	.0029	.0028	.0031	.0100	.0072	.0076	1200
.0840	.0896	.0045	.0698	.0029	.0029	.0031	.0102	.0074	.0078	1300
.0862	.0920	.0046	.0716	.0030	.0030	.0032	.0105	.0076	.0080	1400
.0848	.0904	.0045	.0704	.0029	.0029	.0032	.0103	.0074	.0079	1500
.0792	.0845	.0042	.0658	.0028	.0027	.0030	.0096	.0070	.0073	1600
.0729	.0778	.0039	.0606	.0025	.0025	.0027	.0088	.0064	.0068	1700
.0667	.0711	.0035	.0553	.0023	.0023	.0025	.0081	.0059	.0062	1800
.0945	.1008	.0050	.0784	.0020	.0019	.0000	.0000	.0000	.0000	1900
.1037	.1106	.0055	.0861	.0022	.0021	.0000	.0000	.0000	.0000	2000
.1141	.1217	.0061	.0947	.0024	.0023	.0000	.0000	.0000	.0000	2100
.1160	.1237	.0062	.0962	.0025	.0024	.0000	.0000	.0000	.0000	2200
.0162	.0173	.0171	.2684	.0015	.0015	.0000	.0000	.0000	.0000	2300
.0163	.0173	.0172	.2698	.0015	.0015	.0000	.0000	.0000	.0000	2400

Hour-of-day,
24-hour clock

Figure A-2. Data Input Format for HDV Factors (HDV Grid Square Hourly Traffic Distribution)

	Body Type		Fuel Type	No. of Vehicles In SCAB	Average Trips Per Day	% Cold Start	% Hot Start	% Hot Cruise	
1	PICK-UP	6001-8500	GVW	GAS	77982	9.3	20.0	27.0	53.0
2	PICK-UP	8501-10000	GVW	GAS	69330	9.5	20.0	27.0	53.0
3	TRACTOR	10000+	GVW	GAS	3433	9.5	20.0	27.0	53.0
4	TRACTOR	10000+	GVW	DIESEL	13454	9.5	20.0	27.0	53.0
5	BUS	10000+	GVW	GAS	5723	9.5	20.0	27.0	53.0
6	BUS	10000+	GVW	DIESEL	1437	9.5	20.0	27.0	53.0
7	DUMP	10000+	GVW	GAS	2417	9.5	20.0	27.0	53.0
8	DUMP	10000+	GVW	DIESEL	1969	9.5	20.0	27.0	53.0
9	FLATBED	6001-8500	GVW	GAS	6854	9.3	20.0	27.0	53.0
10	FLATBED	8501-10000	GVW	GAS	6019	9.5	20.0	27.0	53.0
11	FLATBED	10000+	GVW	GAS	12263	9.5	20.0	27.0	53.0
12	FLATBED	10000+	GVW	DIESEL	798	9.5	20.0	27.0	53.0
13	TANK	10000+	GVW	GAS	781	9.5	20.0	27.0	53.0
14	TANK	10000+	GVW	DIESEL	842	9.5	20.0	27.0	53.0
15	VAN	6001-8500	GVW	GAS	3567	9.3	20.0	27.0	53.0
16	VAN	8501-10000	GVW	GAS	3122	9.5	20.0	27.0	53.0
17	VAN	10000+	GVW	GAS	14608	9.5	20.0	27.0	53.0
18	VAN	10000+	GVW	DIESEL	305	9.5	20.0	27.0	53.0
*19	TRACTOR	NONCAL	10000+	GAS	429	9.5	20.0	27.0	53.0
*20	TRACTOR	NONCAL	10000+	DIESEL	1580	9.5	20.0	27.0	53.0
					<u>227,573</u>				

All Medium-Duty Vehicles - Gas 88,403

All Heavy-Duty Vehicles - Gas 118,185

All Heavy-Duty Vehicles-Diesel 20,985

227,573

*Registered in a state other than California. See Section 4.

Table A-1. Vehicle Population and Other Data

Body Type	Vehicles per County				Total
	LA	ORANGE	RIV.	SB	
1	50236	15721	4562	7463	
2	44662	13977	4056	6635	
3	2886	381	57	109	
4	10523	1815	431	685	
5	4766	590	145	222	
6	1089	313	0	35	
7	1624	515	102	176	
8	1368	372	89	140	
9	4981	1089	339	445	
10	4375	956	297	391	
11	9467	1755	470	571	
12	577	101	39	81	
13	553	117	50	61	
14	712	61	18	51	
15	2719	622	84	142	
16	2379	545	74	124	
17	11701	2200	265	502	
18	725	41	10	29	
*19	360	48	7	14	
*20	1313	227	54	86	
	<u>157,016</u>	<u>41,466</u>	<u>11,149</u>	<u>17,962</u>	Total - 227,573

*Registered in a state other than California. See Section 4.

Table A-2. Vehicles Registered In Each County

Table A-3 Average Annual Mileage

1	2	3	4	5	6	7	8	9	10
16350	19700	78600	78600	78600	78600	19700	19700	16350	19700
15190	19700	78600	78600	78600	78600	19700	19700	15190	19700
13650	19700	78600	78600	78600	78600	19700	19700	13650	19700
12000	18000	72000	72000	72000	72000	18000	18000	12000	18000
10450	18000	72000	72000	72000	72000	18000	18000	10450	18000
9060	15100	60200	60200	60200	60200	15100	15100	9060	15100
7770	15100	60200	60200	60200	60200	15100	15100	7770	15100
6610	11500	45700	45700	45700	45700	11500	11500	6610	11500
5570	11500	45700	45700	45700	45700	11500	11500	5570	11500
4650	10000	39900	39900	39900	39900	10000	10000	4650	10000
3860	10000	39900	39900	39900	39900	10000	10000	3860	10000
3189	7370	29400	29400	29400	29400	7370	7370	3189	7370
2640	7370	29400	29400	29400	29400	7370	7370	2640	7370
2220	7370	29400	29400	29400	29400	7370	7370	2220	7370
2000	7370	29400	29400	29400	29400	7370	7370	2000	7370
2000	7370	29400	29400	29400	29400	7370	7370	2000	7370
2000	7370	29400	29400	29400	29400	7370	7370	2000	7370
11	12	13	14	15	16	17	18	19	20
19700	19700	19700	78600	16350	19700	19700	19700	78600	78600
19700	19700	19700	78600	15190	19700	19700	19700	78600	78600
19700	19700	19700	78600	13650	19700	19700	19700	78600	78600
18000	18000	18000	72000	12000	18000	18000	18000	72000	72000
18000	18000	18000	72000	10450	18000	18000	18000	72000	72000
15100	15100	15100	60200	9060	15100	15100	15100	60200	60200
15100	15100	15100	60200	7770	15100	15100	15100	60200	60200
11500	11500	11500	45700	6610	11500	11500	11500	45700	45700
11500	11500	11500	45700	5570	11500	11500	11500	45700	45700
10000	10000	10000	39900	4650	10000	10000	10000	39900	39900
10000	10000	10000	39900	3860	10000	10000	10000	39900	39900
7370	7370	7370	29400	3189	7370	7370	7370	29400	29400
7370	7370	7370	29400	2640	7370	7370	7370	29400	29400
7370	7370	7370	29400	2220	7370	7370	7370	29400	29400
7370	7370	7370	29400	2000	7370	7370	7370	29400	29400
7370	7370	7370	29400	2000	7370	7370	7370	29400	29400
7370	7370	7370	29400	2000	7370	7370	7370	29400	29400

Table A-4 Vehicle Population Distribution By Year - Winter Season

1	2	3	4	5	6	7	8	9	10
.0165	.0165	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.0840	.0840	.0594	.0822	.0888	.0000	.0452	.0755	.0751	.0758
.0893	.0893	.0917	.1496	.0612	.1014	.0834	.1219	.1104	.1118
.1604	.1604	.1271	.1351	.0348	.0821	.0932	.1164	.1381	.1398
.1419	.1420	.1298	.1170	.1236	.0483	.0965	.1049	.1272	.1156
.1050	.1050	.0866	.1008	.0792	.3527	.0749	.0925	.0462	.0467
.1094	.1094	.1370	.0952	.1622	.3188	.1256	.1484	.1226	.1242
.0365	.0303	.0380	.0347	.0468	.0097	.0497	.0370	.0474	.0399
.0334	.0281	.0352	.0323	.0432	.0097	.0460	.0350	.0432	.0369
.0301	.0259	.0326	.0298	.0396	.0097	.0423	.0315	.0390	.0340
.0269	.0237	.0298	.0268	.0360	.0097	.0387	.0285	.0349	.0312
.0237	.0215	.0270	.0239	.0324	.0097	.0354	.0255	.0307	.0281
.0205	.0193	.0242	.0209	.0300	.0048	.0317	.0220	.0266	.0263
.0173	.0171	.0214	.0179	.0264	.0048	.0281	.0190	.0223	.0224
.0147	.0153	.0191	.0160	.0228	.0048	.0248	.0170	.0191	.0201
.0131	.0142	.0178	.0150	.0216	.0048	.0232	.0160	.0171	.0186
.0773	.0980	.1231	.1023	.1514	.0290	.1611	.1089	.1001	.1286
11	12	13	14	15	16	17	18	19	20
.0000	.0000	.0000	.0000	.0154	.0158	.0080	.0000	.0000	.0000
.0665	.0592	.0890	.1250	.0811	.0823	.0849	.0073	.0594	.0822
.0973	.1036	.1121	.2231	.1406	.1423	.1297	.0880	.0910	.1496
.1179	.1097	.1045	.1355	.1303	.1677	.1495	.1248	.1271	.1351
.1343	.0974	.1045	.0771	.0743	.0955	.1111	.1198	.1293	.1170
.0935	.1541	.1249	.0806	.0786	.0797	.0854	.1541	.0866	.1008
.1138	.1603	.1058	.0771	.0968	.0983	.1166	.1430	.1379	.0952
.0340	.0345	.0365	.0304	.0339	.0328	.0325	.0391	.0380	.0347
.0362	.0321	.0340	.0292	.0356	.0306	.0301	.0379	.0352	.0328
.0333	.0296	.0315	.0257	.0320	.0280	.0278	.0330	.0326	.0298
.0305	.0259	.0290	.0234	.0297	.0253	.0254	.0306	.0298	.0268
.0277	.0234	.0264	.0210	.0254	.0233	.0230	.0269	.0270	.0239
.0249	.0210	.0239	.0187	.0221	.0208	.0208	.0232	.0242	.0209
.0221	.0173	.0214	.0152	.0185	.0136	.0183	.0208	.0214	.0179
.0197	.0160	.0189	.0140	.0154	.0164	.0164	.0183	.0191	.0160
.0133	.0148	.0176	.0129	.0141	.0154	.0154	.0171	.0178	.0150
.1260	.1011	.1210	.0911	.0322	.1062	.1051	.1161	.1231	.1023

Table A-5 Vehicle Population Distribution By Year - Spring Season

1	2	3	4	5	6	7	8	9	10
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.0289	.0289	.0111	.0154	.0174	.0000	.0089	.0146	.0141	.0142
.0964	.0964	.0955	.1607	.0658	.0995	.0866	.1290	.1178	.1192
.1733	.1731	.1337	.1450	.0372	.0846	.0967	.1239	.1474	.1491
.1533	.1534	.1363	.1256	.1328	.0498	.1005	.1115	.1355	.1233
.1134	.1133	.0911	.1081	.0356	.3483	.0778	.0986	.0492	.0498
.1182	.1182	.1450	.1022	.1736	.3184	.1309	.1584	.1308	.1326
.0394	.0327	.0400	.0372	.0509	.0099	.0517	.0398	.0504	.0426
.0360	.0303	.0371	.0351	.0471	.0099	.0479	.0377	.0460	.0393
.0325	.0280	.0342	.0320	.0434	.0099	.0437	.0336	.0417	.0361
.0290	.0256	.0313	.0287	.0385	.0099	.0399	.0305	.0372	.0333
.0255	.0232	.0284	.0256	.0347	.0099	.0366	.0274	.0326	.0301
.0221	.0209	.0255	.0224	.0323	.0050	.0332	.0237	.0283	.0280
.0186	.0185	.0226	.0192	.0285	.0050	.0290	.0201	.0237	.0240
.0158	.0165	.0200	.0170	.0248	.0050	.0257	.0181	.0203	.0214
.0142	.0153	.0187	.0161	.0236	.0050	.0240	.0170	.0182	.0199
.0834	.1057	.1295	.1097	.1638	.0299	.1674	.1162	.1066	.1371
11	12	13	14	15	16	17	18	19	20
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.0123	.0115	.0169	.0242	.0154	.0156	.0159	.0013	.0111	.0154
.1029	.1108	.1197	.2488	.1530	.1556	.1406	.0884	.0955	.1607
.1247	.1172	.1131	.1510	.1964	.1827	.1623	.1250	.1337	.1450
.1420	.1019	.1131	.0857	.1029	.1045	.1206	.1212	.1363	.1256
.0988	.1530	.1340	.0894	.0858	.0872	.0926	.1566	.0911	.1081
.1203	.1681	.1144	.0857	.1054	.1071	.1265	.1439	.1450	.1022
.0412	.0357	.0390	.0338	.0425	.0358	.0352	.0391	.0400	.0372
.0332	.0331	.0364	.0326	.0388	.0335	.0326	.0379	.0371	.0351
.0351	.0306	.0338	.0290	.0351	.0306	.0302	.0328	.0342	.0320
.0322	.0268	.0312	.0266	.0313	.0280	.0276	.0303	.0313	.0287
.0293	.0242	.0286	.0242	.0276	.0254	.0250	.0278	.0284	.0256
.0265	.0217	.0260	.0205	.0239	.0228	.0225	.0227	.0255	.0224
.0233	.0178	.0234	.0169	.0199	.0205	.0199	.0202	.0226	.0192
.0207	.0166	.0208	.0157	.0168	.0179	.0173	.0189	.0200	.0170
.0194	.0153	.0195	.0145	.0154	.0169	.0166	.0177	.0187	.0161
.1335	.1057	.1301	.1014	.0898	.1159	.1141	.1162	.1295	.1097

Table A-6 Vehicle Population Distribution By Year - Summer Season

1	2	3	4	5	6	7	8	9	10
.0000	.0000	.0000	.00000	.0000	.0000	.0000	.0000	.0000	.0000
.0501	.0501	.0276	.0382	.0417	.0000	.0208	.0353	.0349	.0352
.0943	.0943	.0940	.1568	.0650	.1034	.0857	.1267	.1152	.1166
.1694	.1694	.1315	.1416	.0368	.0837	.0957	.1216	.1440	.1460
.1499	.1500	.1340	.1227	.1301	.0493	.0989	.1094	.1325	.1206
.1109	.1109	.0896	.1056	.0834	.3497	.0770	.0961	.0483	.0488
.1155	.1155	.1423	.0999	.1682	.3152	.1290	.1548	.1281	.1298
.0386	.0320	.0393	.0363	.0491	.0099	.0512	.0388	.0494	.0416
.0352	.0296	.0364	.0344	.0454	.0099	.0474	.0368	.0450	.0384
.0318	.0274	.0338	.0312	.0417	.0099	.0433	.0332	.0408	.0354
.0284	.0251	.0307	.0281	.0380	.0099	.0395	.0296	.0364	.0329
.0250	.0227	.0281	.0250	.0344	.0099	.0362	.0266	.0320	.0294
.0217	.0204	.0250	.0219	.0319	.0049	.0329	.0230	.0277	.0274
.0182	.0180	.0221	.0187	.0282	.0049	.0287	.0199	.0233	.0234
.0155	.0161	.0198	.0167	.0245	.0049	.0254	.0179	.0200	.0209
.0139	.0150	.0185	.0157	.0233	.0049	.0237	.0169	.0179	.0195
.0816	.1035	.1273	.1072	.1583	.0296	.1646	.1134	.1045	.1341
11	12	13	14	15	16	17	18	19	20
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.0804	.0277	.0412	.0585	.0378	.0383	.0394	.0038	.0276	.0382
.1009	.1072	.1171	.2390	.1497	.1520	.1373	.0888	.0940	.1568
.1226	.1135	.1107	.1458	.1923	.1787	.1564	.1249	.1315	.1416
.1395	.1009	.1107	.0824	.1006	.1021	.1176	.1199	.1340	.1227
.0959	.1501	.1287	.0860	.0837	.0850	.0904	.1549	.0846	.1056
.1181	.1664	.1120	.0824	.1029	.1047	.1235	.1437	.1423	.0999
.0404	.0353	.0386	.0335	.0414	.0351	.0344	.0388	.0393	.0363
.0376	.0328	.0360	.0323	.0378	.0325	.0319	.0375	.0364	.0344
.0345	.0303	.0335	.0275	.0341	.0300	.0295	.0338	.0338	.0312
.0316	.0265	.0309	.0251	.0307	.0274	.0269	.0300	.0307	.0281
.0287	.0240	.0283	.0227	.0271	.0248	.0244	.0275	.0281	.0250
.0258	.0214	.0257	.0203	.0234	.0222	.0220	.0238	.0250	.0219
.0229	.0177	.0232	.0167	.0195	.0200	.0194	.0200	.0221	.0187
.0203	.0164	.0193	.0155	.0154	.0174	.0174	.0183	.0198	.0167
.0190	.0151	.0180	.0143	.0149	.0164	.0162	.0175	.0185	.0157
.1308	.1047	.1261	.0930	.0877	.1134	.1113	.1163	.1273	.1072

Table A-7 Vehicle Population Distribution By Year - Fall Season

1	2	3	4	5	6	7	8	9	10
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.0707	.0707	.0435	.0605	.0655	.0000	.0333	.0556	.0552	.0557
.0923	.0923	.0925	.1531	.0531	.1023	.0844	.1238	.1128	.1142
.1659	.1657	.1292	.1383	.0364	.0829	.0942	.1182	.1412	.1427
.1467	.1467	.1318	.1198	.1262	.0488	.0979	.1071	.1299	.1182
.1084	.1084	.0881	.1031	.0813	.3511	.0757	.0945	.0473	.0478
.1130	.1130	.1400	.0975	.1639	.3170	.1276	.1517	.1255	.1270
.0377	.0313	.0386	.0355	.0485	.0098	.0502	.0379	.0483	.0407
.0345	.0290	.0358	.0335	.0449	.0098	.0465	.0359	.0441	.0377
.0311	.0268	.0332	.0306	.0413	.0098	.0428	.0323	.0399	.0347
.0278	.0245	.0304	.0274	.0376	.0098	.0391	.0293	.0356	.0319
.0244	.0222	.0276	.0245	.0340	.0098	.0358	.0263	.0313	.0288
.0212	.0200	.0247	.0214	.0303	.0049	.0321	.0227	.0271	.0268
.0178	.0177	.0219	.0183	.0267	.0049	.0284	.0197	.0228	.0230
.0151	.0158	.0193	.0164	.0231	.0049	.0251	.0172	.0194	.0205
.0136	.0147	.0183	.0153	.0218	.0049	.0235	.0167	.0174	.0190
.0798	.1012	.1251	.1048	.1554	.0293	.1634	.1111	.1022	.1313
11	12	13	14	15	16	17	18	19	20
.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000
.0481	.0436	.0550	.0922	.0597	.0605	.0625	.0062	.0435	.0605
.0991	.1060	.1146	.2316	.1464	.1489	.1340	.0878	.0925	.1531
.1203	.1122	.1070	.1407	.1877	.1746	.1544	.1248	.1292	.1383
.1369	.0998	.1070	.0792	.0932	.0994	.1149	.1199	.1318	.1198
.0952	.1571	.1287	.0827	.0817	.0832	.0362	.1545	.0881	.1031
.1159	.1608	.1096	.0792	.1007	.1023	.1206	.1433	.1400	.0975
.0397	.0349	.0382	.0319	.0404	.0341	.0336	.0396	.0385	.0355
.0388	.0324	.0344	.0307	.0371	.0319	.0311	.0371	.0358	.0335
.0339	.0299	.0318	.0272	.0335	.0293	.0288	.0334	.0332	.0306
.0311	.0262	.0293	.0248	.0298	.0268	.0262	.0309	.0304	.0274
.0281	.0237	.0268	.0225	.0255	.0247	.0233	.0272	.0276	.0245
.0253	.0212	.0242	.0201	.0229	.0217	.0215	.0235	.0247	.0214
.0225	.0175	.0217	.0154	.0190	.0194	.0189	.0198	.0219	.0182
.0200	.0162	.0191	.0142	.0162	.0172	.0170	.0185	.0193	.0164
.0187	.0150	.0178	.0130	.0148	.0159	.0159	.0173	.0183	.0153
.1284	.1035	.1248	.0946	.0356	.1105	.1086	.1162	.1251	.1048

Table A-8 HDV Factor For Grid Type 101 - Weekdays

1	2	3	4	5	6	7	8	9	10
.0191	.0203	.0202	.3164	.0017	.0017	.0000	.0000	.0000	.0000
.0217	.0232	.0230	.3602	.0020	.0020	.0000	.0000	.0000	.0000
.0226	.0241	.0239	.3743	.0021	.0021	.0000	.0000	.0000	.0000
.0214	.0228	.0226	.3546	.0020	.0020	.0000	.0000	.0000	.0000
.0196	.0209	.0208	.3256	.0018	.0018	.0000	.0000	.0000	.0000
.0179	.0191	.0189	.2966	.0016	.0016	.0000	.0000	.0000	.0000
.0918	.0970	.0049	.0762	.0032	.0032	.0034	.0111	.0081	.0085
.0814	.0868	.0043	.0676	.0028	.0028	.0030	.0099	.0071	.0075
.0773	.0824	.0041	.0642	.0027	.0027	.0029	.0094	.0068	.0072
.0795	.0848	.0042	.0660	.0028	.0027	.0030	.0096	.0070	.0074
.0807	.0860	.0043	.0670	.0028	.0028	.0030	.0098	.0071	.0075
.0824	.0878	.0044	.0684	.0029	.0028	.0031	.0100	.0072	.0076
.0840	.0896	.0045	.0698	.0029	.0029	.0031	.0102	.0074	.0078
.0862	.0920	.0046	.0716	.0030	.0030	.0032	.0105	.0076	.0080
.0848	.0904	.0045	.0704	.0029	.0029	.0032	.0103	.0074	.0079
.0792	.0845	.0042	.0658	.0028	.0027	.0030	.0096	.0070	.0073
.0729	.0778	.0039	.0606	.0025	.0025	.0027	.0088	.0064	.0068
.0667	.0711	.0035	.0553	.0023	.0023	.0025	.0081	.0059	.0062
.0945	.1008	.0050	.0784	.0020	.0019	.0000	.0000	.0000	.0000
.1037	.1106	.0055	.0861	.0022	.0021	.0000	.0000	.0000	.0000
.1141	.1217	.0061	.0947	.0024	.0023	.0000	.0000	.0000	.0000
.1160	.1237	.0062	.0962	.0025	.0024	.0000	.0000	.0000	.0000
.0162	.0173	.0171	.2684	.0015	.0015	.0000	.0000	.0000	.0000
.0163	.0173	.0172	.2698	.0015	.0015	.0000	.0000	.0000	.0000

Table A-8 (Continued) HDV Factor For Grid Type 101-Weekdays

11	12	13	14	15	16	17	18	19	20
0	0	.0046	.0200	.0009	.0009	.0000	.0000	.0025	.0395
0	0	.0052	.0228	.0011	.0011	.0000	.0000	.0029	.0449
0	0	.0054	.0237	.0011	.0011	.0000	.0000	.0030	.0467
0	0	.0051	.0224	.0011	.0011	.0000	.0000	.0028	.0442
0	0	.0047	.0206	.0010	.0010	.0000	.0000	.0026	.0406
0	0	.0043	.0188	.0009	.0009	.0000	.0000	.0024	.0370
.0173	.0046	.0011	.0048	.0042	.0044	.0207	.0046	.0006	.0095
.0154	.0040	.0010	.0043	.0037	.0039	.0184	.0040	.0005	.0084
.0146	.0038	.0009	.0041	.0036	.0037	.0174	.0038	.0005	.0080
.0150	.0039	.0010	.0042	.0037	.0038	.0179	.0039	.0005	.0082
.0152	.0040	.0010	.0042	.0037	.0039	.0182	.0040	.0005	.0084
.0155	.0041	.0010	.0043	.0038	.0040	.0186	.0041	.0005	.0085
.0159	.0042	.0010	.0044	.0039	.0040	.0190	.0042	.0006	.0087
.0153	.0043	.0010	.0045	.0040	.0041	.0195	.0043	.0006	.0089
.0160	.0042	.0010	.0045	.0039	.0041	.0191	.0042	.0006	.0088
.0150	.0039	.0010	.0042	.0036	.0038	.0179	.0039	.0005	.0082
.0138	.0036	.0009	.0038	.0034	.0035	.0165	.0036	.0005	.0076
.0126	.0033	.0008	.0035	.0031	.0032	.0150	.0033	.0004	.0069
.0000	.0000	.0011	.0050	.0043	.0045	.0000	.0000	.0006	.0098
.0000	.0000	.0013	.0054	.0048	.0050	.0000	.0000	.0007	.0107
.0000	.0000	.0014	.0060	.0052	.0055	.0000	.0000	.0007	.0118
.0000	.0000	.0014	.0061	.0053	.0056	.0000	.0000	.0008	.0120
.0000	.0000	.0039	.0175	.0008	.0008	.0000	.0000	.0021	.0335
.0000	.0000	.0039	.0171	.0008	.0008	.0000	.0000	.0021	.0337

Table A-9 HDV Factor For Grid Type 101 - Weekends

1	2	3	4	5	6	7	8	9	10
.0190	.0203	.0201	.3153	.0025	.0025	.0000	.0000	.0000	.0000
.0216	.0231	.0230	.3589	.0029	.0029	.0000	.0000	.0000	.0000
.0225	.0240	.0238	.3730	.0030	.0030	.0000	.0000	.0000	.0000
.0213	.0227	.0225	.3533	.0028	.0028	.0000	.0000	.0000	.0000
.0195	.0209	.0207	.3245	.0026	.0026	.0000	.0000	.0000	.0000
.0178	.0190	.0189	.2956	.0024	.0024	.0000	.0000	.0000	.0000
.1156	.1233	.0061	.0960	.0040	.0040	.0000	.0000	.0000	.0000
.1025	.1093	.0054	.0851	.0036	.0035	.0000	.0000	.0000	.0000
.0973	.1038	.0052	.0808	.0034	.0034	.0000	.0000	.0000	.0000
.1000	.1067	.0053	.0831	.0035	.0035	.0000	.0000	.0000	.0000
.1016	.1093	.0054	.0843	.0035	.0035	.0000	.0000	.0000	.0000
.1037	.1106	.0055	.0861	.0036	.0036	.0000	.0000	.0000	.0000
.1058	.1129	.0056	.0880	.0037	.0037	.0000	.0000	.0000	.0000
.1086	.1158	.0057	.0901	.0038	.0037	.0000	.0000	.0000	.0000
.1067	.1139	.0057	.0886	.0037	.0037	.0000	.0000	.0000	.0000
.0997	.1064	.0052	.0828	.0035	.0034	.0000	.0000	.0000	.0000
.0918	.0980	.0049	.0763	.0032	.0032	.0000	.0000	.0000	.0000
.0839	.0895	.0044	.0697	.0029	.0029	.0000	.0000	.0000	.0000
.0942	.1005	.0050	.0782	.0024	.0024	.0000	.0000	.0000	.0000
.1034	.1103	.0055	.0858	.0027	.0025	.0000	.0000	.0000	.0000
.1138	.1213	.0060	.0945	.0029	.0029	.0000	.0000	.0000	.0000
.1156	.1233	.0061	.0960	.0030	.0029	.0000	.0000	.0000	.0000
.0161	.0172	.0171	.2674	.0021	.0021	.0000	.0000	.0000	.0000
.0162	.0173	.0172	.2689	.0021	.0021	.0000	.0000	.0000	.0000

Table A-9 (Continued) HDV Factor For Grid Type 101 - Weekends

11	12	13	14	15	16	17	18	19	20
.0000	.0000	.0046	.0200	.0010	.0010	.0000	.0000	.0025	.0393
.0000	.0000	.0052	.0227	.0011	.0011	.0000	.0000	.0029	.0448
.0000	.0000	.0054	.0236	.0011	.0011	.0000	.0000	.0030	.0465
.0000	.0000	.0051	.0224	.0011	.0011	.0000	.0000	.0028	.0441
.0000	.0000	.0047	.0206	.0010	.0010	.0000	.0000	.0026	.0405
.0000	.0000	.0043	.0187	.0009	.0009	.0000	.0000	.0024	.0369
.0000	.0000	.0014	.0061	.0053	.0055	.0000	.0000	.0008	.0120
.0000	.0000	.0012	.0054	.0047	.0049	.0000	.0000	.0007	.0106
.0000	.0000	.0012	.0051	.0045	.0047	.0000	.0000	.0006	.0101
.0000	.0000	.0012	.0053	.0046	.0048	.0000	.0000	.0007	.0104
.0000	.0000	.0012	.0053	.0047	.0049	.0000	.0000	.0007	.0105
.0000	.0000	.0013	.0055	.0048	.0050	.0000	.0000	.0007	.0107
.0000	.0000	.0013	.0056	.0049	.0051	.0000	.0000	.0007	.0110
.0000	.0000	.0013	.0057	.0050	.0052	.0000	.0000	.0007	.0112
.0000	.0000	.0013	.0056	.0049	.0051	.0000	.0000	.0007	.0111
.0000	.0000	.0012	.0052	.0046	.0048	.0000	.0000	.0007	.0103
.0000	.0000	.0011	.0048	.0042	.0044	.0000	.0000	.0006	.0095
.0000	.0000	.0010	.0044	.0039	.0040	.0000	.0000	.0006	.0087
.0000	.0000	.0011	.0050	.0043	.0045	.0000	.0000	.0006	.0098
.0000	.0000	.0013	.0054	.0048	.0050	.0000	.0000	.0007	.0107
.0000	.0000	.0014	.0060	.0052	.0055	.0000	.0000	.0007	.0118
.0000	.0000	.0014	.0061	.0053	.0056	.0000	.0000	.0008	.0120
.0000	.0000	.0039	.0159	.0008	.0003	.0000	.0000	.0021	.0334
.0000	.0000	.0039	.0170	.0008	.0008	.0000	.0000	.0021	.0335

Table A-10 HDV Factor for Grid Type 102 - Weekdays

1	2	3	4	5	6	7	8	9	10
.0062	.0066	.0065	.1024	.0006	.0006	.0000	.0000	.0000	.0000
.0071	.0076	.0075	.1180	.0007	.0007	.0000	.0000	.0000	.0000
.0080	.0085	.0084	.1321	.0007	.0007	.0000	.0000	.0000	.0000
.0089	.0094	.0094	.1469	.0008	.0008	.0000	.0000	.0000	.0000
.0096	.0103	.0102	.1596	.0009	.0009	.0000	.0000	.0000	.0000
.0101	.0108	.0107	.1674	.0009	.0009	.0000	.0000	.0000	.0000
.0570	.0608	.0030	.0473	.0020	.0020	.0021	.0069	.0050	.0053
.0568	.0605	.0030	.0471	.0020	.0020	.0021	.0069	.0050	.0053
.0565	.0603	.0030	.0469	.0020	.0019	.0021	.0069	.0050	.0052
.0565	.0603	.0030	.0469	.0020	.0019	.0021	.0069	.0050	.0052
.0553	.0600	.0030	.0467	.0020	.0019	.0021	.0068	.0049	.0052
.0563	.0600	.0030	.0467	.0020	.0019	.0021	.0068	.0049	.0052
.0553	.0590	.0029	.0459	.0019	.0019	.0021	.0067	.0049	.0051
.0483	.0515	.0026	.0401	.0017	.0017	.0018	.0059	.0042	.0045
.0423	.0451	.0022	.0351	.0015	.0015	.0016	.0051	.0037	.0039
.0386	.0412	.0020	.0321	.0013	.0013	.0014	.0047	.0034	.0036
.0353	.0376	.0019	.0293	.0012	.0012	.0013	.0043	.0031	.0033
.0326	.0348	.0017	.0271	.0011	.0011	.0012	.0040	.0029	.0030
.0393	.0419	.0021	.0326	.0008	.0008	.0000	.0000	.0000	.0000
.0365	.0389	.0019	.0303	.0008	.0007	.0000	.0000	.0000	.0000
.0344	.0366	.0018	.0285	.0007	.0007	.0000	.0000	.0000	.0000
.0331	.0353	.0018	.0275	.0007	.0007	.0000	.0000	.0000	.0000
.0044	.0047	.0046	.0727	.0004	.0004	.0000	.0000	.0000	.0000
.0033	.0057	.0056	.0983	.0005	.0005	.0000	.0000	.0000	.0000

Table A-10 (Continued) HDV Factor For Grid Type 102 - Weekdays

11	12	13	14	15	16	17	18	19	20
.0000	.0000	.0015	.0065	.0003	.0003	.0000	.0000	.0008	.0128
.0000	.0000	.0017	.0075	.0004	.0004	.0000	.0000	.0009	.0147
.0000	.0000	.0019	.0084	.0004	.0004	.0000	.0000	.0010	.0165
.0000	.0000	.0021	.0093	.0004	.0004	.0000	.0000	.0012	.0183
.0000	.0000	.0023	.0101	.0005	.0005	.0000	.0000	.0013	.0199
.0000	.0000	.0024	.0106	.0005	.0005	.0000	.0000	.0013	.0209
.0108	.0028	.0007	.0030	.0026	.0027	.0129	.0028	.0004	.0059
.0107	.0028	.0007	.0030	.0026	.0027	.0128	.0028	.0004	.0059
.0107	.0028	.0007	.0030	.0026	.0027	.0128	.0028	.0004	.0059
.0107	.0028	.0007	.0030	.0026	.0027	.0128	.0028	.0004	.0059
.0106	.0028	.0007	.0030	.0026	.0027	.0127	.0028	.0004	.0058
.0106	.0028	.0007	.0030	.0026	.0027	.0127	.0028	.0004	.0058
.0104	.0027	.0007	.0029	.0025	.0027	.0125	.0027	.0004	.0057
.0091	.0024	.0006	.0025	.0022	.0023	.0109	.0024	.0003	.0050
.0080	.0021	.0005	.0022	.0019	.0020	.0095	.0021	.0003	.0044
.0073	.0019	.0005	.0020	.0018	.0019	.0087	.0019	.0003	.0040
.0067	.0018	.0004	.0019	.0016	.0017	.0080	.0018	.0002	.0037
.0062	.0016	.0004	.0017	.0015	.0016	.0074	.0016	.0002	.0034
.0000	.0000	.0005	.0021	.0018	.0019	.0000	.0000	.0003	.0041
.0000	.0000	.0004	.0019	.0017	.0017	.0000	.0000	.0002	.0038
.0000	.0000	.0004	.0018	.0016	.0016	.0000	.0000	.0002	.0036
.0000	.0000	.0004	.0017	.0015	.0016	.0000	.0000	.0002	.0034
.0000	.0000	.0011	.0046	.0002	.0002	.0000	.0000	.0006	.0091
.0000	.0000	.0013	.0056	.0003	.0003	.0000	.0000	.0007	.0110

Table A-11 HDV Factor For Grid Type 102 - Weekends

1	2	3	4	5	6	7	8	9	10
.0061	.0066	.0065	.1021	.0008	.0008	.0000	.0000	.0000	.0000
.0071	.0076	.0075	.1175	.0009	.0009	.0000	.0000	.0000	.0000
.0079	.0085	.0084	.1316	.0010	.0010	.0000	.0000	.0000	.0000
.0088	.0094	.0093	.1464	.0012	.0012	.0000	.0000	.0000	.0000
.0096	.0102	.0101	.1591	.0013	.0013	.0000	.0000	.0000	.0000
.0100	.0107	.0106	.1668	.0013	.0013	.0000	.0000	.0000	.0000
.0718	.0766	.0038	.0596	.0025	.0025	.0000	.0000	.0000	.0000
.0715	.0762	.0038	.0593	.0025	.0025	.0000	.0000	.0000	.0000
.0712	.0759	.0038	.0591	.0025	.0025	.0000	.0000	.0000	.0000
.0712	.0759	.0038	.0591	.0025	.0025	.0000	.0000	.0000	.0000
.0709	.0756	.0038	.0588	.0025	.0024	.0000	.0000	.0000	.0000
.0709	.0756	.0038	.0588	.0025	.0024	.0000	.0000	.0000	.0000
.0696	.0743	.0037	.0578	.0024	.0024	.0000	.0000	.0000	.0000
.0608	.0649	.0032	.0505	.0021	.0021	.0000	.0000	.0000	.0000
.0532	.0568	.0028	.0442	.0019	.0018	.0000	.0000	.0000	.0000
.0487	.0519	.0026	.0404	.0017	.0017	.0000	.0000	.0000	.0000
.0444	.0474	.0024	.0369	.0015	.0015	.0000	.0000	.0000	.0000
.0411	.0438	.0022	.0341	.0014	.0014	.0000	.0000	.0000	.0000
.0391	.0418	.0021	.0325	.0010	.0010	.0000	.0000	.0000	.0000
.0364	.0388	.0019	.0302	.0009	.0009	.0000	.0000	.0000	.0000
.0342	.0365	.0018	.0284	.0009	.0009	.0000	.0000	.0000	.0000
.0330	.0352	.0017	.0274	.0009	.0008	.0000	.0000	.0000	.0000
.0315	.0336	.0017	.0261	.0008	.0008	.0000	.0000	.0000	.0000
.0382	.0408	.0020	.0317	.0010	.0010	.0000	.0000	.0000	.0000

Table A-11 (Continued) HDV Factor For Grid Type 102 - Weekends

11	12	13	14	15	16	17	18	19	20
.0000	.0000	.0015	.0065	.0033	.0003	.0000	.0000	.0008	.0127
.0000	.0000	.0017	.0074	.0004	.0004	.0000	.0000	.0009	.0147
.0000	.0000	.0019	.0083	.0004	.0004	.0000	.0000	.0010	.0164
.0000	.0000	.0021	.0091	.0004	.0004	.0000	.0000	.0012	.0183
.0000	.0000	.0023	.0101	.0005	.0005	.0000	.0000	.0013	.0198
.0000	.0000	.0024	.0106	.0005	.0005	.0000	.0000	.0013	.0208
.0000	.0000	.0009	.0038	.0033	.0034	.0000	.0000	.0005	.0074
.0000	.0000	.0009	.0038	.0033	.0034	.0000	.0000	.0005	.0074
.0000	.0000	.0009	.0037	.0033	.0034	.0000	.0000	.0005	.0074
.0000	.0000	.0009	.0037	.0033	.0034	.0000	.0000	.0005	.0074
.0000	.0000	.0009	.0037	.0033	.0034	.0000	.0000	.0005	.0073
.0000	.0000	.0009	.0037	.0033	.0034	.0000	.0000	.0005	.0073
.0000	.0000	.0008	.0037	.0032	.0033	.0000	.0000	.0005	.0072
.0000	.0000	.0007	.0032	.0028	.0029	.0000	.0000	.0004	.0063
.0000	.0000	.0006	.0028	.0025	.0026	.0000	.0000	.0004	.0055
.0000	.0000	.0006	.0026	.0022	.0023	.0000	.0000	.0003	.0050
.0000	.0000	.0005	.0023	.0020	.0021	.0000	.0000	.0003	.0046
.0000	.0000	.0005	.0022	.0019	.0020	.0000	.0000	.0003	.0043
.0000	.0000	.0005	.0021	.0018	.0019	.0000	.0000	.0003	.0041
.0000	.0000	.0004	.0019	.0017	.0017	.0000	.0000	.0002	.0038
.0000	.0000	.0004	.0018	.0016	.0016	.0000	.0000	.0002	.0036
.0000	.0000	.0004	.0017	.0015	.0015	.0000	.0000	.0002	.0034
.0000	.0000	.0004	.0017	.0015	.0015	.0000	.0000	.0002	.0033
.0000	.0000	.0005	.0020	.0018	.0018	.0000	.0000	.0003	.0040

Table A-12 HDV Factor for Grid Type 103 - Weekdays

1	2	3	4	5	6	7	8	9	10
.0026	.0027	.0027	.0424	.0002	.0002	.0000	.0000	.0000	.0000
.0026	.0027	.0027	.0424	.0002	.0002	.0000	.0000	.0000	.0000
.0026	.0027	.0027	.0424	.0002	.0002	.0000	.0000	.0000	.0000
.0026	.0027	.0027	.0424	.0002	.0002	.0000	.0000	.0000	.0000
.0026	.0027	.0027	.0424	.0002	.0002	.0000	.0000	.0000	.0000
.0026	.0027	.0027	.0424	.0002	.0002	.0000	.0000	.0000	.0000
.0145	.0155	.0008	.0120	.0005	.0005	.0005	.0018	.0013	.0013
.0145	.0155	.0008	.0120	.0005	.0005	.0005	.0018	.0013	.0013
.0145	.0155	.0008	.0120	.0005	.0005	.0005	.0018	.0013	.0013
.0145	.0155	.0008	.0120	.0005	.0005	.0005	.0018	.0013	.0013
.0145	.0155	.0008	.0120	.0005	.0005	.0005	.0018	.0013	.0013
.0145	.0155	.0008	.0120	.0005	.0005	.0005	.0018	.0013	.0013
.0145	.0155	.0008	.0120	.0005	.0005	.0005	.0018	.0013	.0013
.0145	.0155	.0008	.0120	.0005	.0005	.0005	.0018	.0013	.0013
.0145	.0155	.0008	.0120	.0005	.0005	.0005	.0018	.0013	.0013
.0145	.0155	.0008	.0120	.0005	.0005	.0005	.0018	.0013	.0013
.0145	.0155	.0008	.0120	.0005	.0005	.0005	.0018	.0013	.0013
.0145	.0155	.0008	.0120	.0005	.0005	.0005	.0018	.0013	.0013
.0184	.0196	.0010	.0153	.0004	.0004	.0000	.0000	.0000	.0000
.0184	.0196	.0010	.0153	.0004	.0004	.0000	.0000	.0000	.0000
.0184	.0196	.0010	.0153	.0004	.0004	.0000	.0000	.0000	.0000
.0184	.0196	.0010	.0153	.0004	.0004	.0000	.0000	.0000	.0000
.0026	.0027	.0027	.0424	.0002	.0002	.0000	.0000	.0000	.0000
.0026	.0027	.0027	.0424	.0002	.0002	.0000	.0000	.0000	.0000

Table A-12 (Continued) HDV Factor For Grid Type 103 - Weekdays

11	12	13	14	15	16	17	18	19	20
.0000	.0000	.0006	.0027	.0001	.0001	.0000	.0000	.0003	.0053
.0000	.0000	.0006	.0027	.0001	.0001	.0000	.0000	.0003	.0053
.0000	.0000	.0006	.0027	.0001	.0001	.0000	.0000	.0003	.0053
.0000	.0000	.0006	.0027	.0001	.0001	.0000	.0000	.0003	.0053
.0000	.0000	.0006	.0027	.0001	.0001	.0000	.0000	.0003	.0053
.0027	.0007	.0002	.0008	.0007	.0007	.0033	.0007	.0001	.0015
.0027	.0007	.0002	.0008	.0007	.0007	.0033	.0007	.0001	.0015
.0027	.0007	.0002	.0008	.0007	.0007	.0033	.0007	.0001	.0015
.0027	.0007	.0002	.0008	.0007	.0007	.0033	.0007	.0001	.0015
.0027	.0007	.0002	.0008	.0007	.0007	.0033	.0007	.0001	.0015
.0027	.0007	.0002	.0008	.0007	.0007	.0033	.0007	.0001	.0015
.0027	.0007	.0002	.0008	.0007	.0007	.0033	.0007	.0001	.0015
.0027	.0007	.0002	.0008	.0007	.0007	.0033	.0007	.0001	.0015
.0027	.0007	.0002	.0008	.0007	.0007	.0033	.0007	.0001	.0015
.0027	.0007	.0002	.0008	.0007	.0007	.0033	.0007	.0001	.0015
.0027	.0007	.0002	.0008	.0007	.0007	.0033	.0007	.0001	.0015
.0027	.0007	.0002	.0008	.0007	.0007	.0033	.0007	.0001	.0015
.0000	.0000	.0002	.0010	.0008	.0009	.0000	.0000	.0001	.0019
.0000	.0000	.0002	.0010	.0008	.0009	.0000	.0000	.0001	.0019
.0000	.0000	.0002	.0010	.0008	.0009	.0000	.0000	.0001	.0019
.0000	.0000	.0002	.0010	.0008	.0009	.0000	.0000	.0001	.0019
.0000	.0000	.0006	.0027	.0001	.0001	.0000	.0000	.0003	.0053
.0000	.0000	.0006	.0027	.0001	.0001	.0000	.0000	.0003	.0053

Table A-14 HDV Factor For Grid Type 104 - Weekdays

1	2	3	4	5	6	7	8	9	10
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0001	.0000	.0000	.0000
.0041	.0044	.0002	.0034	.0001	.0001	.0002	.0005	.0004	.0004
.0041	.0044	.0002	.0034	.0001	.0001	.0002	.0005	.0004	.0004
.0104	.0111	.0006	.0086	.0004	.0004	.0004	.0013	.0009	.0010
.0138	.0147	.0007	.0114	.0005	.0005	.0005	.0017	.0012	.0013
.0147	.0157	.0008	.0122	.0005	.0005	.0005	.0018	.0013	.0014
.0140	.0149	.0007	.0116	.0005	.0005	.0005	.0017	.0012	.0013
.0128	.0137	.0007	.0106	.0004	.0004	.0005	.0016	.0011	.0012
.0118	.0126	.0006	.0098	.0004	.0004	.0004	.0014	.0010	.0011
.0104	.0111	.0006	.0086	.0004	.0004	.0004	.0013	.0009	.0010
.0085	.0090	.0004	.0070	.0003	.0003	.0003	.0010	.0007	.0008
.0065	.0070	.0003	.0063	.0002	.0002	.0002	.0008	.0006	.0006
.0041	.0044	.0002	.0034	.0001	.0001	.0002	.0005	.0004	.0004
.0052	.0056	.0003	.0043	.0001	.0001	.0000	.0000	.0000	.0000
.0052	.0056	.0003	.0043	.0001	.0001	.0000	.0000	.0000	.0000
.0052	.0056	.0003	.0043	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000

Table A-14 (Continued) HDV Factor For Grid Type 104 - Weekdays

	11	12	13	14	15	16	17	18	19	20
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0000	.0001	.0015
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0000	.0001	.0015
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0000	.0001	.0015
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0000	.0001	.0015
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0000	.0001	.0015
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0000	.0001	.0015
.0008	.0002	.0000	.0002	.0002	.0002	.0002	.0009	.0002	.0000	.0004
.0008	.0002	.0000	.0002	.0002	.0002	.0002	.0009	.0002	.0000	.0004
.0020	.0005	.0001	.0005	.0005	.0005	.0005	.0023	.0005	.0001	.0011
.0026	.0007	.0002	.0007	.0006	.0007	.0007	.0031	.0007	.0001	.0014
.0028	.0007	.0002	.0008	.0007	.0007	.0007	.0033	.0007	.0001	.0015
.0026	.0007	.0002	.0007	.0006	.0007	.0007	.0032	.0007	.0001	.0015
.0024	.0006	.0002	.0007	.0006	.0006	.0006	.0029	.0006	.0001	.0013
.0022	.0006	.0001	.0006	.0005	.0006	.0006	.0027	.0006	.0001	.0012
.0020	.0005	.0001	.0005	.0005	.0005	.0005	.0023	.0005	.0001	.0011
.0016	.0004	.0001	.0004	.0004	.0004	.0004	.0019	.0004	.0001	.0009
.0012	.0003	.0001	.0003	.0003	.0003	.0003	.0015	.0003	.0000	.0007
.0008	.0002	.0000	.0002	.0002	.0002	.0002	.0009	.0002	.0000	.0004
.0000	.0000	.0001	.0003	.0002	.0002	.0002	.0000	.0000	.0000	.0005
.0000	.0000	.0001	.0003	.0002	.0002	.0002	.0000	.0000	.0000	.0005
.0000	.0000	.0001	.0003	.0002	.0002	.0002	.0000	.0000	.0000	.0005
.0000	.0000	.0001	.0003	.0002	.0002	.0002	.0000	.0000	.0000	.0005
.0000	.0000	.0001	.0003	.0002	.0002	.0002	.0000	.0000	.0000	.0005
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0000	.0001	.0015
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0000	.0001	.0015

Table A-15 HDV Factor For Grid Type 104 - Weekends

1	2	3	4	5	6	7	8	9	10
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000
.0052	.0055	.0003	.0043	.0002	.0002	.0000	.0000	.0000	.0000
.0052	.0055	.0003	.0043	.0002	.0002	.0000	.0000	.0000	.0000
.0131	.0139	.0007	.0109	.0005	.0005	.0000	.0000	.0000	.0000
.0173	.0185	.0009	.0144	.0006	.0006	.0000	.0000	.0000	.0000
.0186	.0198	.0010	.0154	.0006	.0006	.0000	.0000	.0000	.0000
.0176	.0188	.0009	.0146	.0006	.0006	.0000	.0000	.0000	.0000
.0161	.0172	.0009	.0134	.0006	.0006	.0000	.0000	.0000	.0000
.0149	.0159	.0008	.0124	.0005	.0005	.0000	.0000	.0000	.0000
.0131	.0139	.0007	.0109	.0005	.0005	.0000	.0000	.0000	.0000
.0107	.0114	.0006	.0088	.0004	.0004	.0000	.0000	.0000	.0000
.0082	.0088	.0004	.0068	.0003	.0003	.0000	.0000	.0000	.0000
.0052	.0055	.0003	.0043	.0001	.0001	.0000	.0000	.0000	.0000
.0052	.0055	.0003	.0043	.0001	.0001	.0000	.0000	.0000	.0000
.0052	.0055	.0003	.0043	.0001	.0001	.0000	.0000	.0000	.0000
.0052	.0055	.0003	.0043	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000
.0007	.0008	.0008	.0120	.0001	.0001	.0000	.0000	.0000	.0000

Table A-15 (Continued) HDV Factor for Grid Type 104 - Weekends

11	12	13	14	15	16	17	18	19	20
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0001	.0015
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0001	.0015
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0001	.0015
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0001	.0015
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0001	.0015
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0001	.0015
.0000	.0000	.0000	.0003	.0002	.0002	.0000	.0000	.0000	.0005
.0000	.0000	.0000	.0003	.0002	.0002	.0000	.0000	.0000	.0005
.0000	.0000	.0002	.0007	.0006	.0006	.0000	.0000	.0001	.0014
.0000	.0000	.0002	.0009	.0008	.0008	.0000	.0000	.0001	.0018
.0000	.0000	.0002	.0010	.0009	.0009	.0000	.0000	.0001	.0019
.0000	.0000	.0002	.0009	.0008	.0008	.0000	.0000	.0001	.0018
.0000	.0000	.0002	.0008	.0007	.0008	.0000	.0000	.0001	.0017
.0000	.0000	.0002	.0008	.0007	.0007	.0000	.0000	.0001	.0015
.0000	.0000	.0002	.0007	.0006	.0006	.0000	.0000	.0001	.0014
.0000	.0000	.0001	.0006	.0005	.0005	.0000	.0000	.0001	.0011
.0000	.0000	.0001	.0004	.0004	.0004	.0000	.0000	.0001	.0009
.0000	.0000	.0001	.0003	.0002	.0002	.0000	.0000	.0000	.0005
.0000	.0000	.0001	.0003	.0002	.0002	.0000	.0000	.0000	.0005
.0000	.0000	.0001	.0003	.0002	.0002	.0000	.0000	.0000	.0005
.0000	.0000	.0001	.0003	.0002	.0002	.0000	.0000	.0000	.0005
.0000	.0000	.0001	.0003	.0002	.0002	.0000	.0000	.0000	.0005
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0001	.0015
.0000	.0000	.0002	.0008	.0000	.0000	.0000	.0000	.0001	.0015

Table A-16 Emission Factors for Exhaust Hydrocarbons (ARB)

1	2	3	4	5	6	7	8	9	10
2.17	2.93	2.93	3.73	2.93	3.73	2.93	3.73	2.17	2.93
2.17	2.93	2.93	3.73	2.93	3.73	2.93	3.73	2.17	2.93
5.5	11.0	11.0	4.15	11.0	4.15	11.0	4.15	5.5	11.0
6.1	11.0	11.0	4.15	11.0	4.15	11.0	4.15	6.1	11.0
6.7	11.7	11.7	4.15	11.7	4.15	11.7	4.15	6.7	11.7
7.3	16.2	16.2	4.15	16.2	4.15	16.2	4.15	7.3	16.2
7.9	16.2	16.2	4.15	16.2	4.15	16.2	4.15	7.9	16.2
8.5	16.2	16.2	4.15	16.2	4.15	16.2	4.15	8.5	16.2
8.7	33.6	33.6	4.15	33.6	4.15	33.6	4.15	8.7	33.6
8.7	33.6	33.6	4.15	33.6	4.15	33.6	4.15	8.7	33.6
8.7	33.6	33.6	4.15	33.6	4.15	33.6	4.15	8.7	33.6
8.7	33.6	33.6	4.15	33.6	4.15	33.6	4.15	8.7	33.6
8.7	33.6	33.6	4.15	33.6	4.15	33.6	4.15	8.7	33.6
8.7	33.6	33.6	4.15	33.6	4.15	33.6	4.15	8.7	33.6
8.7	33.6	33.6	4.15	33.6	4.15	33.6	4.15	8.7	33.6
8.7	33.6	33.6	4.15	33.6	4.15	33.6	4.15	8.7	33.6
8.7	33.6	33.6	4.15	33.6	4.15	33.6	4.15	8.7	33.6
12	12	13	14	15	16	17	18	19	20
2.93	3.73	2.93	3.73	2.17	2.93	2.93	3.73	13.1	4.6
2.93	3.73	2.93	3.73	2.17	2.93	2.93	3.73	13.2	4.6
11.0	4.15	11.0	4.15	5.5	11.0	11.0	4.15	13.3	4.6
11.0	4.15	11.0	4.15	6.1	11.0	11.0	4.15	13.9	4.6
11.7	4.15	11.7	4.15	6.7	11.7	11.7	4.15	14.0	4.6
16.2	4.15	16.2	4.15	7.3	16.2	16.2	4.15	14.1	4.6
16.2	4.15	16.2	4.15	7.9	16.2	16.2	4.15	14.2	4.6
16.2	4.15	16.2	4.15	8.5	16.2	16.2	4.15	35.4	4.6
33.6	4.15	33.6	4.15	8.7	33.6	33.6	4.15	35.4	4.6
33.6	4.15	33.6	4.15	8.7	33.6	33.6	4.15	35.4	4.6
33.6	4.15	33.6	4.15	8.7	33.6	33.6	4.15	35.4	4.6
33.6	4.15	33.6	4.15	8.7	33.6	33.6	4.15	35.4	4.6
33.6	4.15	33.6	4.15	8.7	33.6	33.6	4.15	35.4	4.6
33.6	4.15	33.6	4.15	8.7	33.6	33.6	4.15	35.4	4.6
33.6	4.15	33.6	4.15	8.7	33.6	33.6	4.15	35.4	4.6
33.6	4.15	33.6	4.15	8.7	33.6	33.6	4.15	35.4	4.6
33.6	4.15	33.6	4.15	8.7	33.6	33.6	4.15	35.4	4.6
33.6	4.15	33.6	4.15	8.7	33.6	33.6	4.15	35.4	4.6
33.6	4.15	33.6	4.15	8.7	33.6	33.6	4.15	35.4	4.6

Table A-17 Emission Factors for Carbon Monoxide (ARB)

1	2	3	4	5	6	7	8	9	10
30.3	129	129	23.7	129	23.7	129	23.7	30.3	129
30.3	129	129	23.7	129	23.7	129	23.7	30.3	129
58.0	142	142	23.7	142	23.7	142	23.7	58.0	142
60.8	142	142	23.7	142	23.7	142	23.7	63.6	142
63.6	166	166	23.7	166	23.7	166	23.7	66.4	166
66.4	191	191	23.7	191	23.7	191	23.7	69.2	191
69.2	191	191	23.7	191	23.7	191	23.7	72.0	191
72.0	191	191	23.7	191	23.7	191	23.7	117.0	191
117.0	239	239	23.7	239	23.7	239	23.7	117.0	239
117.0	239	239	23.7	239	23.7	239	23.7	117.0	239
117.0	239	239	23.7	239	23.7	239	23.7	117.0	239
117.0	239	239	23.7	239	23.7	239	23.7	117.0	239
117.0	239	239	23.7	239	23.7	239	23.7	117.0	239
117.0	239	239	23.7	239	23.7	239	23.7	117.0	239
117.0	239	239	23.7	239	23.7	239	23.7	117.0	239
117.0	239	239	23.7	239	23.7	239	23.7	117.0	239
117.0	239	239	23.7	239	23.7	239	23.7	117.0	239
11	12	13	14	15	16	17	18	19	20
129	23.7	129	23.7	30.3	129	129	23.7	167	20.8
129	23.7	129	23.7	30.3	129	129	23.7	168	20.8
142	23.7	142	23.7	58.0	142	142	23.7	169	20.8
142	23.7	142	23.7	60.8	142	142	23.7	188	20.8
166	23.7	166	23.7	63.6	166	166	23.7	188	20.8
191	23.7	191	23.7	66.4	191	191	23.7	188	20.8
191	23.7	191	23.7	69.2	191	191	23.7	188	20.8
191	23.7	191	23.7	72.0	191	191	23.7	238	20.8
239	23.7	239	23.7	117.0	239	239	23.7	238	20.8
239	23.7	239	23.7	117.0	239	239	23.7	238	20.8
239	23.7	239	23.7	117.0	239	239	23.7	238	20.8
239	23.7	239	23.7	117.0	239	239	23.7	238	20.8
239	23.7	239	23.7	117.0	239	239	23.7	238	20.8
239	23.7	239	23.7	117.0	239	239	23.7	238	20.8
239	23.7	239	23.7	117.0	239	239	23.7	238	20.8
239	23.7	239	23.7	117.0	239	239	23.7	238	20.8
239	23.7	239	23.7	117.0	239	239	23.7	238	20.8
239	23.7	239	23.7	117.0	239	239	23.7	238	20.8

Table A-25 Emission Factors for Carbon Monoxide (EPA)

1	2	3	4	5	6	7	8	9	10
27.0	152.0	152.0	28.7	152.0	28.7	152.0	28.7	27.0	155.0
28.5	153.0	153.0	28.7	153.0	28.7	153.0	28.7	28.5	156.0
47.2	169.0	169.0	28.7	169.0	28.7	169.0	28.7	47.2	172.0
49.4	188.0	188.0	28.7	188.0	28.7	188.0	28.7	49.4	188.0
61.9	188.0	188.0	28.7	188.0	21.3	188.0	28.7	61.9	188.0
63.5	188.0	188.0	28.7	188.0	21.3	188.0	28.7	63.5	188.0
63.5	188.0	188.0	28.7	188.0	21.3	188.0	28.7	63.5	188.0
78.3	238.0	238.0	28.7	238.0	21.3	238.0	28.7	78.3	238.0
80.5	238.0	238.0	28.7	238.0	21.3	238.0	28.7	80.5	238.0
108.2	238.0	238.0	28.7	238.0	21.3	238.0	28.7	108.2	238.0
108.2	238.0	238.0	28.7	238.0	21.3	238.0	28.7	108.2	238.0
125.0	238.0	238.0	28.7	238.0	21.3	238.0	28.7	125.0	238.0
125.0	238.0	238.0	28.7	238.0	21.3	238.0	28.7	125.0	238.0
125.0	238.0	238.0	28.7	238.0	21.3	238.0	28.7	125.0	238.0
125.0	238.0	238.0	28.7	238.0	21.3	238.0	28.7	125.0	238.0
125.0	238.0	238.0	28.7	238.0	21.3	238.0	28.7	125.0	238.0
125.0	238.0	238.0	28.7	238.0	21.3	238.0	28.7	125.0	238.0
125.0	238.0	238.0	28.7	238.0	21.3	238.0	28.7	125.0	238.0
11	12	13	14	15	16	17	18	19	20
152.0	28.7	152.0	28.7	27.0	152.0	152.0	28.7	167	20.8
153.0	28.7	153.0	28.7	28.5	153.0	153.0	28.7	168	20.8
169.0	28.7	169.0	28.7	47.2	169.0	169.0	28.7	169	20.8
188.0	28.7	188.0	28.7	49.4	188.0	188.0	28.7	188	20.8
188.0	28.7	188.0	28.7	61.9	188.0	188.0	28.7	188	20.8
188.0	28.7	188.0	28.7	63.5	188.0	188.0	28.7	188	20.8
188.0	28.7	188.0	28.7	63.5	188.0	188.0	28.7	188	20.8
238.0	28.7	238.0	28.7	78.3	238.0	238.0	28.7	238	20.8
238.0	28.7	238.0	28.7	80.5	238.0	238.0	28.7	238	20.8
238.0	28.7	238.0	28.7	108.2	238.0	238.0	28.7	238	20.8
238.0	28.7	238.0	28.7	108.2	238.0	238.0	28.7	238	20.8
238.0	28.7	238.0	28.7	125.0	238.0	238.0	28.7	238	20.8
238.0	28.7	238.0	28.7	125.0	238.0	238.0	28.7	238	20.8
238.0	28.7	238.0	28.7	125.0	238.0	238.0	28.7	238	20.8
238.0	28.7	238.0	28.7	125.0	238.0	238.0	28.7	238	20.8
238.0	28.7	238.0	28.7	125.0	238.0	238.0	28.7	238	20.8
238.0	28.7	238.0	28.7	125.0	238.0	238.0	28.7	238	20.8
238.0	28.7	238.0	28.7	125.0	238.0	238.0	28.7	238	20.8

Table A-26 Emission Factors for Nitrogen Oxides (EPA)

1	2	3	4	5	6	7	8	9	10
3.7	11.4	11.4	18.1	11.4	20.9	11.4	18.1	3.7	11.4
3.7	11.4	11.4	8.1	11.4	20.9	11.4	18.1	3.7	11.4
3.1	12.6	12.6	20.9	12.6	20.9	12.6	20.9	3.1	12.6
5.0	12.7	12.7	20.9	12.7	20.9	12.7	20.9	5.0	12.7
4.4	12.7	12.7	20.9	12.7	21.5	12.7	20.9	4.4	12.7
4.6	12.8	12.8	20.9	12.8	21.5	12.8	20.9	4.6	12.8
5.2	12.8	12.8	20.9	12.8	21.5	12.8	20.9	5.2	12.8
5.3	6.8	6.8	20.9	6.8	21.5	6.8	20.9	5.3	6.8
4.9	6.8	6.8	20.9	6.8	21.5	6.8	20.9	4.9	6.8
4.5	6.8	6.8	20.9	6.8	21.5	6.8	20.9	4.5	6.8
4.5	6.8	6.8	20.9	6.8	21.5	6.8	20.9	4.5	6.8
4.2	6.8	6.8	20.9	6.8	21.5	6.8	20.9	4.2	6.8
4.2	6.8	6.8	20.9	6.8	21.5	6.8	20.9	4.2	6.8
4.2	6.8	6.8	20.9	6.8	21.5	6.8	20.9	4.2	6.8
4.2	6.8	6.8	20.9	6.8	21.5	6.8	20.9	4.2	6.8
4.2	6.8	6.8	20.9	6.8	21.5	6.8	20.9	4.2	6.8
4.2	6.8	6.8	20.9	6.8	21.5	6.8	20.9	4.2	6.8
4.2	6.8	6.8	20.9	6.8	21.5	6.8	20.9	4.2	6.8
11	12	13	14	15	16	17	18	19	20
11.4	18.1	11.4	18.1	3.7	11.4	11.4	18.1	12.5	20.9
11.4	18.1	11.4	18.1	3.7	11.4	11.4	18.1	12.6	20.9
12.6	20.9	12.6	20.9	3.1	12.6	12.6	20.9	12.6	20.9
12.7	20.9	12.7	20.9	5.0	12.7	12.7	20.9	12.7	20.9
12.7	20.9	12.7	20.9	4.4	12.7	12.7	20.9	12.7	20.9
12.8	20.9	12.8	20.9	4.6	12.8	12.8	20.9	12.8	20.9
12.8	20.9	12.8	20.9	5.2	12.8	12.8	20.9	12.8	20.9
6.8	20.9	6.8	20.9	5.3	6.8	6.8	20.9	6.8	20.9
6.8	20.9	6.8	20.9	4.9	6.8	6.8	20.9	6.8	20.9
6.8	20.9	6.8	20.9	4.5	6.8	6.8	20.9	6.8	20.9
6.8	20.9	6.8	20.9	4.5	6.8	6.8	20.9	6.8	20.9
6.8	20.9	6.8	20.9	4.2	6.8	6.8	20.9	6.8	20.9
6.8	20.9	6.8	20.9	4.2	6.8	6.8	20.9	6.8	20.9
6.8	20.9	6.8	20.9	4.2	6.8	6.8	20.9	6.8	20.9
6.8	20.9	6.8	20.9	4.2	6.8	6.8	20.9	6.8	20.9
6.8	20.9	6.8	20.9	4.2	6.8	6.8	20.9	6.8	20.9
6.8	20.9	6.8	20.9	4.2	6.8	6.8	20.9	6.8	20.9
6.8	20.9	6.8	20.9	4.2	6.8	6.8	20.9	6.8	20.9
6.8	20.9	6.8	20.9	4.2	6.8	6.8	20.9	6.8	20.9
6.8	20.9	6.8	20.9	4.2	6.8	6.8	20.9	6.8	20.9

APPENDIX B
TOTAL TRAFFIC AND BASIN DATA

This section lists the data that were used to characterize total traffic flow and the traffic patterns in the South Coast Air Basin. The significance of these data is explained in the text of the report and in [2]. The formats are either explained in Appendix A or are self-explanatory.

Table B-1. Season and Weekday/Weekend Disaggregating Factors

SEASON FACTORS	NON - FREEWAY GRID SQUARE TYPE					FREEWAY GRID SQUARE TYPE				
	1	2	3	4	5	1	2	3	4	5
WINTER	.9740	.9740	.9740	1.0180	1.0180	.9500	.9752	.8888	.9452	.8368
SPRING	.9960	.9960	.9960	1.0860	1.0860	1.0076	1.0296	1.0360	1.0340	1.0128
SUMMER	1.0264	1.0264	1.0264	.9160	.9160	1.0428	1.0488	1.0636	1.0428	1.1988
FALL	1.0036	1.0036	1.0036	.9800	.9800	.9996	.9464	.9916	.9780	.9516
WEEKDAY - WEEKEND FACTORS										
WINTER										
WEEKDAY	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
WEEKEND	.7722	.7722	.7722	.8830	.8830	.8356	.8187	.7341	.9540	1.2040
SPRING										
WEEKDAY	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
WEEKEND	.7765	.7765	.7765	.8512	.8512	.8512	.8378	.7942	.9652	1.2845
SUMMER										
WEEKDAY	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
WEEKEND	.7895	.7895	.7895	.8693	.8693	.8592	.8457	.8086	.9670	1.1410
FALL										
WEEKDAY	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
WEEKEND	.7510	.7510	.7510	.8245	.8245	.8211	.8112	.7447	.9375	1.2565

Table B-2. Weekday Hourly Disaggregating Factors

WEEKDAY HOUR	NON - FREEWAY GRID SQUARE TYPE					FREEWAY GRID SQUARE TYPE				
	1	2	3	4	5	1	2	3	4	5
1	.015	.015	.015	.006	.006	.016	.014	.013	.011	.014
2	.008	.008	.008	.004	.004	.008	.008	.007	.007	.012
3	.005	.005	.005	.003	.003	.005	.005	.005	.006	.010
4	.004	.004	.004	.003	.003	.004	.004	.005	.005	.010
5	.005	.005	.005	.006	.006	.005	.005	.006	.007	.013
6	.014	.014	.014	.020	.020	.015	.013	.016	.013	.021
7	.052	.052	.052	.043	.043	.057	.049	.057	.034	.036
8	.070	.070	.070	.051	.051	.075	.069	.084	.071	.047
9	.063	.063	.063	.050	.050	.066	.064	.066	.061	.052
10	.055	.055	.055	.053	.053	.053	.058	.048	.053	.059
11	.052	.052	.052	.062	.062	.050	.055	.046	.054	.063
12	.054	.054	.054	.069	.069	.051	.056	.048	.057	.062
13	.054	.054	.054	.071	.071	.051	.056	.048	.059	.059
14	.056	.056	.056	.069	.069	.052	.057	.049	.058	.060
15	.062	.062	.062	.074	.074	.059	.063	.054	.063	.062
16	.072	.072	.072	.082	.082	.072	.069	.074	.072	.068
17	.073	.073	.073	.080	.080	.072	.067	.086	.078	.073
18	.070	.070	.070	.068	.068	.070	.065	.084	.077	.067
19	.058	.058	.058	.053	.053	.059	.057	.059	.057	.054
20	.043	.043	.043	.043	.043	.044	.046	.041	.044	.043
21	.033	.033	.033	.035	.035	.033	.034	.031	.036	.036
22	.031	.031	.031	.026	.026	.030	.031	.029	.034	.032
23	.029	.029	.029	.018	.018	.029	.030	.024	.025	.026
24	.024	.024	.024	.011	.011	.024	.025	.020	.019	.020

Table B-3. Weekend Hourly Disaggregating Factors

WEEKEND HOUR	NON - FREEWAY GRID SQUARE TYPE					FREEWAY GRID SQUARE TYPE				
	1	2	3	4	5	1	2	3	4	5
1	.031	.031	.031	.014	.014	.029	.031	.027	.019	.016
2	.021	.021	.021	.009	.009	.019	.021	.018	.013	.012
3	.017	.017	.017	.005	.005	.015	.016	.013	.010	.009
4	.009	.009	.009	.003	.003	.008	.008	.008	.007	.008
5	.007	.007	.007	.005	.005	.006	.006	.006	.006	.008
6	.009	.009	.009	.010	.010	.009	.009	.010	.009	.012
7	.018	.018	.018	.020	.020	.019	.018	.020	.018	.020
8	.026	.026	.026	.031	.031	.027	.027	.028	.030	.028
9	.035	.035	.035	.044	.044	.036	.036	.037	.039	.041
10	.044	.044	.044	.059	.059	.046	.045	.048	.053	.053
11	.052	.052	.052	.072	.072	.055	.054	.056	.061	.063
12	.060	.060	.060	.079	.079	.062	.062	.066	.066	.066
13	.066	.066	.066	.080	.080	.065	.067	.066	.068	.065
14	.066	.066	.066	.077	.077	.064	.066	.066	.068	.065
15	.064	.064	.064	.076	.076	.063	.064	.067	.070	.070
16	.067	.067	.067	.076	.076	.066	.066	.069	.073	.075
17	.066	.066	.066	.072	.072	.065	.066	.070	.074	.078
18	.064	.064	.064	.065	.065	.065	.065	.068	.072	.075
19	.063	.063	.063	.056	.056	.065	.062	.061	.062	.064
20	.056	.056	.056	.046	.046	.057	.056	.053	.052	.052
21	.045	.045	.045	.036	.036	.046	.045	.045	.042	.041
22	.040	.040	.040	.028	.028	.040	.039	.037	.035	.033
23	.039	.039	.039	.021	.021	.038	.038	.032	.029	.026
24	.035	.035	.035	.018	.018	.034	.035	.027	.023	.019

Table B-4. Coefficients for Light Duty Vehicle Speed Correction Factors for the SCAB - Freeway*

MODEL YEARS	HC**			CO**			NOX**	
	A	B	C	A	B	C	A	B
57-65	0.857	-5.33×10^{-2}	4.89×10^{-4}	0.860	-5.34×10^{-2}	4.87×10^{-4}	0.728	1.39×10^{-2}
66-67	0.806	-4.94×10^{-2}	4.23×10^{-4}	0.907	-5.69×10^{-2}	5.43×10^{-4}	0.733	1.36×10^{-2}
1968	0.969	-5.93×10^{-2}	5.03×10^{-4}	0.949	-5.85×10^{-2}	5.15×10^{-4}	0.775	1.15×10^{-2}
1969	0.946	-5.83×10^{-2}	5.12×10^{-4}	1.25	-7.61×10^{-2}	6.32×10^{-4}	0.775	1.15×10^{-2}
1970	0.765	-4.76×10^{-2}	4.38×10^{-4}	1.23	-7.46×10^{-2}	6.06×10^{-4}	0.698	1.54×10^{-2}
1971	0.793	-4.91×10^{-2}	4.40×10^{-4}	1.15	-6.93×10^{-2}	5.51×10^{-4}	0.679	1.64×10^{-2}

* Equations should not be extended beyond the range of the data (8.74 to 55.27 miles per hour)

** $VIPS = e^{(A+BS+CS^2)}$

*** $VIPS = A+BS$

Table B-5. Coefficients for Light Duty Vehicle Speed Correction Factors for the SCAB - Non-Freeway*

MODEL YEARS	HC**			CO**			NOX**	
		B	C	A	B	C	A	B
57-65	1.20	-8.01×10^{-2}	9.56×10^{-4}	1.18	-7.85×10^{-2}	9.28×10^{-4}	0.912	0.447×10^{-2}
66-67	1.03	-6.72×10^{-2}	7.37×10^{-4}	1.34	-8.14×10^{-2}	1.17×10^{-3}	0.927	0.372×10^{-2}
1968	1.22	-7.89×10^{-2}	8.44×10^{-4}	1.27	-8.42×10^{-2}	9.82×10^{-4}	0.973	1.36×10^{-3}
1969	1.20	-7.79×10^{-2}	8.64×10^{-4}	1.64	-0.108	1.23×10^{-3}	1.00	2.49×10^{-5}
1970	1.12	-7.46×10^{-2}	9.01×10^{-4}	1.64	-0.107	1.19×10^{-3}	0.914	4.39×10^{-3}
1971	1.12	-7.43×10^{-2}	8.69×10^{-4}	1.49	-9.61×10^{-2}	1.03×10^{-3}	0.912	4.51×10^{-3}

* Equations should not be extended beyond the usage of the data (14.75 to 36.77 miles per hour)

** $VIPS = e^{(A+BS+CS^2)}$

*** $VIPS = A+BS$

Table B-6. Seasonal Temperature Variations

Season	Average	High	Low
Winter	54°F	64°F	45°F
Spring	59°F	67°F	52°F
Summer	69°F	76°F	62°F
Fall	65°F	73°F	57°F

APPENDIX C
TRUCK DATA FROM OLSON CHASE CAR PROGRAM

This section contains the data collected on each truck during the Olson chase car program.

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	NAME AND ADDRESS OF REGISTERED OWNER Vehicle 1
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2	VEHICLE DESCRIPTION
A. MANUFACTURER	<u>GMC</u>
B. MODEL YEAR	<u>75</u>
C. BODY TYPE (PANEL, DUMP, ETC.)	<u>Tractor & Semi</u>
D. NUMBER OF AXLES AND AXLE ARRANGEMENT ¹	<u>2</u>
E. GROSS WEIGHT ²	<u>31,000</u>
F. EMPTY WEIGHT ²	<u>23,000</u>
G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	<u>California</u>
H. ADD-ON STREAMLINING DEVICES	<u></u>
I. TIRE SIZE ³	<u>900 X 120</u>
J. NUMBER OF TIRES	<u>6</u>
K. BRAKE TYPE (AIR OR HYDRAULIC)	<u>Air</u>
L. NUMBER OF EXHAUST PIPES	<u>2</u>
M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	<u>2¹</u>
N. BASE OF OPERATION (CITY, COUNTY)	<u>Orange County</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE
² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER
³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	NAME AND ADDRESS OF REGISTERED OWNER
Vehicle 2	

2	VEHICLE DESCRIPTION
A. MANUFACTURER	<u>GMC</u>
B. MODEL YEAR	<u>1976</u>
C. BODY TYPE (PANEL, DUMP, ETC.)	<u>Van</u>
D. NUMBER OF AXLES AND AXLE ARRANGEMENT ¹	<u>2</u>
E. GROSS WEIGHT ²	<u>22,000 approx.</u>
F. EMPTY WEIGHT ²	<u>11,000</u>
G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	<u>California</u>
H. ADD-ON STREAMLINING DEVICES	<u></u>
I. TIRE SIZE ³	<u>900 X 20</u>
J. NUMBER OF TIRES	<u>6</u>
K. BRAKE TYPE (AIR OR HYDRAULIC)	<u>Hydraulic</u>
L. NUMBER OF EXHAUST PIPES	<u>2</u>
M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	<u>12'</u>
N. BASE OF OPERATION (CITY, COUNTY)	<u>Orange County</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE
² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER
³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1 NAME AND ADDRESS OF REGISTERED OWNER

Vehicle 3

2 VEHICLE DESCRIPTION

A. MANUFACTURER	<u>International</u>
B. MODEL YEAR	<u>1973</u>
C. BODY TYPE (PANEL, DUMP, ETC.)	<u>Closed Van</u>
D. NUMBER OF AXLES AND AXLE ARRANGEMENT ¹	<u>2</u>
E. GROSS WEIGHT ²	<u>14,000</u>
F. EMPTY WEIGHT ²	<u>8,900</u>
G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	<u>California</u>
H. ADD-ON STREAMLINING DEVICES	<u></u>
I. TIRE SIZE ³	<u>825 X 20</u>
J. NUMBER OF TIRES	<u>6</u>
K. BRAKE TYPE (AIR OR HYDRAULIC)	<u>Hydraulic</u>
L. NUMBER OF EXHAUST PIPES	<u>1</u>
M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	<u>18"</u>
N. BASE OF OPERATION (CITY, COUNTY)	<u>Orange County & Los Angeles</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE

² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER

³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	NAME AND ADDRESS OF REGISTERED OWNER
	Vehicle 4

2	VEHICLE DESCRIPTION
A. MANUFACTURER	<u>Ford</u>
B. MODEL YEAR	<u>1970</u>
C. BODY TYPE (PANEL, DUMP, ETC.)	<u>Tractor</u>
D. NUMBER OF AXLES AND	<u>2</u>
AXLE ARRANGEMENT ¹	<u></u>
E. GROSS WEIGHT ²	<u>30,000</u>
F. EMPTY WEIGHT ²	<u>13,000</u>
G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	<u>California</u>
H. ADD-ON STREAMLINING DEVICES	<u></u>
I. TIRE SIZE ³	<u>1000 X 20</u>
J. NUMBER OF TIRES	<u>6</u>
K. BRAKE TYPE (AIR OR HYDRAULIC)	<u>Air</u>
L. NUMBER OF EXHAUST PIPES	<u>2</u>
M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	<u>2 1/2</u>
N. BASE OF OPERATION (CITY, COUNTY)	<u>Anaheim Orange</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE
² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER
³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	NAME AND ADDRESS OF REGISTERED OWNER
	Vehicle 5

2	VEHICLE DESCRIPTION
A.	MANUFACTURER <u>Mack</u>
B.	MODEL YEAR <u>1974</u>
C.	BODY TYPE (PANEL, DUMP, ETC.) <u>Dump</u>
D.	NUMBER OF AXLES AND <u>3 Truck</u>
	AXLE ARRANGEMENT ¹ <u>2 Trailer</u>
E.	GROSS WEIGHT ² <u>80,000 lbs.</u>
F.	EMPTY WEIGHT ² <u>28,540</u>
G.	STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE) <u>California</u>
H.	ADD-ON STREAMLINING DEVICES _____
I.	TIRE SIZE ³ <u>1000 X 20"</u>
J.	NUMBER OF TIRES <u>18</u>
K.	BRAKE TYPE (AIR OR HYDRAULIC) <u>Air</u>
L.	NUMBER OF EXHAUST PIPES <u>1</u>
M.	APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND <u>11.'6"</u>
N.	BASE OF OPERATION (CITY, COUNTY) <u>Irwindale Los Angeles</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE
² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER
³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA (CONTINUED)

3	POWER UNIT DESCRIPTION	
	A. MANUFACTURER	<u>Mack</u>
	B. MODEL OF ENGINE	<u>Endt 675</u>
	C. SERIAL NUMBER	<u>21682</u>
	D. FUEL TYPE	<u>Diesel</u>
	E. RATED HORSEPOWER AND RPM	<u>285 H.P. 2,100</u>
	F. NUMBER OF CYLINDERS	<u>6</u>
	G. ACCUMULATED ENGINE HOURS/MILEAGE	<u>118,000 miles</u>
	H. EMISSION CONTROL DEVICES	<u>California</u>
	I. TURBOCHARGED, SUPERCHARGED OR NATURAL ASPIRATION	<u>Turbocharged</u>

4	HISTORICAL INFORMATION	
	A. MAJOR USE (CATEGORIES)	<u>Construction</u>
	B. PRINCIPAL PRODUCTS CARRIED	<u>Rock & Sand</u>
	C. AREA OF OPERATION	<u>Los Angeles & Orange Count</u>
	D. AVERAGE MILEAGE PER YEAR	<u>60,000</u>
	E. TOTAL ACCUMULATED MILEAGE	<u>118,000</u>
	F. RANGE WITHOUT REFUELING	<u>350</u>
	G. FUEL CONSUMPTION (ANNUAL, MONTHLY, DAILY)	<u>60 gallons per day</u>
	H. MILEAGE DISTRIBUTION(%)	
	LOCAL	<u>99</u>
	LONG-HAUL	<u>.01</u>
	I. FREQUENCY OF NORMAL TIRE REPLACEMENT	<u>40,000 Miles</u>
	J. FOR GASOLINE POWERED	
	FREQUENCY OF TUNEUP	<u> </u>
	MILEAGE SINCE LAST TUNEUP	<u> </u>
	K. FOR DIESEL POWERED	
	FREQUENCY OF MINOR MAINTENANCE	<u>As needed</u>
	MILEAGE SINCE LAST MINOR MAINTENANCE	<u> </u>
	L. IS A MAINTENANCE LOG AVAILABLE?	<u>Yes</u>
	M. WHO PERFORMS MAINTENANCE? (DEALER, INDEPENDENT GARAGE)	<u>Owner</u>

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	<p>NAME AND ADDRESS OF REGISTERED OWNER</p> <p>Vehicle 6</p>
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2	<p>VEHICLE DESCRIPTION</p> <p>A. MANUFACTURER <u>Ford</u></p> <p>B. MODEL YEAR <u>F 7000 1969</u></p> <p>C. BODY TYPE (PANEL, DUMP, ETC.) _____</p> <p>D. NUMBER OF AXLES AND <u>2</u></p> <p> AXLE ARRANGEMENT¹ _____</p> <p>E. GROSS WEIGHT² <u>24,485</u></p> <p>F. EMPTY WEIGHT² <u>8,880</u></p> <p>G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE) <u>California</u></p> <p>H. ADD-ON STREAMLINING DEVICES _____</p> <p>I. TIRE SIZE³ <u>1000 + 20</u></p> <p>J. NUMBER OF TIRES <u>6</u></p> <p>K. BRAKE TYPE (AIR OR HYDRAULIC) <u>Air</u></p> <p>L. NUMBER OF EXHAUST PIPES <u>1</u></p> <p>M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND <u>20"</u></p> <p>N. BASE OF OPERATION (CITY, COUNTY) _____</p>
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¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE

² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER

³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	NAME AND ADDRESS OF REGISTERED OWNER
	Vehicle 8

2	VEHICLE DESCRIPTION
A. MANUFACTURER	<u>GMC</u>
B. MODEL YEAR	<u>1969</u>
C. BODY TYPE (PANEL, DUMP, ETC.)	<u>Semi Tractor & Trailer</u>
D. NUMBER OF AXLES AND	<u>1</u>
AXLE ARRANGEMENT ¹	_____
E. GROSS WEIGHT ²	<u>16,550</u>
F. EMPTY WEIGHT ²	_____
G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	<u>California</u>
H. ADD-ON STREAMLINING DEVICES	_____
I. TIRE SIZE ³	_____
J. NUMBER OF TIRES	<u>10</u>
K. BRAKE TYPE (AIR OR HYDRAULIC)	<u>Air</u>
L. NUMBER OF EXHAUST PIPES	<u>1</u>
M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	<u>4'</u>
N. BASE OF OPERATION (CITY, COUNTY)	<u>Local</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE
² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER
³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA (CONTINUED)

3	POWER UNIT DESCRIPTION	
	A. MANUFACTURER	<u>GMC</u>
	B. MODEL OF ENGINE	_____
	C. SERIAL NUMBER	_____
	D. FUEL TYPE	<u>Gas</u>
	E. RATED HORSEPOWER AND RPM	_____
	F. NUMBER OF CYLINDERS	_____
	G. ACCUMULATED ENGINE HOURS/MILEAGE	_____
	H. EMISSION CONTROL DEVICES	_____
	I. TURBOCHARGED, SUPERCHARGED OR NATURAL ASPIRATION	<u>Natural Aspiration</u>
4	HISTORICAL INFORMATION	
	A. MAJOR USE (CATEGORIES)	_____
	B. PRINCIPAL PRODUCTS CARRIED	_____
	C. AREA OF OPERATION	_____
	D. AVERAGE MILEAGE PER YEAR	_____
	E. TOTAL ACCUMULATED MILEAGE	_____
	F. RANGE WITHOUT REFUELING	_____
	G. FUEL CONSUMPTION (ANNUAL, MONTHLY, DAILY)	_____
	H. MILEAGE DISTRIBUTION(%)	
	LOCAL	_____
	LONG-HAUL	_____
	I. FREQUENCY OF NORMAL TIRE REPLACEMENT	_____
	J. FOR GASOLINE POWERED	
	FREQUENCY OF TUNEUP	_____
	MILEAGE SINCE LAST TUNEUP	_____
	K. FOR DIESEL POWERED	
	FREQUENCY OF MINOR MAINTENANCE	_____
	MILEAGE SINCE LAST MINOR MAINTENANCE	
	L. IS A MAINTENANCE LOG AVAILABLE?	_____
	M. WHO PERFORMS MAINTENANCE? (DEALER, INDEPENDENT GARAGE)	_____

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	NAME AND ADDRESS OF REGISTERED OWNER Vehicle 9
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2	VEHICLE DESCRIPTION
A. MANUFACTURER	<u>GMC</u>
B. MODEL YEAR	<u>1972</u>
C. BODY TYPE (PANEL, DUMP, ETC.)	<u>Truck-Trailer</u>
D. NUMBER OF AXLES AND	<u>5</u>
AXLE ARRANGEMENT ¹	<u>0 00 00</u>
E. GROSS WEIGHT ²	<u>62,800</u>
F. EMPTY WEIGHT ²	<u>29,810</u>
G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	<u>California</u>
H. ADD-ON STREAMLINING DEVICES	<u>None</u>
I. TIRE SIZE ³	<u>1000 X 20</u>
J. NUMBER OF TIRES	<u>18</u>
K. BRAKE TYPE (AIR OR HYDRAULIC)	<u>Air</u>
L. NUMBER OF EXHAUST PIPES	<u>2</u>
M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	<u>12'6"</u>
N. BASE OF OPERATION (CITY, COUNTY)	<u>Both</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE
² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER
³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA (CONTINUED)

3	POWER UNIT DESCRIPTION	
A.	MANUFACTURER	<u>Detroit</u>
B.	MODEL OF ENGINE	<u>8V-71</u>
C.	SERIAL NUMBER	<u>AV533974</u>
D.	FUEL TYPE	<u>Diesel</u>
E.	RATED HORSEPOWER AND RPM	<u>290 @ 2100</u>
F.	NUMBER OF CYLINDERS	<u>8</u>
G.	ACCUMULATED ENGINE HOURS/MILEAGE	<u>438,000 Miles</u>
H.	EMISSION CONTROL DEVICES	<u>None</u>
I.	TURBOCHARGED, SUPERCHARGED OR NATURAL ASPIRATION	<u>Supercharged</u>

4	HISTORICAL INFORMATION	
A.	MAJOR USE (CATEGORIES)	<u>Local Hauls</u>
B.	PRINCIPAL PRODUCTS CARRIED	<u>All Food Products</u>
C.	AREA OF OPERATION	<u>Southern California</u>
D.	AVERAGE MILEAGE PER YEAR	<u>80,000</u>
E.	TOTAL ACCUMULATED MILEAGE	<u>438,000</u>
F.	RANGE WITHOUT REFUELING	<u>625 Miles</u>
G.	FUEL CONSUMPTION (ANNUAL, MONTHLY, DAILY)	<u>33 gallons daily</u>
H.	MILEAGE DISTRIBUTION(%)	
	LOCAL	<u>100%</u>
	LONG-HAUL	<u> </u>
I.	FREQUENCY OF NORMAL TIRE REPLACEMENT	<u>150,000 Miles</u>
J.	FOR GASOLINE POWERED	
	FREQUENCY OF TUNEUP	<u> </u>
	MILEAGE SINCE LAST TUNEUP	<u> </u>
K.	FOR DIESEL POWERED	
	FREQUENCY OF MINOR MAINTENANCE	<u>100,000 Miles</u>
	MILEAGE SINCE LAST MINOR MAINTENANCE	<u>68,000 Miles</u>
L.	IS A MAINTENANCE LOG AVAILABLE?	<u>Yes</u>
M.	WHO PERFORMS MAINTENANCE? (DEALER, INDEPENDENT GARAGE)	<u>Alpha Beta Garage</u>

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	NAME AND ADDRESS OF REGISTERED OWNER Vehicle 10
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2	VEHICLE DESCRIPTION
A. MANUFACTURER	<u>Kurb Olson Ford</u>
B. MODEL YEAR	<u>1969</u>
C. BODY TYPE (PANEL, DUMP, ETC.)	<u>Van P400</u>
D. NUMBER OF AXLES AND	<u>2</u>
AXLE ARRANGEMENT ¹	<u></u>
E. GROSS WEIGHT ²	<u>7000</u>
F. EMPTY WEIGHT ²	<u>5820</u>
G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	<u>California</u>
H. ADD-ON STREAMLINING DEVICES	<u>None</u>
I. TIRE SIZE ³	<u></u>
J. NUMBER OF TIRES	<u>6</u>
K. BRAKE TYPE (AIR OR HYDRAULIC)	<u></u>
L. NUMBER OF EXHAUST PIPES	<u>1</u>
M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	<u>12 inches</u>
N. BASE OF OPERATION (CITY, COUNTY)	<u>Orange County</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE
² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER
³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA (CONTINUED)

3	POWER UNIT DESCRIPTION	
	A. MANUFACTURER	<u>Ford</u>
	B. MODEL OF ENGINE	_____
	C. SERIAL NUMBER	_____
	D. FUEL TYPE	<u>gasoline</u>
	E. RATED HORSEPOWER AND RPM	_____
	F. NUMBER OF CYLINDERS	_____
	G. ACCUMULATED ENGINE HOURS/MILEAGE	_____
	H. EMISSION CONTROL DEVICES	_____
	I. TURBOCHARGED, SUPERCHARGED OR NATURAL ASPIRATION	_____
4	HISTORICAL INFORMATION	
	A. MAJOR USE (CATEGORIES)	<u>Delivery</u>
	B. PRINCIPAL PRODUCTS CARRIED	<u>Baked goods</u>
	C. AREA OF OPERATION	<u>Orange County</u>
	D. AVERAGE MILEAGE PER YEAR	_____
	E. TOTAL ACCUMULATED MILEAGE	_____
	F. RANGE WITHOUT REFUELING	_____
	G. FUEL CONSUMPTION (ANNUAL, MONTHLY, DAILY)	_____
	H. MILEAGE DISTRIBUTION(%)	
	LOCAL	_____
	LONG-HAUL	_____
	I. FREQUENCY OF NORMAL TIRE REPLACEMENT	_____
	J. FOR GASOLINE POWERED	
	FREQUENCY OF TUNEUP	_____
	MILEAGE SINCE LAST TUNEUP	_____
	K. FOR DIESEL POWERED	
	FREQUENCY OF MINOR MAINTENANCE	_____
	MILEAGE SINCE LAST MINOR MAINTENANCE	_____
	L. IS A MAINTENANCE LOG AVAILABLE?	_____
	M. WHO PERFORMS MAINTENANCE? (DEALER, INDEPENDENT GARAGE)	_____

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	<p>NAME AND ADDRESS OF REGISTERED OWNER</p> <p>Vehicle 11</p>
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2	<p>VEHICLE DESCRIPTION</p> <p>A. MANUFACTURER <u>Weiss</u></p> <p>B. MODEL YEAR _____</p> <p>C. BODY TYPE (PANEL, DUMP, ETC.) <u>Pickup</u></p> <p>D. NUMBER OF AXLES AND <u>1</u> AXLE ARRANGEMENT¹ _____</p> <p>E. GROSS WEIGHT² <u>7600 lbs.</u></p> <p>F. EMPTY WEIGHT² <u>5,800 lbs.</u></p> <p>G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE) <u>California</u></p> <p>H. ADD-ON STREAMLINING DEVICES <u>None</u></p> <p>I. TIRE SIZE³ <u>750-16</u></p> <p>J. NUMBER OF TIRES <u>4</u></p> <p>K. BRAKE TYPE (AIR OR HYDRAULIC) <u>Hydraulic-Disc</u></p> <p>L. NUMBER OF EXHAUST PIPES <u>1</u></p> <p>M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND <u>24"</u></p> <p>N. BASE OF OPERATION (CITY, COUNTY) <u>Orange County</u></p>
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¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE

² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER

³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	<p>NAME AND ADDRESS OF REGISTERED OWNER</p> <p>Vehicle 12</p>
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2	<p>VEHICLE DESCRIPTION</p>
A. MANUFACTURER	<u>White Freight</u>
B. MODEL YEAR	<u>1969</u>
C. BODY TYPE (PANEL, DUMP, ETC.)	<u>Cabover</u>
D. NUMBER OF AXLES AND	<u>3 Axle</u>
AXLE ARRANGEMENT ¹	<u>2 Axle Pull Trailer</u>
E. GROSS WEIGHT ²	<u>80,000</u>
F. EMPTY WEIGHT ²	<u>23,300</u>
G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	<u>California</u>
H. ADD-ON STREAMLINING DEVICES	<u></u>
I. TIRE SIZE ³	<u>11-22-5</u>
J. NUMBER OF TIRES	<u>18</u>
K. BRAKE TYPE (AIR OR HYDRAULIC)	<u>Air</u>
L. NUMBER OF EXHAUST PIPES	<u>1</u>
M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	<u>10'</u>
N. BASE OF OPERATION (CITY, COUNTY)	<u>Long Beach</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE
² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER
³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA (CONTINUED)

3	POWER UNIT DESCRIPTION	
A. MANUFACTURER		Cummins
B. MODEL OF ENGINE		335
C. SERIAL NUMBER		
D. FUEL TYPE		Diesel
E. RATED HORSEPOWER AND RPM		335 at 2100
F. NUMBER OF CYLINDERS		6
G. ACCUMULATED ENGINE HOURS/MILEAGE		50,000
H. EMISSION CONTROL DEVICES		None
I. TURBOCHARGED, SUPERCHARGED OR NATURAL ASPIRATION		Turbocharged

4	HISTORICAL INFORMATION	
A. MAJOR USE (CATEGORIES)		Hire
B. PRINCIPAL PRODUCTS CARRIED		Petroleum
C. AREA OF OPERATION		State Wide
D. AVERAGE MILEAGE PER YEAR		250,000
E. TOTAL ACCUMULATED MILEAGE		million
F. RANGE WITHOUT REFUELING		550 miles
G. FUEL CONSUMPTION (ANNUAL, MONTHLY, DAILY)		4.825 mpg
H. MILEAGE DISTRIBUTION(%)		
LOCAL		40
LONG-HAUL		60
I. FREQUENCY OF NORMAL TIRE REPLACEMENT		35,000
J. FOR GASOLINE POWERED		
FREQUENCY OF TUNEUP		
MILEAGE SINCE LAST TUNEUP		
K. FOR DIESEL POWERED		
FREQUENCY OF MINOR MAINTENANCE		Daily
MILEAGE SINCE LAST MINOR MAINTENANCE		100 miles
L. IS A MAINTENANCE LOG AVAILABLE?		
M. WHO PERFORMS MAINTENANCE? (DEALER, INDEPENDENT GARAGE)		Shop

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	NAME AND ADDRESS OF REGISTERED OWNER Vehicle 13
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2	VEHICLE DESCRIPTION
A. MANUFACTURER	GMC
B. MODEL YEAR	1976
C. BODY TYPE (PANEL, DUMP, ETC.)	VAN
D. NUMBER OF AXLES AND AXLE ARRANGEMENT ¹	2
E. GROSS WEIGHT ²	
F. EMPTY WEIGHT ²	3/4 TON
G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	CALIFORNIA
H. ADD-ON STREAMLINING DEVICES	NONE
I. TIRE SIZE ³	78 X 15
J. NUMBER OF TIRES	4
K. BRAKE TYPE (AIR OR HYDRAULIC)	HYDRAULIC
L. NUMBER OF EXHAUST PIPES	1
M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	12 INCHES
N. BASE OF OPERATION (CITY, COUNTY)	LOS ANGELES

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE
² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER
³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA (CONTINUED)

3	POWER UNIT DESCRIPTION	
	A. MANUFACTURER	GMC
	B. MODEL OF ENGINE	350
	C. SERIAL NUMBER	_____
	D. FUEL TYPE	GASOLINE
	E. RATED HORSEPOWER AND RPM	_____
	F. NUMBER OF CYLINDERS	8
	G. ACCUMULATED ENGINE HOURS/MILEAGE	17334
	H. EMISSION CONTROL DEVICES	STANDARD
	I. TURBOCHARGED, SUPERCHARGED OR NATURAL ASPIRATION	NATURAL
4	HISTORICAL INFORMATION	
	A. MAJOR USE (CATEGORIES)	MAIL DELIVERY
	B. PRINCIPAL PRODUCTS CARRIED	MAIL
	C. AREA OF OPERATION	LOS ANGELES
	D. AVERAGE MILEAGE PER YEAR	_____
	E. TOTAL ACCUMULATED MILEAGE	17334
	F. RANGE WITHOUT REFUELING	_____
	G. FUEL CONSUMPTION (ANNUAL, MONTHLY, DAILY)	_____
	H. MILEAGE DISTRIBUTION(%)	
	LOCAL	100 %
	LONG-HAUL	_____
	I. FREQUENCY OF NORMAL TIRE REPLACEMENT	20,000 miles
	J. FOR GASOLINE POWERED	
	FREQUENCY OF TUNEUP	3 MONTHS
	MILEAGE SINCE LAST TUNEUP	_____
	K. FOR DIESEL POWERED	
	FREQUENCY OF MINOR MAINTENANCE	_____
	MILEAGE SINCE LAST MINOR MAINTENANCE	_____
	L. IS A MAINTENANCE LOG AVAILABLE?	_____
	M. WHO PERFORMS MAINTENANCE? (DEALER, INDEPENDENT GARAGE)	_____

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	NAME AND ADDRESS OF REGISTERED OWNER Vehicle 14
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2	VEHICLE DESCRIPTION	
	A. MANUFACTURER	<u>FORD</u>
	B. MODEL YEAR	<u>1976</u>
	C. BODY TYPE (PANEL, DUMP, ETC.)	<u>FLAT BED</u>
	D. NUMBER OF AXLES AND	<u>2</u>
	AXLE ARRANGEMENT ¹	<u> </u>
	E. GROSS WEIGHT ²	<u>35,000 lbs.</u>
	F. EMPTY WEIGHT ²	<u>12,000 lbs.</u>
	G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	<u>CALIFORNIA</u>
	H. ADD-ON STREAMLINING DEVICES	<u>NONE</u>
	I. TIRE SIZE ³	<u>9 X 20 X 4</u>
	J. NUMBER OF TIRES	<u>6</u>
	K. BRAKE TYPE (AIR OR HYDRAULIC)	<u>AIR</u>
	L. NUMBER OF EXHAUST PIPES	<u>2</u>
	M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	<u>3 ft.</u>
	N. BASE OF OPERATION (CITY, COUNTY)	<u>L.A. AND ORANGE COUNTY</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE
² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER
³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA (CONTINUED)

3	POWER UNIT DESCRIPTION	
A.	MANUFACTURER	<u>FORD</u>
B.	MODEL OF ENGINE	<u>350</u>
C.	SERIAL NUMBER	<u></u>
D.	FUEL TYPE	<u>GASOLINE</u>
E.	RATED HORSEPOWER AND RPM	<u>350</u>
F.	NUMBER OF CYLINDERS	<u>8</u>
G.	ACCUMULATED ENGINE HOURS/MILEAGE	<u>18,000 miles</u>
H.	EMISSION CONTROL DEVICES	<u>2</u>
I.	TURBOCHARGED, SUPERCHARGED OR NATURAL ASPIRATION	<u>NATURAL</u>
4	HISTORICAL INFORMATION	
A.	MAJOR USE (CATEGORIES)	<u>DELIVERY</u>
B.	PRINCIPAL PRODUCTS CARRIED	<u>STEEL AND PLASTIC PIPES</u>
C.	AREA OF OPERATION	<u>9,000 miles</u>
D.	AVERAGE MILEAGE PER YEAR	<u>18,000 miles</u>
E.	TOTAL ACCUMULATED MILEAGE	<u></u>
F.	RANGE WITHOUT REFUELING	<u>DAILY FILL UP</u>
G.	FUEL CONSUMPTION (ANNUAL, MONTHLY, DAILY)	<u>50 %</u>
H.	MILEAGE DISTRIBUTION(%)	
	LOCAL	<u>50 %</u>
	LONG-HAUL	<u>6 months</u>
I.	FREQUENCY OF NORMAL TIRE REPLACEMENT	<u>40,000 miles</u>
J.	FOR GASOLINE POWERED	
	FREQUENCY OF TUNEUP	<u></u>
	MILEAGE SINCE LAST TUNEUP	<u></u>
K.	FOR DIESEL POWERED	
	FREQUENCY OF MINOR MAINTENANCE	<u></u>
	MILEAGE SINCE LAST MINOR MAINTENANCE	<u></u>
L.	IS A MAINTENANCE LOG AVAILABLE?	<u></u>
M.	WHO PERFORMS MAINTENANCE? (DEALER, INDEPENDENT GARAGE)	<u>FAMILIAN</u>

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	<p>NAME AND ADDRESS OF REGISTERED OWNER</p> <p>Vehicle 15</p>
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2	<p>VEHICLE DESCRIPTION</p>
A. MANUFACTURER	<u>KENWORTH</u>
B. MODEL YEAR	<u>1973</u>
C. BODY TYPE (PANEL, DUMP, ETC.)	<u>TANKER</u>
D. NUMBER OF AXLES AND AXLE ARRANGEMENT ¹	<u>3</u>
E. GROSS WEIGHT ²	<u>80,000</u>
F. EMPTY WEIGHT ²	<u>23,000</u>
G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	<u>CALIFORNIA</u>
H. ADD-ON STREAMLINING DEVICES	<u>NONE</u>
I. TIRE SIZE ³	<u>11X22X5</u>
J. NUMBER OF TIRES	<u>18</u>
K. BRAKE TYPE (AIR OR HYDRAULIC)	<u>AIR</u>
L. NUMBER OF EXHAUST PIPES	<u>1</u>
M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	<u>10 ft.</u>
N. BASE OF OPERATION (CITY, COUNTY)	<u>LONG BEACH</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE

² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER

³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	NAME AND ADDRESS OF REGISTERED OWNER
	Vehicle 16

2	VEHICLE DESCRIPTION	
A.	MANUFACTURER	FORD
B.	MODEL YEAR	1973
C.	BODY TYPE (PANEL, DUMP, ETC.)	PICK UP
D.	NUMBER OF AXLES AND	2
	AXLE ARRANGEMENT ¹	
E.	GROSS WEIGHT ²	7,500 lbs
F.	EMPTY WEIGHT ²	
G.	STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	CALIFORNIA
H.	ADD-ON STREAMLINING DEVICES	NONE
I.	TIRE SIZE ³	
J.	NUMBER OF TIRES	4
K.	BRAKE TYPE (AIR OR HYDRAULIC)	HYDRAULIC
L.	NUMBER OF EXHAUST PIPES	1
M.	APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	12 in.
N.	BASE OF OPERATION (CITY, COUNTY)	FULLERTON

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE

² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER

³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	NAME AND ADDRESS OF REGISTERED OWNER
	Vehicle 18

2	VEHICLE DESCRIPTION
A. MANUFACTURER	<u>GMC</u>
B. MODEL YEAR	<u>1974</u>
C. BODY TYPE (PANEL, DUMP, ETC.)	<u>DOUBLE SEMI (FLAT BED)</u>
D. NUMBER OF AXLES AND	<u>3</u>
AXLE ARRANGEMENT ¹	<u></u>
E. GROSS WEIGHT ²	<u>60,000 lbs.</u>
F. EMPTY WEIGHT ²	<u>30,000 lbs.</u>
G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	<u>CALIFORNIA</u>
H. ADD-ON STREAMLINING DEVICES	<u>NONE</u>
I. TIRE SIZE ³	<u>10 X 22</u>
J. NUMBER OF TIRES	<u>18</u>
K. BRAKE TYPE (AIR OR HYDRAULIC)	<u>AIR</u>
L. NUMBER OF EXHAUST PIPES	<u>2</u>
M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	<u>11 ft.</u>
N. BASE OF OPERATION (CITY, COUNTY)	<u>L.A. COUNTY</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE
² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER
³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	NAME AND ADDRESS OF REGISTERED OWNER Vehicle 19
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2	VEHICLE DESCRIPTION	
	A. MANUFACTURER	<u>FORD</u>
	B. MODEL YEAR	<u>1975</u>
	C. BODY TYPE (PANEL, DUMP, ETC.)	<u>PICKUP</u>
	D. NUMBER OF AXLES AND	<u>2</u>
	AXLE ARRANGEMENT ¹	<u> </u>
	E. GROSS WEIGHT ²	<u> </u>
	F. EMPTY WEIGHT ²	<u>6100 lbs.</u>
	G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	<u>CALIFORNIA</u>
	H. ADD-ON STREAMLINING DEVICES	<u>NONE</u>
	I. TIRE SIZE ³	<u>8 X 78 X 15</u>
	J. NUMBER OF TIRES	<u>4</u>
	K. BRAKE TYPE (AIR OR HYDRAULIC)	<u>HYDRAULIC</u>
	L. NUMBER OF EXHAUST PIPES	<u>1</u>
	M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	<u>12 in.</u>
	N. BASE OF OPERATION (CITY, COUNTY)	<u>RIVERSIDE COUNTY</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE
² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER
³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

HEAVY DUTY VEHICLE DRIVING SURVEY DATA (CONTINUED)

3	POWER UNIT DESCRIPTION	
	A. MANUFACTURER	<u>FORD</u>
	B. MODEL OF ENGINE	<u>360</u>
	C. SERIAL NUMBER	<u> </u>
	D. FUEL TYPE	<u>GASOLINE</u>
	E. RATED HORSEPOWER AND RPM	<u> </u>
	F. NUMBER OF CYLINDERS	<u>8</u>
	G. ACCUMULATED ENGINE HOURS/MILEAGE	<u>36,000 miles</u>
	H. EMISSION CONTROL DEVICES	<u>NATURAL</u>
	I. TURBOCHARGED, SUPERCHARGED OR NATURAL ASPIRATION	<u> </u>
4	HISTORICAL INFORMATION	
	A. MAJOR USE (CATEGORIES)	<u>UTILITY SERVICE</u>
	B. PRINCIPAL PRODUCTS CARRIED	<u>HYDROLOGY EQUIPMENT</u>
	C. AREA OF OPERATION	<u>RIVERSIDE COUNTY</u>
	D. AVERAGE MILEAGE PER YEAR	<u>18,000 miles</u>
	E. TOTAL ACCUMULATED MILEAGE	<u>36,000 miles</u>
	F. RANGE WITHOUT REFUELING	<u>150 miles</u>
	G. FUEL CONSUMPTION (ANNUAL, MONTHLY, DAILY)	<u> </u>
	H. MILEAGE DISTRIBUTION(%)	
	LOCAL	<u>100 %</u>
	LONG-HAUL	<u> </u>
	I. FREQUENCY OF NORMAL TIRE REPLACEMENT	<u>18,000 miles</u>
	J. FOR GASOLINE POWERED	
	FREQUENCY OF TUNEUP	<u>10,000 miles</u>
	MILEAGE SINCE LAST TUNEUP	<u> </u>
	K. FOR DIESEL POWERED	
	FREQUENCY OF MINOR MAINTENANCE	<u> </u>
	MILEAGE SINCE LAST MINOR MAINTENANCE	<u> </u>
	L. IS A MAINTENANCE LOG AVAILABLE?	<u> </u>
	M. WHO PERFORMS MAINTENANCE? (DEALER, INDEPENDENT GARAGE)	<u>SELVES</u>

HEAVY DUTY VEHICLE DRIVING SURVEY DATA

1	NAME AND ADDRESS OF REGISTERED OWNER Vehicle 20
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2	VEHICLE DESCRIPTION
A. MANUFACTURER	<u>FORD</u>
B. MODEL YEAR	<u>1976</u>
C. BODY TYPE (PANEL, DUMP, ETC.)	<u>FLAT BED</u>
D. NUMBER OF AXLES AND	<u>2</u>
AXLE ARRANGEMENT ¹	<u></u>
E. GROSS WEIGHT ²	<u>20,000 lbs.</u>
F. EMPTY WEIGHT ²	<u>8,900 lbs.</u>
G. STATE IN WHICH VEHICLE IS REGISTERED (I.E. HOME STATE)	<u>CALIFORNIA</u>
H. ADD-ON STREAMLINING DEVICES	<u>NONE</u>
I. TIRE SIZE ³	<u>835 X 20</u>
J. NUMBER OF TIRES	<u>6</u>
K. BRAKE TYPE (AIR OR HYDRAULIC)	<u>HYDRAULIC</u>
L. NUMBER OF EXHAUST PIPES	<u>1</u>
M. APPROXIMATE HEIGHT OF EXHAUST PIPE OPENING(S) ABOVE GROUND	<u>1 ft.</u>
N. BASE OF OPERATION (CITY, COUNTY)	<u>LOS ANGELES</u>

¹ INDICATE TRUCK-TRACTOR AND TRAILER SEPARATELY IF APPROPRIATE
² IF TRUCK-TRACTOR COMBINATION, INCLUDE TRAILER
³ IF DIFFERENT SIZES USED, SPECIFY LOCATION

APPENDIX D
DONNELLEY REGISTRATION DATA

This section contains the registration data collected by Donnelley. The number of vehicles shown for each county are those registered in the entire county not just the South Coast Air Basin portion.

TRM TRUCK REGISTRATION
DATE 07/01/77

LOS ANGELES COUNTY

BODY TYPE	FUEL	YEAR	GVM 0-6000	GVM 6001-10,000	GVM OVER 10,000		
PICKUP	GAS	PRE 1970	27889	28744	43		
		1970	7482	10555	13		
		1971	5728	10008	8		
		1972	7228	13583	2		
		1973	7795	15289	1		
		1974	7251	8571			
		1975	4894	8055			
		1976	1480	3096			
		DIESEL	PRE 1970	6	4		
			1970	4	4		
	1971		4	1			
	1972		1	5			
	1973		2	2			
	1974		3	3			
	1975			4			
	1976			1			
	TRACTOR		GAS	PRE 1970		17	1237
				1970		9	469
		1971				295	
		1972			3	454	
1973				6	428		
1974				7	277		
1975				11	195		
1976				10	26		
DIESEL		PRE 1970			1	3824	
		1970				1104	
		1971			1225		
		1972			1372		
		1973			1668		
		1974			1882		
		1975			1124		
		1976			221		
		UNKNOWN	PRE 1970			9	
			1970			2	
1971					4		
1972					48		
1973				20			
1974				17			
1975				34			
BUS	GAS	PRE 1970		6	291		
		1970		2	109		
		1971		13	67		
		1972		2	102		
		1973		3	26		
		1974			21		
		1975			77		
	1976			3			
	DIESEL	PRE 1970			15		

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LOS ANGELES COUNTY

BODY TYPE	FUEL	YEAR	GVW 0-6000	GVW 6001-10,000	GVW OVER 10,000		
BUS	DIESEL	1970			34		
		1971			73		
		1972			10		
		1973			9		
		1974			18		
		1975			4		
	UNKNOWN	1976			1		
		1972			41		
		1973			32		
		1974			97		
		1975			10		
		DUMP	GAS	PRE 1970			829
				1970			203
				1971			120
1972					162		
1973					152		
1974					127		
1975					78		
1976					12		
DIESEL	PRE 1970				512		
	1970				214		
	1971				129		
	1972				118		
	1973				147		
	1974				181		
UNKNOWN	1975			110			
	1976			7			
	PRE 1970			1			
	FLAT BED	GAS	PRE 1970		3764	3671	
			1970		1154	1116	
			1971		445	899	
1972				1220	1333		
1973				1274	1087		
1974				1062	938		
1975				804	711		
1976				215	102		
DIESEL		PRE 1970		2	161		
		1970			101		
		1971		5	90		
		1972		1	61		
		1973			69		
		1974			66		
UNKNOWN	1975			50			
	1976			11			
	PRE 1970			1			
	1973			4			
	1974			2			
	1975			1			

TRW TRUCK REGISTRATION
DATE 07/01/77

LOS ANGELES COUNTY

BODY TYPE	FUEL	YEAR	GVM 0-6000	GVM 6001-10,000	GVM OVER 10,000		
TANK	GAS	PRE 1970		24	200		
		1970		2	68		
		1971		2	81		
		1972		9	61		
		1973		9	64		
		1974		6	55		
		1975		4	41		
		1976			7		
		DIESEL	PRE 1970				193
			1970				54
	1971					58	
	1972					58	
	1973					98	
	1974					172	
	1975					104	
	1976					6	
	UNKNOWN		1972				1
			1973				3
		1974				1	
		1975				1	
SED DEL	GAS	1971	394				
		1972	164				
		1973	192				
		1974	239				
		1975	38				
VAN	GAS	PRE 1970	609	1632	3713		
		1970	45	476	1383		
		1971	142	393	1036		
		1972	81	464	1319		
		1973	24	892	1677		
		1974	32	767	1606		
		1975	28	501	1133		
		1976	3	171	205		
		DIESEL	PRE 1970	1	69	211	
			1970		30	92	
			1971			95	
			1972			76	
			1973			80	
	1974				62		
	1975				124		
	1976				5		
	UNKNOWN		PRE 1970			3	
			1972			43	
		1973			11		
		1974			13		
		1975			3		
	COUNTY TOTALS			71759	113412	44834	

TRM TRUCK REGISTRATION
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ORANGE COUNTY

BODY TYPE	FUEL	YEAR	GVW 0-6000	GVW 6001-10,000	GVW OVER 10,000	
PICKUP	GAS	PRE 1970	7396	8090	9	
		1970	1972	3208	5	
		1971	1730	3158	3	
		1972	2208	4280	1	
		1973	2446	4909		
		1974	2522	2861	1	
		1975	1645	2672		
		1976	585	1119		
		DIESEL	PRE 1970	2	2	
			1970	1		
	1971		1			
	1972			1		
	1973		1	1		
	1974		2			
	1975			1		
	TRACTOR	GAS	PRE 1970		4	139
			1970		2	55
1971					35	
1972				1	36	
1973				10	57	
1974				2	62	
1975					47	
1976				3	11	
DIESEL			PRE 1970			631
			1970			226
		1971			207	
		1972			293	
		1973			261	
		1974			301	
		1975		1	172	
		1976		1	27	
		UNKNOWN	PRE 1970			1
			1970			1
1971					1	
1973					1	
1974					4	
1975				9		
BUS		GAS	PRE 1970		2	44
	1970			1	10	
	1972				1	
	1973				2	
	1974				28	
	DIESEL	PRE 1970			3	
		1970			31	
		1973			8	
	UNKNOWN	1974			3	
		1972			1	
		1973			5	

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ORANGE COUNTY

BODY TYPE	FUEL	YEAR	GVW 0-6000	GVW 6001-10,000	GVW OVER 10,000		
BUS	UKNOWN	1974			17		
DUMP	GAS	PRE 1970			213		
		1970			74		
		1971			38		
		1972			51		
		1973			55		
		1974			67		
		1975			30		
	DIESEL	PRE 1970				98	
		1970				42	
		1971				35	
		1972				65	
		1973				59	
		1974				39	
		1975				40	
	UKNOWN	1976				4	
		1974				2	
FLAT BED	GAS	PRE 1970		717	631		
		1970		284	192		
		1971		88	160		
		1972		251	238		
		1973		317	258		
		1974		246	180		
		1975		177	136		
		1976		69	11		
		DIESEL	PRE 1970				34
			1970				18
	1971					19	
	1972					11	
	1973					13	
	1974					4	
	1975					6	
	UKNOWN	PRE 1970				1	
	TANK	GAS	PRE 1970		3	37	
			1970		1	6	
1971				1	8		
1972					13		
1973				1	8		
1974					22		
1975					25		
DIESEL		1976				2	
		PRE 1970				26	
		1970				4	
		1971				2	
		1972				4	
		1973				9	
1974				10			

TRW TRUCK REGISTRATION
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ORANGE COUNTY

BODY TYPE	FUEL	YEAR	GVW 0-6000	GVW 6001-10,000	GVW OVER 10,000		
TANK	DIESEL	1975			7		
		1976			1		
SED DEL	GAS	1971	120				
		1972	37				
		1973	43				
		1974	33				
		1975	18				
VAN	GAS	PRE 1970	161	352	650		
		1970	48	117	228		
		1971	36	102	154		
		1972	19	127	254		
		1973	11	250	449		
		1974	12	141	267		
		1975	9	77	221		
		1976	3	33	21		
		DIESEL	PRE 1970			1	19
			1970				5
	1971					10	
	1972					1	
	1973					5	
	1975					2	
	1976					2	
	UNKNOWN	PRE 1970				2	
		1971				1	
1976					1		
COUNTY TOTALS			21061	33684	8047		

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RIVERSIDE COUNTY

BODY TYPE	FUEL	YEAR	GVW 0-6000	GVW 6001-10,000	GVW OVER 10,000	
PICKUP	GAS	PRE 1970	4664	3512	7	
		1970	1252	1308		
		1971	1076	1220	1	
		1972	1332	1677		
		1973	1387	2001		
		1974	1206	1035		
		1975	837	1089	1	
		1976	277	419		
		DIESEL	PRE 1970	3		
	1970			1		
	1973		1	4		
	1974		1			
	1975			1		
	TRACTOR	GAS	PRE 1970		3	40
1970				5	10	
1971					2	
1972				2	15	
1973				1	9	
1974				1	11	
1975				2	4	
1976					2	
DIESEL			PRE 1970			277
			1970			68
		1971			67	
		1972			62	
		1973			93	
		1974			66	
		1975			60	
		1976			5	
		UNKNOWN	PRE 1970			1
			1970			2
			1971			1
1973					1	
1975					1	
BUS	GAS	PRE 1970			19	
		1970			1	
		1972		1		
	UNKNOWN	1974			1	
		1974			9	
		1976			1	
DUMP	GAS	PRE 1970			81	
		1970			11	
		1971			10	
		1972			18	
		1973			9	
		1974			7	
		1975			10	

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RIVERSIDE COUNTY

BODY TYPE	FUEL	YEAR	GVW 0-6000	GVW 6001-10,000	GVW OVER 10,000	
DUMP	DIESEL	PRE 1970			30	
		1970			25	
		1971			13	
		1972			19	
		1973			20	
		1974			10	
		1975			8	
		1976			1	
FLAT BED	GAS	PRE 1970		324	249	
		1970		100	71	
		1971		45	79	
		1972		118	68	
		1973		150	94	
		1974		98	73	
		1975		68	35	
		1976		25	3	
	DIESEL	PRE 1970				25
		1970				5
		1971				11
		1972		1		4
		1973				4
		1974				6
		1975		1		2
TANK	GAS	PRE 1970		3	31	
		1970			6	
		1971			9	
		1972		3	2	
		1973		2	7	
		1974			9	
		1975		1	7	
		1976			1	
	DIESEL	PRE 1970				12
		1970				2
		1971				3
		1973				1
		1974				3
		1975				1
		1973				1
		1974				1
SED DEL	GAS	1971	28			
		1972	19			
		1973	11			
		1974	10			
		1975	1			
VAN	GAS	PRE 1970	24	69	146	
		1970		28	64	

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RIVERSIDE COUNTY

BODY TYPE	FUEL	YEAR	GVW 0-6000	GVW 6001-10,000	GVW OVER 10,000		
VAN	GAS	1971	4	20	32		
		1972	3	28	37		
		1973	1	45	50		
		1974	3	21	19		
		1975	6	11	20		
		1976	1	4	8		
		DIESEL	PRE 1970				8
			1971				2
	1973					2	
	1974					1	
	1976					1	
	1972					1	
	UNKNOWN						
	COUNTY TOTALS			12147	13447	2325	

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SAN BERNARDINO COUNTY

BODY TYPE	FUEL	YEAR	GVM 0-6000	GVM 6001-10,000	GVM OVER 10,000	
PICKUP	GAS	PRE 1970	5591	5186	8	
		1970	1519	1888	2	
		1971	1251	1900	1	
		1972	1487	2472		
		1973	1563	2693		
		1974	1337	1349		
		1975	978	1397		
		1976	342	546		
		DIESEL	PRE 1970	2		
			1970	2	1	
	1972		1			
	1974			2		
	TRACTOR	GAS	PRE 1970		2	64
			1970		2	17
1971					14	
1972					15	
1973				2	14	
1974				2	14	
1975				1	13	
DIESEL			PRE 1970			352
			1970			113
			1971			95
		1972			119	
		1973			112	
		1974			102	
		1975			65	
		1976			12	
UNKNOWN		PRE 1970			3	
		1970			3	
		1971			1	
		1972			2	
		1973			2	
		1974			1	
BUS		GAS	PRE 1970		4	27
			1970			5
	1971			2		
	1973			1	1	
	1974				2	
	1975			5		
	DIESEL	PRE 1970			3	
		1971			1	
		1972			1	
	UNKNOWN	1974			1	
1973				6		
DUMP	GAS	PRE 1970			109	
		1970			32	
		1971			24	

TRW TRUCK REGISTRATION
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SAN BERNARDINO COUNTY

BODY TYPE	FUEL	YEAR	GVM 0-6000	GVM 6001-10,000	GVM OVER 10,000		
DUMP	GAS	1972			16		
		1973			20		
		1974			9		
		1975			8		
		1976			2		
	DIESEL	PRE 1970				64	
		1970				29	
		1971				14	
		1972				16	
		1973				17	
		1974				20	
		1975				12	
		1976				1	
		FLAT BED	GAS	PRE 1970		384	305
				1970		137	83
1971				56	68		
1972				152	79		
1973				153	82		
1974				99	62		
1975				66	31		
1976				17	2		
DIESEL	PRE 1970						53
	1970					9	
	1971					11	
	1972					6	
	1973					6	
	1974					13	
	1975					3	
	1976					1	
	TANK		GAS	PRE 1970		2	34
1970						9	
1971				2	4		
1972				2	11		
1973					7		
1974				1	6		
1975					6		
DIESEL		PRE 1970					17
		1970					7
		1971				10	
		1972				3	
		1973				10	
		1974				9	
SED DEL		GAS	1971	58			
			1972	29			
	1973		10				

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SAN BERNARDINO COUNTY

BODY TYPE	FUEL	YEAR	GVW 0-6000	GVW 6001-10,000	GVW OVER 10,000	
SED DEL	GAS	1974	17			
		1975	1			
VAN	GAS	PRE 1970	25	98	245	
		1970	2	47	91	
		1971	5	25	65	
		1972	3	32	59	
		1973	4	57	69	
		1974	4	34	47	
		1975	3	31	31	
		1976		6	12	
		DIESEL	PRE 1970			18
			1970			4
	1971				2	
	1972				7	
	1973				1	
	1975				1	
	1976				3	
	UNKNOWN	PRE 1970			1	
	COUNTY TOTALS			14234	18851	3200

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