Performance Measure Summary - Grand Rapids MI

There are several inventory and performance measures listed in the pages of this Urban Area Report for the years from 1982 to 2020. There is no single performance measure that experts agree "says it all". A few key points should be recognized by users of the Urban Mobility Scorecard data.

Use the trends - The multi-year performance measures are better indicators, in most cases, than any single year. Examining a few measures over many years reduces the chance that data variations or the estimating procedures may have caused a "spike" in any single year. (5 years is 5 times better than 1 year.)

Use several measures - Each performance measure illustrates a different element of congestion. (The view is more interesting from atop several measures.)

Compare to similar regions - Congestion analyses that compare areas with similar characteristics (for example, population, growth rate, road and public transportation system design) are usually more insightful than comparisons of different regions. (Los Angeles is not Peoria.)

Compare ranking changes and performance measure values - In some performance measures, a small change in the value may cause a significant change in rank from one year to the next. This is the case when there are several regions with nearly the same value. (15 hours is only 1 hour more than 14 hours.)

Consider the scope of improvement options - Any improvement project in a corridor within most of the regions will only have a modest effect on the regional congestion level. (To have an effect on areawide congestion, there must be significant change in the system or service.)

Performance Measures and Definition of Terms

Travel Time Index - A measure of congestion that focuses on each trip and each mile of travel. It is calculated as the ratio of travel time in the peak period to travel time in free-flow. A value of 1.30 indicates that a 20-minute free-flow trip takes 26 minutes in the peak.

Planning Time Index - A travel time reliability measure that represents the total travel time that should be planned for a trip. Computed with the 95th percentile travel time it represents the amount of time that should be planned for a commute trip to be late for only 1 day a month. If it is computed with the 80th percentile travel time it represents the amount of time that should be planned for a trip to be late for only 1 day a week. A PTI of 2.00 means that for a 20-minute trip in light traffic, 40 minutes should be planned.

Peak Commuters - Number of travelers who begin a trip during the morning or evening peak travel periods (6 to 10 a.m. and 3 to 7 p.m.). "Commuters" are private vehicle users unless specifically noted.

Annual Delay per Commuter - A yearly sum of all the per-trip delays for those persons who travel in the peak period (6 to 10 a.m. and 3 to 7 p.m.). This measure illustrates the effect of traffic slowdowns as well as the length of each trip.

Total Delay - The overall size of the congestion problem. Measured by the total travel time above that needed to complete a trip at free-flow speeds. The ranking of total delay usually follows the population ranking (larger regions usually have more delay).

Free-Flow Speeds - These values are derived from time periods with lighter traffic volumes in the INRIX speed database. They are used as the national comparison thresholds. Other speed thresholds may be appropriate for urban project evaluations or sub-region studies.

Excess Fuel Consumed - Increased fuel consumption due to travel in congested conditions rather than free-flow conditions.

Congestion Cost - Value of travel delay for 2020 (estimated at \$20.17 per hour of person travel and \$55.24 per hour of truck time) and excess fuel consumption estimated using state average cost per gallon.

Urban Area - The developed area (population density more than 1,000 persons per square mile) within a metropolitan region. The urban area boundaries change frequently (every year for most growing areas), so increases include both new growth and development that was previously in areas designated as rural.

Number of Rush Hours -Time when the road system might have congestion.

Annual Greenhouse Gases (CO2) Produced -Tons of CO2 produced from all vehicle travel.

Excess Greenhouse Gases (CO2) Produced due to Congestion-Tons of CO2 produced due to congested portion of travel. The excess CO2 is a subset of the total CO2 produced.

I was a second	2020	2010	2010	2015	2016	2017
Inventory Measures	2020	2019	2018	2017	2016	2015
Urban Area Information						
Population (1000s)	625	625	625	630	630	630
Rank	69	69	68	66	66	66
Commuters (1000s)	330	330	330	333	333	333
Daily Vehicle-Miles of Travel (1000s)						
Freeway	4,603	5,932	6,080	6,107	5,886	5,686
Arterial Streets	6,102	7,864	7,877	7,873	7,649	7,589
Cost Components						
Value of Time (\$/hour)	20.17	19.14	18.71	18.12	17.91	17.69
Commercial Cost (\$/hour)	55.24	61.03	54.71	52.14	50.20	46.87
Gasoline (\$/gallon)	2.20	2.78	2.86	2.45	2.23	2.22
Diesel (\$/gallon)	2.81	2.95	3.31	2.58	2.31	2.52
System Performance	2020	2019	2018	2017	2016	2015
Congested Travel (% of peak VMT)				1.7		
Congested System (% of lane-miles)				6.6		
Congested Time (number of "Rush Hours")				0.8		
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	3,901	7,101	7,140	7,205	7,054	6,986
Rank	72	69	67	66	66	66
Fuel per Peak Auto Commuter (gallons)	9	16	16	16	16	16
Rank	70	81	79	77	76	73
Annual Delay						
Total Delay (1000s of person-hours)	9,472	17,240	17,352	17,417	16,841	16,394
Rank	69	68	66	65	65	66
Delay per Auto Commuter (pers-hrs)	22	41	41	41	41	40
Rank	72	75	72	70	68	68
Travel Time Index	1.07	1.12	1.12	1.13	1.13	1.13
Rank	57	91	91	83	83	83
Commuter Stress Index	1.08	1.13	1.13	1.14		
Rank	58	93	94	86		
Freeway Planning Time Index (95th Pctile)		1.27	1.26	1.25		
Rank		76	75	84		
Congestion Cost						
Total Cost (\$ millions)	213	377	376	373	354	339
Rank	70	68	67	65	66	66
Cost per Auto Commuter (\$)	435	771	769	755	735	711
Rank	74	80	79	77	77	76
Truck Congestion						
Annual Person-Hours of Delay (000)	453	661	674	715	692	674
Rank	70	72	68	66	66	66
Annual Gallons of Wasted Fuel (000)	812	1,184	1,109	1,203	1,178	1,166
Rank	71	74	74	71	71	71
Annual Congestion Cost (\$ million)	24	39	37	38	35	32
Rank	70	67	69	66	66	66
Annual Greenhouse Gases (CO2) Produced						
Excess Due to Congestion (tons)	38,708	70,452				
Rank	72	69				
Due to All Travel (tons)	1,617,443	2,943,903				
Rank	61	60				
Truck Annual Greenhouse Gases (CO2) Produced				1		
Excess Due to Truck Congestion (tons)	8,767	12,791				
Rank	71	74				
Due to Truck Travel (tons)	454,642	663,301				
Rank	60	60				

^{*} Note: Zeroes in the table reflect values less than 0.5.

Inventory Measures	2014	2013	2012	2011	2010	2009
Urban Area Information						
Population (1000s)	630	620	615	610	619	605
Rank	65	66	66	66	66	66
Commuters (1000s)	333	323	320	312	315	307
Daily Vehicle-Miles of Travel (1000s)						
Freeway	5,461	5,480	5,305	5,624	5,527	5,300
Arterial Streets	7,441	7,312	7,410	7,725	7,800	8,201
Cost Components						
Value of Time (\$/hour)	17.67	17.39	17.14	16.79	16.28	16.01
Commercial Cost (\$/hour)	44.82	41.23	39.66	44.62	42.50	41.83
Gasoline (\$/gallon)	3.30	3.65	3.68	3.46	2.38	2.23
Diesel (\$/gallon)	3.72	3.96	3.93	3.74	2.94	2.55
System Performance	2014	2013	2012	2011	2010	2009
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	6,868	6,814	6,557	6,364	6,161	5,935
Rank	66	65	66	67	68	71
Fuel per Peak Auto Commuter (gallons)	16	17	18	18	17	15
Rank	70	64	52	49	61	62
Annual Delay						
Total Delay (1000s of person-hours)	15,976	15,573	14,852	14,156	13,453	12,715
Rank	65	65	65	65	68	69
Delay per Auto Commuter (pers-hrs)	40	39	40	39	37	37
Rank	63	63	55	54	58	57
Travel Time Index	1.13	1.13	1.14	1.14	1.14	1.14
Rank	86	86	77	75	71	72
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost	227	225	206	200	2.50	2.10
Total Cost (\$ millions)	337	325	306	288	259	240
Rank	66	65	66	66	69	69
Cost per Auto Commuter (\$) Rank	691 76	679 76	656 77	644 76	632 79	608 80
	/0	70	11	70	19	80
Fruck Congestion	656	640	610	502	553	522
Annual Person-Hours of Delay (000) Rank	65	65	65	582 65	67	522
Rank Annual Gallons of Wasted Fuel (000)	1,146	1,137	1,095	1,062	1,029	68 991
Rank	72	71	72	72	73	74
Annual Congestion Cost (\$ million)	32	29	27	28	25	23
Rank	65	65	65	65	65	67
Annual Greenhouse Gases (CO2) Produced	0.0	0.0	00		00	
Excess Due to Congestion (tons)				1		
Rank		 		 		
Rank Due to All Travel (tons) Rank		 	 	 		
Rank Due to All Travel (tons) Rank Truck Annual Greenhouse Gases (CO2) Produced		 	 	 		
Rank Due to All Travel (tons) Rank		 	 	 		
Rank Due to All Travel (tons) Rank Truck Annual Greenhouse Gases (CO2) Produced Excess Due to Truck Congestion (tons)		 	 	 		

^{*} Note: Zeroes in the table reflect values less than 0.5.

Population (1006s)	Inventory Measures	2008	2007	2006	2005	2004	2003
Population (1001s)							
Rank		600	595	595	595	590	585
Daily Vehicle-Miles of Travel (1000b) Freeway 5,100 5,000 4,945 4,885 4,895 4,515 7,300		67	66	65	65	65	65
Freeway	Commuters (1000s)	303	299	297	295	291	287
Freeway	Daily Vehicle-Miles of Travel (1000s)						
Control Cont		5,100	5,090	4,945	4,885	4,895	4,515
Manue of Time (shour)	Arterial Streets	8,455	8,560	8,585	8,150	7,715	7,300
Manue of Time (shour)	Cost Components						
Gasoline (Kigallon) 3.51 3.06 2.64 2.33 1.09 1.51 System Performance 2008 2007 2006 2008 2009 2008 Congested Travel (% of peak VMT)	-	16.07	15.47	15.06	14.58	14.10	13.73
Dissel (S'gallon)	Commercial Cost (\$/hour)	40.77	39.30	37.88	36.51	35.19	33.92
System Performanace 2008 2007 2006 2005 2004 2005	Gasoline (\$/gallon)	3.51	3.06	2.64	2.33	1.90	1.51
Congested Travel (% of peak VMT)	Diesel (\$/gallon)	4.22	3.42	2.85	2.51	1.94	1.49
Congested System (% of lane-miles) -	System Performance	2008	2007	2006	2005	2004	2003
Congested Time (number of "Rush Hours") — — — — — — — Annual Excess Fuel Consumed Total Fuel (1000 gallons) 6.293 6.089 5.843 5.506 5.541 5.438 Rank 70 71 71 70 70 70 Fuel per Peak Auto Commuter (gallons) 18 8 16 17 15 16 Rank 49 49 64 48 65 49 Annual Delay 12,842 12,425 11,923 11,623 11,227 11,097 Rank 66 69 69 69 68 68 Delay per Auto Commuter (pers-bus) 36 36 35 35 34 34 Rank 66 59 62 59 66 68 Travel Time Index 1.15 1.15 1.15 1.15 1.14 1.14 Rank 69 69 69 68 71 69 C	Congested Travel (% of peak VMT)						
Total Fuel (1000 gallons)	Congested System (% of lane-miles)						
Total Fuel (1000 gallons)	Congested Time (number of "Rush Hours")						
Rank Full Per Peak Auto Commuter (gallons) 70 71 71 70 70 70 Fuel per Peak Auto Commuter (gallons) 18 18 16 17 15 16 Rank 49 49 64 48 65 49 Annual Delay 12,842 12,425 11,923 11,623 11,227 11,097 Rank 66 69 70 69 69 68 Delay per Auto Commuter (pers-hrs) 36 36 35 35 34 34 Rank 61 59 62 59 60 58 Travel Time Index 1.15 1.15 1.15 1.15 1.14 1.14 Rank 69 69 69 68 67 68 71 69 Commuter Stress Index 1	Annual Excess Fuel Consumed						
Fuel per Peak Auto Commuter (gallons)	Total Fuel (1000 gallons)	6,293	6,089	5,843	5,696	5,501	5,438
Rank 49 49 64 48 65 49 Annual Delay Total Delay (1000s of person-hours) 12,842 12,425 11,923 11,623 11,227 11,097 Rank 66 69 70 69 60 68 Delay per Auto Commuter (pers-hrs) 36 36 35 35 34 34 Rank 61 59 62 59 60 58 Travel Time Index 1.15 1.15 1.15 1.15 1.15 1.14 1.14 Rank 69 69 68 71 69 69 68 71 69 Commuter Stress Index	Rank	70	71	71	70	70	70
Total Delay (1000s of person-hours)	Fuel per Peak Auto Commuter (gallons)				17	15	16
Total Delay (1000s of person-hours) 12,842 12,425 11,923 11,623 11,227 11,097 Rank 66 69 70 69 69 68 68 69 70 69 69 68 68 73 34 34 34 34 34 34 34	Rank	49	49	64	48	65	49
Rank 66 69 70 69 69 68 Delay per Auto Commuter (pers-hrs) 36 36 35 33 34 34 Rank 61 59 62 59 60 58 Travel Time Index 1.15 1.15 1.15 1.15 1.15 1.14 1.14 Rank 69 69 68 71 69 69 Commuter Stress Index	Annual Delay						
Delay per Auto Commuter (pers-hrs) 36 36 35 35 34 34 Rank 36 39 62 59 60 58 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 58 59 60 58 59 60 58 59 60 58 59 60 60 60 60 60 60 60 6	Total Delay (1000s of person-hours)	12,842	12,425	11,923	11,623	11,227	11,097
Rank	Rank	66	69		69	69	
Travel Time Index							
Rank 69 69 69 68 71 69 Commuter Stress Index	Rank	61	59	62	59	60	58
Commuter Stress Index		1.15	1.15	1.15	1.15	1.14	1.14
Rank		69	69	69	68	71	69
Freeway Planning Time Index (95th Petile)							
Rank -							
Congestion Cost Total Cost (\$ millions) 253 233 215 202 186 177 Rank 67 68 71 70 71 68 68 605 60							
Total Cost (\$ millions)							
Rank		252	222	21.5	202	106	1.77
Cost per Auto Commuter (\$) 609 611 604 608 608 616 Rank 78 83 85 82 81 76 Truck Congestion S27 511 490 477 461 456 Annual Person-Hours of Delay (000) 527 511 490 477 461 456 Rank 67 69 70 70 70 67 Annual Gallons of Wasted Fuel (000) 1,050 1,017 976 951 918 908 Rank 73 75 75 72 71 70 Annual Congestion Cost (\$ million) 25 22 20 19 17 16 Rank 66 71 69 68 67 65 Annual Greenhouse Gases (CO2) Produced							
Rank 78 83 85 82 81 76 Truck Congestion 3 490 477 461 456 456 480 477 461 456 486 486 486 486 486 486 486 487 461 456 486 486 487 461 456 486 486 487 461 456 486 486 487 461 456 486 487 461 456 486 487 461 456 486						-	
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Annual Person-Hours of Delay (000) 527 511 490 477 461 456 Rank 67 69 70 70 70 70 67 Annual Gallons of Wasted Fuel (000) 1,050 1,017 976 951 918 908 Rank 73 75 75 72 71 70 Annual Congestion Cost (\$ million) 25 22 20 19 17 16 Rank 66 71 69 68 67 65 Annual Greenhouse Gases (CO2) Produced Excess Due to Congestion (tons) Rank		76	63	63	02	01	70
Rank 67 69 70 70 70 67 Annual Gallons of Wasted Fuel (000) 1,050 1,017 976 951 918 908 Rank 73 75 75 72 71 70 Annual Congestion Cost (\$ million) 25 22 20 19 17 16 Rank 66 71 69 68 67 65 Annual Greenhouse Gases (CO2) Produced <		527	511	400	477	461	156
Annual Gallons of Wasted Fuel (000)							
Rank 73 75 75 72 71 70 Annual Congestion Cost (\$ million) 25 22 20 19 17 16 Rank 66 71 69 68 67 65 Annual Greenhouse Gases (CO2) Produced							
Annual Congestion Cost (\$ million) 25 22 20 19 17 16 Rank 66 71 69 68 67 65 Annual Greenhouse Gases (CO2) Produced Excess Due to Congestion (tons)	` '						
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Annual Greenhouse Gases (CO2) Produced							
Excess Due to Congestion (tons)			, 1	07		07	
Rank <							
Due to All Travel (tons)	• • • • •						
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Truck Annual Greenhouse Gases (CO2) Produced Excess Due to Truck Congestion (tons) <td< td=""><td></td><td></td><td></td><td></td><td> </td><td></td><td></td></td<>							
Excess Due to Truck Congestion (tons)							
Rank Due to Truck Travel (tons)							
Due to Truck Travel (tons)							
	i i						

^{*} Note: Zeroes in the table reflect values less than 0.5.

Inventory Measures	2002	2001	2000	1999	1998	1997
Urban Area Information						
Population (1000s)	570	555	540	525	510	500
Rank	64	64	65	65	67	67
Commuters (1000s)	277	266	255	245	235	228
Daily Vehicle-Miles of Travel (1000s)						
Freeway	4,300	4,100	4,000	3,900	3,800	3,550
Arterial Streets	7,005	6,750	6,440	6,280	6,165	5,880
Cost Components						
Value of Time (\$/hour)	13.43	13.22	12.85	12.43	12.17	11.98
Commercial Cost (\$/hour)	32.69	31.51	30.38	29.28	28.89	28.50
Gasoline (\$/gallon)	1.41	1.50	1.63	1.13	1.11	1.12
Diesel (\$/gallon)	1.37	1.54	1.52	1.10	1.13	1.22
System Performance	2002	2001	2000	1999	1998	1997
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	5,164	5,125	4,989	4,677	4,340	4,003
Rank	70	68	67	66	67	67
Fuel per Peak Auto Commuter (gallons)	14	14	15	14	13	12
Rank	61	54	40	42	42	47
Annual Delay						
Total Delay (1000s of person-hours)	10,539	10,460	10,180	9,544	8,855	8,169
Rank	67	65	66	66	66	67
Delay per Auto Commuter (pers-hrs)	34	35	35	34	33	31
Rank	54	45	45	45	46	49
Travel Time Index	1.14	1.14	1.15	1.14	1.14	1.14
Rank	68	66	53	58	53	46
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	164	161	153	136	124	113
Rank	67	65	65	65	66	67
Cost per Auto Commuter (\$)	599	603	601	581	556	518
Rank	76	72	70	70	70	72
Truck Congestion						
Annual Person-Hours of Delay (000)	433	430	418	392	364	336
Rank	67	67	67	68	67	68
Annual Gallons of Wasted Fuel (000)	863	855	833	781	725	668
Rank	70	69	68	68	68	69
Annual Congestion Cost (\$ million) Rank	14 67	14 66	13 67	12 65	11 64	10 66
	0/	00	07	03	04	00
Annual Greenhouse Gases (CO2) Produced				ı	I	
Excess Due to Congestion (tons) Rank						
Nank Due to All Travel (tons)						
Rank						 -
Truck Annual Greenhouse Gases (CO2) Produced				ı	I	
Excess Due to Truck Congestion (tons) Rank						
Rank Due to Truck Travel (tons)						
Rank		 				
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^{*} Note: Zeroes in the table reflect values less than 0.5.

Population (1000s)	Inventory Measures	1996	1995	1994	1993	1992	1991
Population (1000s) A90	Urban Area Information						
Rank		490	480	470	460	450	445
Daily Vehicle-Miles of Travel (1000s) Image: Priceway of the price o		69	69	69	69	69	69
Freeway	Commuters (1000s)	220	213	206	199	192	188
Freeway	Daily Vehicle-Miles of Travel (1000s)						
Section Sect		3,345	3,270	3,360	3,490	3,180	2,800
Manke of Fine (Shour)	Arterial Streets	5,840	5,810	5,765	5,670	5,350	4,990
Manke of Fine (Shour)	Cost Components						
Gasaciine (Ygallon) 1.29 1.12 1.02 1.10 1.10 1.10 1.13 1.12 System Performance 1996 1996 1994 1993 1992 1991 Congested Travel (% of peak VMT) -	-	11.71	11.37	11.06	10.78	10.47	10.17
Dissel (Sygallon)	Commercial Cost (\$/hour)	28.12	27.75	27.38	27.02	26.66	26.30
System Performanace	Gasoline (\$/gallon)	1.29	1.12	1.02	1.10	1.08	1.13
Congested Travel (% of peak VWT)	Diesel (\$/gallon)	1.39	1.20	1.10	1.18	1.16	1.27
Congested System (% of lane-miles) -	System Performance	1996	1995	1994	1993	1992	1991
Congested Time (number of "Rush Hours") — — — — — — — Annual Excess Fuel Consumed Total Fuel (1000 gallons) 3,652 3,416 3,213 3,037 2,660 2,382 Rank 69 68 67 66 67 67 Fuel per Peak Auto Commuter (gallons) 11 10 10 9 8 8 Rank 49 52 45 49 53 45 Annual Delay 7,452 6,970 6,556 6,17 5,429 4,859 Rank 68 68 66 76 67 67 67 Debay per Auto Commuter (pers-brs) 29 28 27 22 24 22 Rank 54 52 51 45 53 15 Teach Time Index 1.13 1.12 1.12 1.12 1.11 1.11 1.11 1.11 1.11 1.11 1.11 1.11 1.11 1.11	Congested Travel (% of peak VMT)						
Total Parel (1900 gallons) 3,652 3,416 3,213 3,037 2,660 2,382 3,416 3,213 3,037 2,660 67 67 67 67 67 67 67	Congested System (% of lane-miles)						
Total Fuel (1000 gallons)	Congested Time (number of "Rush Hours")						
Rank Full per Peak Auto Commuter (gallons) 69 68 67 66 67 67 67 67 67	Annual Excess Fuel Consumed						
Fuel per Peak Auto Commuter (gallons)	Total Fuel (1000 gallons)	3,652	3,416	3,213	3,037	2,660	2,382
Rank 49 52 45 49 53 45 Annual Delay 7,452 6,970 6,556 6,197 5,429 4,859 Rank 68 68 67 67 67 67 Delay per Auto Commuter (pers-hrs) 29 28 27 27 24 22 Rank 54 52 51 45 53 53 Travel Time Index 1.13 1.12 1.12 1.12 1.11 1.10 Rank 50 57 50 45 49 51 Commuter Stress Index <td< td=""><td>Rank</td><td>69</td><td>68</td><td>67</td><td>66</td><td>67</td><td>67</td></td<>	Rank	69	68	67	66	67	67
Namual Delay Total Delay (1000s of person-hours)	Fuel per Peak Auto Commuter (gallons)			10	9	8	
Total Delay (1000s of person-hours)	Rank	49	52	45	49	53	45
Rank 68 68 67 67 67 Delay per Auto Commuter (pers-hrs) 29 28 27 27 24 22 Rank 54 52 51 45 53 53 Travel Time Index 1.13 1.12 1.12 1.12 1.11 1.10 Rank 50 57 50 45 49 51 Commuter Stress Index	Annual Delay						
Delay per Auto Commuter (pers-hrs) 29 28 27 27 24 22 Rank	Total Delay (1000s of person-hours)	7,452	6,970	6,556	6,197	5,429	4,859
Rank 54 52 51 45 53 53 Travel Time Index 1.13 1.12 1.12 1.12 1.11 1.10 Rank 50 57 50 45 49 51 Commuter Stress Index				67	67	67	
Travel Time Index							
Rank 50 57 50 45 49 51 Commuter Stress Index	Rank	54	52	51	45	53	53
Commuter Stress Index		1.13	1.12	1.12	1.12	1.11	1.10
Rank		50	57	50	45	49	51
Freeway Planning Time Index (95th Petille)							
Rank							
Congestion Cost Total Cost (\$ millions) 101 92 84 78 66 58 8 86 67 67 67 68 68 68							
Total Cost (\$ millions)							
Rank 68 68 67 67 68 Cost per Auto Commuter (\$) 483 466 454 441 397 365 Rank 72 72 71 67 71 72 Truck Congestion 306 286 269 254 223 200 Rank 69 70 70 67 69 70 Annual Gallons of Wasted Fuel (000) 610 570 536 507 444 398 Rank 71 71 70		404					-0
Cost per Auto Commuter (\$) 483 466 454 441 397 365 Rank 72 72 71 67 71 72 Truck Congestion 306 286 269 254 223 200 Rank 69 70 70 67 69 70 Annual Gallons of Wasted Fuel (000) 610 570 536 507 444 398 Rank 71 71 70 70 70 70 Annual Gallons of Wasted Fuel (000) 610 570 536 507 444 398 Rank 71 71 70 70 70 70 Annual Congestion Cost (\$ million) 9 8 7 7 6 5 Rank 67 69 69 66 67 70 Annual Greenhouse Gases (CO2) Produced 2 2 2 2 2 2 2 2 2 2 2 2 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
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Truck Congestion 306 286 269 254 223 200 Rank 69 70 70 67 69 70 Annual Gallons of Wasted Fuel (000) 610 570 536 507 444 398 Rank 71 71 70 70 70 70 Annual Congestion Cost (\$ million) 9 8 7 7 6 5 Rank 67 69 69 66 67 70 Annual Greenhouse Gases (CO2) Produced 5 5 5 7 7 6 5 Rank	***						
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Rank 69 70 70 67 69 70 Annual Gallons of Wasted Fuel (000) 610 570 536 507 444 398 Rank 71 71 70 70 70 70 Annual Congestion Cost (\$ million) 9 8 7 7 6 5 Rank 67 69 69 66 67 70 Annual Greenhouse Gases (CO2) Produced		206	206	260	254	222	200
Annual Gallons of Wasted Fuel (000) 610 570 536 507 444 398 Rank 71 71 70 70 70 70 70 Annual Congestion Cost (\$ million) 9 8 7 7 6 55 Rank 67 69 69 69 66 67 70 Annual Greenhouse Gases (CO2) Produced Excess Due to Congestion (tons)	• • •						
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Excess Due to Truck Congestion (tons)							
Rank Due to Truck Travel (tons)							
Due to Truck Travel (tons)							
, runn	Rank						

^{*} Note: Zeroes in the table reflect values less than 0.5.

Inventory Measures	1990	1989	1988	1987	1986	1985
Urban Area Information						
Population (1000s)	440	430	420	415	410	400
Rank	68	68	68	67	67	67
Commuters (1000s)	183	178	172	169	166	160
Daily Vehicle-Miles of Travel (1000s)						
Freeway	2,635	2,530	2,370	2,115	2,060	1,955
Arterial Streets	4,805	4,670	4,590	4,485	4,405	3,875
Cost Components	1,003	1,070	1,350	1,103	1,103	3,073
Value of Time (\$/hour)	9.75	9.25	8.83	8.48	8.18	8.03
Commercial Cost (\$/hour)	25.95	25.60	25.26	24.93	24.60	24.27
Gasoline (\$/gallon)	1.10	1.12	1.03	1.04	1.01	1.32
Diesel (\$/gallon)	1.10	1.12	0.97	0.98	0.95	1.32
System Performance	1990	1989	1988	1987	1986	1985
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	1,965	1,632	1,553	1,507	1,362	1,141
Rank	70	74	71	68	69	71
Fuel per Peak Auto Commuter (gallons)	6	5	4	4	5	4
Rank	60	63	71	61	40	50
Annual Delay						
Total Delay (1000s of person-hours)	4,010	3,329	3,168	3,074	2,779	2,329
Rank	71	72	71	70	70	71
Delay per Auto Commuter (pers-hrs)	19	16	16	15	14	12
Rank	64	68	61	60	57	63
Travel Time Index	1.08	1.07	1.07	1.07	1.06	1.05
Rank	62	65	59	54	56	64
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	46	36	33	31	27	23
Rank	71	73	71	70	69	70
Cost per Auto Commuter (\$)	318	276	274	277	261	220
Rank	78	80	78	75	74	79
Truck Congestion	1		, ,	,,,	, .	
Annual Person-Hours of Delay (000)	165	137	130	126	114	96
Rank	72	74	72	70	71	74
Annual Gallons of Wasted Fuel (000)	328	273	259	251	227	191
Rank	74	77	75	74	74	75
Annual Congestion Cost (\$ million)	4	4	$\begin{vmatrix} 73 \\ 3 \end{vmatrix}$	3	3	2
Rank	71	68	71	68	67	73
	/1	08	/1	08	07	/3
Annual Greenhouse Gases (CO2) Produced						
Excess Due to Congestion (tons)						
Rank						
Due to All Travel (tons)						
Rank						
Truck Annual Greenhouse Gases (CO2) Produced						
Excess Due to Truck Congestion (tons)						
					1	
Rank						
Rank Due to Truck Travel (tons)		 				

^{*} Note: Zeroes in the table reflect values less than 0.5.

Inventory Measures	1984	1983	1982
Urban Area Information			
Population (1000s)	390	380	370
Rank	66	66	66
Commuters (1000s)	155	150	144
Daily Vehicle-Miles of Travel (1000s)			
Freeway	1,785	1,700	1,625
Arterial Streets	3,575	3,315	3,160
Cost Components			
Value of Time (\$/hour)	7.75	7.43	7.20
Commercial Cost (\$/hour)	23.94	23.63	23.31
Gasoline (\$/gallon)	1.34	1.37	1.43
Diesel (\$/gallon)	1.26	1.29	1.35
System Performance	1984	1983	1982
Congested Travel (% of peak VMT)			
Congested System (% of lane-miles)			
Congested Time (number of "Rush Hours")			
Annual Excess Fuel Consumed			
Total Fuel (1000 gallons)	912	682	645
Rank	75	77	75
Fuel per Peak Auto Commuter (gallons)	4	2	1
Rank	41	69	82
Annual Delay			
Total Delay (1000s of person-hours)	1,861	1,391	1,316
Rank	75	76	75
Delay per Auto Commuter (pers-hrs)	10	8	8
Rank	70	76	73
Travel Time Index	1.04	1.03	1.03
Rank	75	80	76
Commuter Stress Index			
Rank			
Freeway Planning Time Index (95th Pctile)			
Rank			
Congestion Cost			
Total Cost (\$ millions)	18	13	12
Rank	73	76	74
Cost per Auto Commuter (\$)	184	147	143
Rank	84	87	87
Truck Congestion			
Annual Person-Hours of Delay (000)	76	57	54
Rank	77	79	79
Annual Gallons of Wasted Fuel (000)	153	114	107
Rank	77	81	78
Annual Congestion Cost (\$ million)	2	1	1
Rank	71	79	78
Annual Greenhouse Gases (CO2) Produced			
Annual Greenhouse Gases (CO2) Produced Excess Due to Congestion (tons)			
Excess Due to Congestion (tons)	 	 	
Excess Due to Congestion (tons) Rank	 	 	
Excess Due to Congestion (tons) Rank Due to All Travel (tons) Rank	 	 	
Excess Due to Congestion (tons) Rank Due to All Travel (tons) Rank Truck Annual Greenhouse Gases (CO2) Produced	 	 	
Excess Due to Congestion (tons) Rank Due to All Travel (tons) Rank	 	 	
Excess Due to Congestion (tons) Rank Due to All Travel (tons) Rank Truck Annual Greenhouse Gases (CO2) Produced Excess Due to Truck Congestion (tons)	 	 	

^{*} Note: Zeroes in the table reflect values less than 0.5.