Performance Measure Summary - Minneapolis-St. Paul MN-WI

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.

Inventory Measures	2020	2019	2018	2017	2016	2015
Urban Area Information						
Population (1000s)	2,880	2,880	2,865	2,850	2,840	2,830
Rank	16	16	16	16	16	16
Commuters (1000s)	1,417	1,417	1,409	1,402	1,396	1,390
Daily Vehicle-Miles of Travel (1000s)						
Freeway	25,979	32,596	32,768	32,969	32,321	30,126
Arterial Streets	20,987	26,332	26,183	25,956	25,383	25,958
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)	2.26	2.59	2.79	2.30	2.08	2.24
Diesel (\$/gallon)	2.77	2.92	3.22	2.48	2.26	2.49
System Performance	2020	2019	2018	2017	2016	2015
Congested Travel (% of peak VMT)				24.6		
Congested System (% of lane-miles)				12.9		
Congested Time (number of "Rush Hours")				3.7		
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	22,154	40,837	36,835	33,726	33,488	33,230
Rank	15	17	19	22	20	19
Fuel per Peak Auto Commuter (gallons)	12	22	20	18	18	18
Rank	39	39	47	63	60	58
Annual Delay						
Total Delay (1000s of person-hours)	59,835	110,297	107,867	103,695	101,370	99,730
Rank	15	18	18	19	19	19
Delay per Auto Commuter (pers-hrs)	32	59	58	56	54	53
Rank	21	26	25	31	30	29
Travel Time Index	1.11	1.26	1.26	1.25	1.25	1.25
Rank	20	23	23	24	24	24
Commuter Stress Index	1.12	1.28	1.27	1.26		
Rank	24	31	32	32		
Freeway Planning Time Index (95th Pctile)		1.77	1.70	1.61		
Rank		28	31	37		
Congestion Cost						
Total Cost (\$ millions)	1,322	2,384	2,302	2,180	2,096	2,035
Rank	15	18	18	19	19	19
Cost per Auto Commuter (\$)	620	1,119	1,086	1,034	1,018	995
Rank	33	36	33	35	35	34
Truck Congestion						
Annual Person-Hours of Delay (000)	2,244	3,975	3,804	3,955	3,867	3,804
Rank	19	23	23	20	20	20
Annual Gallons of Wasted Fuel (000)	3,884	6,880	6,653	6,750	6,702	6,651
Rank	19	24	24	23	23	22
Annual Congestion Cost (\$ million)	119	236	210	208	196	182
Rank	19	18	23	20	20	20
Annual Greenhouse Gases (CO2) Produced	220.061	407.121		1	I	
Excess Due to Congestion (tons)	220,864	407,131				
Rank	5 424 622	10.017.067				
Due to All Travel (tons) Rank	5,434,622	10,017,967				
	10	1 /				
Truck Annual Greenhouse Gases (CO2) Produced	42 (20	75 507			I	
Excess Due to Truck Congestion (tons)	42,639	75,527				
Rank Due to Truck Travel (tons)	091 606	1 739 741				
Due to Truck Travel (tons)	981,606	1,738,741				
Rank	26	28				

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

Inventory Measures	2014	2013	2012	2011	2010	2009
Urban Area Information						
Population (1000s)	2,815	2,810	2,785	2,760	2,730	2,700
Rank	16	16	16	16	16	16
Commuters (1000s)	1,383	1,383	1,371	1,356	1,337	1,317
Daily Vehicle-Miles of Travel (1000s)						
Freeway	30,126	29,550	28,765	30,383	30,085	29,300
Arterial Streets	25,959	25,831	23,875	23,919	23,685	23,741
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	3.49	3.48	3.39	2.71	2.22
Diesel (\$/gallon)	3.72	3.88	3.96	3.72	3.01	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)	32,794	32,353	31,825	31,297	30,458	29,488
Rank	19	19	19	18	18	18
Fuel per Peak Auto Commuter (gallons)	17	17	17	17	18	15
Rank	65	64	61	60	46	62
Annual Delay						
Total Delay (1000s of person-hours)	96,726	93,750	90,573	87,450	84,317	80,108
Rank	19	19	19	19	19	18
Delay per Auto Commuter (pers-hrs)	52	50	50	49	47	47
Rank	28	28	23	22	24	23
Travel Time Index	1.26	1.26	1.26	1.25	1.25	1.25
Rank	22	22	21	22	21	22
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost	2 004	1.012	1 000	1.740	1.600	1 401
Total Cost (\$ millions)	2,004	1,912	1,822	1,742	1,608	1,491
Rank Cost per Auto Commuter (\$)	19 960	19 939	19 920	19 916	910	19 881
Rank	34	34	35	35	35	38
Truck Congestion	J 1	J -1	33	33	33	50
Annual Person-Hours of Delay (000)	3,689	3,576	3,455	3,336	3,216	3,056
Rank	20	20	20	20	20	20
Annual Gallons of Wasted Fuel (000)	6,563	6,475	6,370	6,264	6,096	5,902
Rank	23	22	22	22	22	22
Annual Congestion Cost (\$ million)	179	163	153	162	146	134
Rank	20	20	20	20	20	20
Annual Greenhouse Gases (CO2) Produced						
Excess Due to Congestion (tons)						
Rank						
Due to All Travel (tons)			 			
Due to All Travel (tons) Rank	 					
Due to All Travel (tons) Rank Truck Annual Greenhouse Gases (CO2) Produced	 			 		
Due to All Travel (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.

Inventory Measures	2008	2007	2006	2005	2004	2003
Urban Area Information						
Population (1000s)	2,670	2,620	2,570	2,520	2,490	2,475
Rank	16	16	16	16	16	16
Commuters (1000s)	1,298	1,265	1,232	1,199	1,178	1,165
Daily Vehicle-Miles of Travel (1000s)						
Freeway	28,835	29,000	28,610	28,140	27,400	27,580
Arterial Streets	24,475	24,350	24,000	23,830	23,535	23,205
Cost Components						
Value of Time (\$/hour)	16.07	15.47	15.06	14.58	14.10	13.73
Commercial Cost (\$/hour)	40.77	39.30	37.88	36.51	35.19	33.92
Gasoline (\$/gallon)	3.36	2.87	2.59	2.19	1.84	1.51
Diesel (\$/gallon)	4.07	3.34	2.90	2.45	1.91	1.45
System Performance	2008	2007	2006	2005	2004	2003
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	31,219	31,198	30,892	30,352	29,817	29,092
Rank	18	19	17	17	17	17
Fuel per Peak Auto Commuter (gallons)	17	17	17	17	17	16
Rank	61	61	56	48	46	49
Annual Delay						
Total Delay (1000s of person-hours)	80,770	80,718	79,924	78,529	77,143	75,267
Rank	17	18	18	18	16	16
Delay per Auto Commuter (pers-hrs)	47	48	48	49	49	48
Rank	21	19	20	18	14	14
Travel Time Index	1.26	1.27	1.27	1.28	1.28	1.27
Rank	21	19	19	14	14	14
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost	4.540	4 4-4		4 22 5		4.40.5
Total Cost (\$ millions)	1,548	1,476	1,414	1,335	1,258	1,185
Rank	18	18	18	18	17	16
Cost per Auto Commuter (\$) Rank	881	915 33	929 32	944 32	959 30	961 29
	33	33	32	32	30	29
Truck Congestion	2 000	2.070	2 040	2.005	2.042	2 071
Annual Person-Hours of Delay (000) Rank	3,080	3,079 20	3,049	2,995 20	2,942 20	2,871 20
Annual Gallons of Wasted Fuel (000)	6,248	6,244	6,183	6,075	5,967	5,822
Rank	21	22	22	22	21	19
Annual Congestion Cost (\$ million)	143	134	126	117	108	99
Rank	20	21	20	20	20	20
Annual Greenhouse Gases (CO2) Produced		21	20	25	20	23
Excess Due to Congestion (tons)						<u></u>
Rank	 					
Due to All Travel (tons)		<u></u>		<u></u>		
Rank						
Truck Annual Greenhouse Gases (CO2) Produced						
Excess Due to Truck Congestion (tons)						
Rank						
Due to Truck Travel (tons)		<u></u>		<u></u>		
Rank						

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

Inventory Measures	2002	2001	2000	1999	1998	1997
Urban Area Information						
Population (1000s)	2,440	2,430	2,390	2,370	2,320	2,290
Rank	16	16	16	16	16	16
Commuters (1000s)	1,132	1,108	1,073	1,046	1,008	979
Daily Vehicle-Miles of Travel (1000s)						
Freeway	27,300	28,185	27,095	26,165	25,505	24,485
Arterial Streets	23,105	22,450	21,825	21,445	20,735	20,610
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)	1.34	1.43	1.54	1.14	1.09	1.19
Diesel (\$/gallon)	1.32	1.50	1.48	1.12	1.14	1.28
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)	28,318	27,636	26,579	25,208	23,676	22,368
Rank	17	17	16	16	16	16
Fuel per Peak Auto Commuter (gallons)	16	16	16	15	14	13
Rank	42	36	32	32	31	38
Annual Delay						
Total Delay (1000s of person-hours)	73,265	71,501	68,767	65,220	61,255	57,872
Rank	16	16	16	16	16	16
Delay per Auto Commuter (pers-hrs)	48	47	47	46	45	43
Rank	13	12	12	11	11	12
Travel Time Index	1.27	1.27	1.27	1.26	1.25	1.24
Rank	13	13	10	9	9	9
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost		4 004		222	0.46	- 00
Total Cost (\$ millions)	1,123	1,081	1,013	920	846	790
Rank	16	16	16	16	16	16
Cost per Auto Commuter (\$) Rank	955 26	945 24	935 21	917 20	881 20	845 21
	20	24	21	20	20	21
Truck Congestion	2.704	2 727	2 (22	2.407	2 227	2 200
Annual Person-Hours of Delay (000)	2,794	2,727	2,623	2,487	2,337	2,208
Rank Annual Gallons of Wasted Fuel (000)	19 5,667	18 5,531	18 5,320	17 5,045	17 4,738	17 4,477
Rank	19	18	3,320	3,043	4,/38	4,477
Annual Congestion Cost (\$ million)	92	88	82	73	68	64
Rank	19	19	18	18	17	17
Annual Greenhouse Gases (CO2) Produced	17	17	10	10	1 /	1 /
Excess Due to Congestion (tons)						_
Rank				<u></u>		
Due to All Travel (tons)	 					
Rank						
Truck Annual Greenhouse Gases (CO2) Produced						
Excess Due to Truck Congestion (tons)						_
Rank	 	<u></u>		<u></u>		
Due to Truck Travel (tons)	 					
Rank	 					
11min						

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

Urban Area Information	Inventory Measures	1996	1995	1994	1993	1992	1991
Population (1000s)				2,7,1			
Rank 16 15 15 15 15 15 25 2018 Commuters (1000s) 887 848 833 75 2018 Vehicle-Miles of Travel (1000s) 22,930 22,930 21,785 20,860 19,490 18,745 16,000 40,600		2 250	2 220	2 175	2 115	2 110	2.055
Commuters (1000s) 946 919 887 848 833 78 78 78 78 78 78		1				l I	
Daily Vehicle-Miles of Travel (1000s) Freeway 22,930 22,385 21,785 20,860 19,490 18,660 Arterial Streets 19,520 19,010 18,745 18,235 17,645 16,600 Cost Components 11,71 11,37 11,06 10,78 10,47 10,100 Commercial Cost (\$\shapen (\shapen (\shapen \shapen (\shapen \shapen (\shapen \shapen \shapen (\shapen \shapen \shapen \shapen (\shapen \shapen \s							15
Frickway		940	919	887	848	833	/97
Ancrial Sircess			22.20.5	24.505	20.000		10.600
Value of Time (Schour)	,					· I	
Value of Time (Shour)		19,520	19,010	18,745	18,235	17,645	16,000
Commercial Cost (Shour)	-						
Gissoline (Ségallon) 1.35 1.16 1.12 1.14 1.13 1.15 Dissel (Ségallon) 1.48 1.23 1.18 1.23 1.18 1.23 Dissel (Ségallon) 1.48 1.23 1.18 1.23 1.23 Dissel (Ségallon) 1.48 1.23 1.23 1.23 1.23 Dissel (Ségallon) 1.48 1.23 1.23 1.23 1.23 Congested Travel (Nº of peak VMT) 1.28 1.28 1.28 Congested Travel (Nº of fane-miles) 1.28 1.28 1.28 1.28 Congested Time (number of "Rush Hours") 1.28 1.28 1.28 Congested Time (number of "Rush Hours") 1.28 1.28 1.28 Congested Time (number of "Rush Hours") 1.28 1.28 1.28 1.28 Congested Time (number of "Rush Hours") 1.28 1.28 1.28 1.28 Congested Time (number of "Rush Hours") 1.28 1.28 1.28 1.28 1.28 Congested Time (number of "Rush Hours") 1.28 1.28 1.28 1.28 1.28 1.28 Rank			11.37	11.06		10.47	10.17
Diesel (Sysallon)		28.12	27.75	27.38	27.02	26.66	26.30
1996 1995 1994 1993 1992 1991 1992 1992 1993 1992 1993 1992 1993 1992 1993 1993 1993 1992 1993			1.16	1.12	1.14	1.13	1.14
Congested Travel (% of peak VMT)	Diesel (\$/gallon)	1.43	1.23	1.18	1.21	1.18	1.26
Congested System (% of Flane-miles)	System Performance	1996	1995	1994	1993	1992	1991
Congested Time (number of "Rush Hours")	Congested Travel (% of peak VMT)						
Total Fuel (1000 gallons)	Congested System (% of lane-miles)						
Total Fuel (1000 gallons)	Congested Time (number of "Rush Hours")						
Total Fuel (1000 gallons)		1					
Rank		20.426	18.523	16.932	14.982	13.312	11,815
Fuel per Peak Auto Commuter (gallons) 12 11 10 9 8 8 4 45 49 53 24		1		·		· I	22
Rank							8
Annual Delay Total Delay (1000s of person-hours) 52,848 47,925 43,807 38,762 34,442 30,56 Rank 16 16 16 16 18 2 2 2 3 3 3 3 3 3 3		1			-	· ·	45
Total Delay (1000s of person-hours) 52,848 47,925 43,807 38,762 34,442 30,50							
Rank 16	•	52 848	47 925	43 807	38 762	34 442	30 568
Delay per Auto Commuter (pers-hrs)			· ·	·	*	· I	20
Rank							27
Travel Time Index							30
Rank							
Commuter Stress Index		1					
Rank		9		18	20	23	24
Freeway Planning Time Index (95th Pctile)							
Rank							
Congestion Cost 710 623 554 479 414 35 Rank 16 16 16 16 17 18 2 Cost per Auto Commuter (\$) 788 736 695 631 577 52 Rank 22 28 30 30 35 4 Truck Congestion 30 30 35 4 4 4 4 4 4 4 4 4 3 5 4 4 4 4 3 5 4 4 4 4 3 5 4 4 4 4 3 5 4 4 4 3 5 4 4 4 3 5 4 4 4 3 5 4 4 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
Total Cost (\$ millions)							
Rank							
Cost per Auto Commuter (\$) 788 736 695 631 577 522 528 30 30 35 54 54 54 54 54 54 54							358
Rank 22 28 30 30 35 4 Truck Congestion Annual Person-Hours of Delay (000) 2,016 1,828 1,671 1,478 1,314 1,16 Rank 19 19 20 20 22 2 2 Annual Gallons of Wasted Fuel (000) 4,088 3,707 3,389 2,998 2,664 2,36 Rank 18 19 21 22 23 2 Annual Congestion Cost (\$ million) 59 52 47 41 36 3 Rank 17 19 19 20 22 2 Annual Greenhouse Gases (CO2) Produced 59 52 47 41 36 3 Excess Due to Congestion (tons)							20
Truck Congestion 2,016 1,828 1,671 1,478 1,314 1,16 Rank 19 19 20 20 22 2 Annual Gallons of Wasted Fuel (000) 4,088 3,707 3,389 2,998 2,664 2,36 Rank 18 19 21 22 23 2 Annual Congestion Cost (\$ million) 59 52 47 41 36 3 Rank 17 19 19 20 22 2 Annual Greenhouse Gases (CO2) Produced Excess Due to Congestion (tons)	•						528
Annual Person-Hours of Delay (000) Rank Annual Gallons of Wasted Fuel (000) Rank Annual Congestion Cost (\$ million) Rank Excess Due to Congestion (tons) Rank Due to All Travel (tons) Rank Annual Person-Hours of Delay (000) 2,016 1,828 1,671 1,478 1,478 1,314 1,16 20 20 22 23 24 2,998 2,664 2,36 23 24 41 36 33 34 36 31 36 37 41 36 36 37 41 36 36 37 41 41 41 41 41 41 41 41 41 4		22	28	30	30	35	43
Rank 19 19 20 20 22 22 Annual Gallons of Wasted Fuel (000) 4,088 3,707 3,389 2,998 2,664 2,36 Rank 18 19 21 22 23 2 Annual Congestion Cost (\$ million) 59 52 47 41 36 3 Rank 17 19 19 20 22 2 Annual Greenhouse Gases (CO2) Produced 20 22 2 2 Excess Due to Congestion (tons) 20 20 2 2 Annual Greenhouse Gases (CO2) Produced 20 20 2 2 Excess Due to Congestion (tons) 20 20 2 2 Annual Greenhouse Gases (CO2) Produced 20 20 2 2 Excess Due to Congestion (tons) 20 20 2 2 2 Annual Greenhouse Gases (CO2) Produced 20 20 2 2 2 2 Rank 20 20 2 2 2 2 2 2 2 <td< td=""><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	-						
Annual Gallons of Wasted Fuel (000) Rank Annual Congestion Cost (\$ million) Annual Gallons of Wasted Fuel (000) Rank Annual Congestion Cost (\$ million) Annual Congestion Cost (\$ million) Annual Greenhouse Gases (CO2) Produced Excess Due to Congestion (tons) Rank Due to All Travel (tons) Rank	• • • • • • • • • • • • • • • • • • • •		· ·			l	1,166
Rank 18 19 21 22 23 22 Annual Congestion Cost (\$ million) 59 52 47 41 36 3 Rank 17 19 19 20 22 2 Annual Greenhouse Gases (CO2) Produced <t< td=""><td></td><td>1</td><td></td><td></td><td></td><td></td><td>22</td></t<>		1					22
Annual Congestion Cost (\$ million) 59 52 47 41 36 3 Rank 17 19 19 20 22 2 Annual Greenhouse Gases (CO2) Produced -	• * *					· I	2,365
Rank 17 19 19 20 22 2 Annual Greenhouse Gases (CO2) Produced Street of Congestion (tons)							23
Annual Greenhouse Gases (CO2) Produced <td< td=""><td></td><td></td><td></td><td></td><td></td><td> </td><td>32</td></td<>							32
Excess Due to Congestion (tons) <td>Rank</td> <td>17</td> <td>19</td> <td>19</td> <td>20</td> <td>22</td> <td>22</td>	Rank	17	19	19	20	22	22
Rank <	Annual Greenhouse Gases (CO2) Produced						
Due to All Travel (tons) Rank	Excess Due to Congestion (tons)						
Rank	Rank						
	Due to All Travel (tons)						
Truck Annual Greenhouse Gases (CO2) Produced	Rank						
	Truck Annual Greenhouse Gases (CO2) Produced						
Excess Due to Truck Congestion (tons)	· · · ·						
Rank	- ' '						
Due to Truck Travel (tons)							
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)	2,010	1,970	1,925	1,885	1,845	1,800
Rank	15	1,570	16	16	17	1,000
Commuters (1000s)	768	747	723	704	682	661
	700	/ - / /	723	704	002	001
Daily Vehicle-Miles of Travel (1000s)	17,790	16,860	16,420	15,620	14.560	13,685
Freeway Arterial Streets	14,960	14,265	14,570	13,620	14,560 13,605	12,670
	14,900	14,203	14,370	14,110	13,003	12,070
Cost Components	0.75	0.05	0.02	0.40	0.10	0.02
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)	1.12	1.16	1.07	1.07	1.05	1.37
Diesel (\$/gallon)	1.14	1.09	1.00	1.01	0.98	1.29
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)	10,177	9,320	8,561	7,658	6,846	6,237
Rank	23	24	23	24	24	24
Fuel per Peak Auto Commuter (gallons)	7	5	6	4	4	3
Rank	50	63	45	61	54	66
Annual Delay						
Total Delay (1000s of person-hours)	26,330	24,114	22,148	19,813	17,711	16,137
Rank	20	20	19	21	22	23
Delay per Auto Commuter (pers-hrs)	24	23	22	20	18	17
Rank	39	37	32	36	42	38
Travel Time Index	1.14	1.13	1.12	1.11	1.10	1.10
Rank	26	28	28	30	33	27
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	297	259	228	196	170	154
Rank	20	20	19	21	22	23
Cost per Auto Commuter (\$)	477	462	446	416	386	357
Rank	45	43	44	50	52	51
Truck Congestion	13	13		30	32	31
Annual Person-Hours of Delay (000)	1,004	920	845	756	676	616
Rank Annual Gallons of Wasted Fuel (000)	22 2,037	22 1,865	22 1,713	22 1,532	24 1,370	24 1,248
Rank	2,037	1,865	1,/13	1,532	1,370	1,248
Annual Congestion Cost (\$ million)	27	24 24	24 22	19	17	24 16
Rank	27	24 22	22	22	24	24
		22	22	22	24	24
Annual Greenhouse Gases (CO2) Produced				ı	İ	
Excess Due to Congestion (tons)						
Rank						
Due to All Travel (tons)						
Rank						
Truck Annual Greenhouse Gases (CO2) Produced						
Excess Due to Truck Congestion (tons)						
Rank						
	'					
Due to Truck Travel (tons) Rank						

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

Urban Area Information	Inventory Measures	1984	1983	1982
Population (1000s)	Urban Area Information			
Commuters (1000s)	Population (1000s)	1,750	1,750	1,750
Daily Vehicle-Miles of Travel (1000s) Freeway 13,000 12,165 11,200 11,515 10,830 11,800 12,800 12,800 12,800 12,800 12,800 12,800 13,80	Rank	18	17	17
Freeway	Commuters (1000s)	638	634	626
Freeway	Daily Vehicle-Miles of Travel (1000s)			
Arterial Streets		13,000	12,165	11,200
Value of Time (Shour)	•		· · · · · · · · · · · · · · · · · · ·	
Value of Time (\$\sigma\$) (Sybur) 7.75 7.43 7.20 Commercial Cost (\$\sigma\$) (Syallon) 13.8 1.42 1.48 Diesel (\$\sigma\$) (Syallon) 1.30 1.33 1.33 System Performance 1984 1983 1982 Congested Travel (\$\circ\$ of peak VMT)		,	,	
Commercial Cost (S/hour)	-	7.75	7.43	7.20
Gasoline (\$/gallon)	` ´			
Diesel (Sgallon) 1.30 1.33 1.39 1.	` ´			
System Performance		1.30	1.33	1.39
Congested Travel (% of peak VMT)				
Congested System (% of lane-miles) Congested Time (number of "Rush Hours") Annual Excess Fuel Consumed Total Fuel (1000 gallons) 5,585 4,745 4,263 Rank 23 24 24 Fuel per Peak Auto Commuter (gallons) 4 3 2 Rank 41 46 55 Annual Delay 11,029 11,029 Rank 23 23 23 Delay per Auto Commuter (pers-hrs) 16 14 12 Rank 41 44 47 Travel Time Index 1.09 1.08 1.07 Rank 1.09 1.08 1.07 Rank - - - - Tavel Time Index 1.09 1.08 1.07 Rank - - - - Rank - - - - Tavexay Planning Time	•	3, 0.1	1700	1702
Congested Time (number of "Rush Hours") — — — Annual Excess Fuel Consumed S,585 4,745 4,263 Rank 23 24 24 Puel per Peak Auto Commuter (gallons) 4 3 2 Rank 41 46 55 Annual Delay 3 2,276 11,029 Rank 23 23 23 23 Delay per Auto Commuter (pers-hrs) 16 14 12 Rank 41 44 47 Travel Time Index 1,09 1,08 1,07 Rank 30 34 36 Commuter Stress Index Rank Freeway Planning Time Index (95th Petile) Rank Congestion Cost Total Cost (\$ millions) 134 110 96 Rank 23 23 23 23				
Namual Excess Fuel Consumed Total Fuel (1000 gallons) 5,585 4,745 4,263 Rank 23 24 24 24 24 24 24 24				
Total Fuel (1000 gallons)				
Rank		5 505	4 5 4 5	1.062
Fuel per Peak Auto Commuter (gallons)			, , , , , , , , , , , , , , , , , , ,	
Rank				
Annual Delay Total Delay (1000s of person-hours) 14,449 12,276 11,029 Rank 23 23 23 23 23 23 23 2		•	-	
Total Delay (1000s of person-hours)		41	46	55
Rank 23 23 23 23 23 23 24 24				
Delay per Auto Commuter (pers-hrs)	- 1			
Rank			-	
Travel Time Index		-		
Rank	Rank	41	44	47
Commuter Stress Index Rank Freeway Planning Time Index (95th Pctile) Rank Congestion Cost Total Cost (\$ millions) 134 110 96 Rank 23 23 23 23 23 23 23 Cost per Auto Commuter (\$) 332 295 275 Rank 49 55 55 Truck Congestion Annual Person-Hours of Delay (000) 551 469 420 Rank 24 24 24 24 Annual Gallons of Wasted Fuel (000) 1,118 950 853 Rank 24 24 26 26 Annual Congestion Cost (\$ million) 14 12 10 Rank 24 24 24 24 Annual Greenhouse Gases (CO2) Produced Excess Due to Congestion (tons) </td <td>Travel Time Index</td> <td>1.09</td> <td>1.08</td> <td>1.07</td>	Travel Time Index	1.09	1.08	1.07
Rank	Rank	30	34	36
Freeway Planning Time Index (95th Pctile)	Commuter Stress Index			
Rank Congestion Cost Total Cost (\$ millions) 134 110 96 Rank 23 23 23 23 Cost per Auto Commuter (\$) 332 295 275 Rank 49 55 55 Truck Congestion Annual Person-Hours of Delay (000) 551 469 420 Rank 24 24 24 24 Annual Gallons of Wasted Fuel (000) 1,118 950 853 Rank 24 26 26 26 Annual Congestion Cost (\$ million) 14 12 10 Rank 24 24 24 24 Annual Greenhouse Gases (CO2) Produced 24 24 24 24 Excess Due to Congestion (tons) Rank Due to All Travel (tons) Rank Truck Annual Greenhouse Gases (CO2) Produced <				
Congestion Cost 134 110 96 Rank 23 23 23 Cost per Auto Commuter (\$) 332 295 275 Rank 49 55 55 Truck Congestion 351 469 420 Rank 24 24 24 Annual Gallons of Wasted Fuel (000) 1,118 950 853 Rank 24 26 26 Annual Congestion Cost (\$ million) 14 12 10 Rank 24 24 24 Annual Greenhouse Gases (CO2) Produced 24 24 24 Excess Due to Congestion (tons) Rank Due to All Travel (tons) Truck Annual Greenhouse Gases (CO2) Produced Excess Due to Truck Congestion (tons) Rank Due to Truck	Freeway Planning Time Index (95th Pctile)			
Total Cost (\$ millions)	Rank			
Rank 23 23 23 Cost per Auto Commuter (\$) 332 295 275 Rank 49 55 55 Truck Congestion	Congestion Cost			
Cost per Auto Commuter (\$) 332 295 275 Rank	Total Cost (\$ millions)	134	110	96
Rank	Rank	23	23	23
Truck Congestion Annual Person-Hours of Delay (000) 551 469 420 Rank 24 24 24 24 Annual Gallons of Wasted Fuel (000) 1,118 950 853 Rank 24 26 26 Annual Congestion Cost (\$ million) 14 12 10 Rank 24 24 24 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) Rank Due to Truck Travel (tons)	Cost per Auto Commuter (\$)	332	295	275
Annual Person-Hours of Delay (000) Rank Rank Annual Gallons of Wasted Fuel (000) Rank Annual Gallons of Wasted Fuel (000) Rank Annual Congestion Cost (\$ million) Rank 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) Rank Truck Annual Greenhouse Gases (CO2) Produced Excess Due to Truck Congestion (tons) Rank Truck Annual Greenhouse Gases (CO2) Produced Excess Due to Truck Congestion (tons) Rank Truck Annual Greenhouse Gases (CO2) Produced	Rank	49	55	55
Rank 24 24 24 Annual Gallons of Wasted Fuel (000) 1,118 950 853 Rank 24 26 26 Annual Congestion Cost (\$ million) 14 12 10 Rank 24 24 24 Annual Greenhouse Gases (CO2) Produced Excess Due to Congestion (tons) Pue to All Travel (tons) Rank Truck Annual Greenhouse Gases (CO2) Produced Excess Due to Truck Congestion (tons) Rank Due to Truck Travel (tons)	Truck Congestion			
Annual Gallons of Wasted Fuel (000) 1,118 950 853 Rank 24 26 26 Annual Congestion Cost (\$ million) 14 12 10 Rank 24 24 24 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) Rank Due to Truck Travel (tons)	Annual Person-Hours of Delay (000)	551	469	420
Rank 24 26 26 Annual Congestion Cost (\$ million) 14 12 10 Rank 24 24 24 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) Rank Due to Truck Travel (tons)	Rank	24	24	24
Annual Congestion Cost (\$ million) 14 12 10 Rank 24 24 24 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) Rank Due to Truck Travel (tons)	Annual Gallons of Wasted Fuel (000)	1,118	950	853
Rank 24 24 24 24 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) Rank Due to Truck Travel (tons)	Rank	24	26	26
Annual Greenhouse Gases (CO2) Produced	Annual Congestion Cost (\$ million)	14	12	10
Excess Due to Congestion (tons)	Rank	24	24	24
Excess Due to Congestion (tons)	Annual Greenhouse Gases (CO2) Produced			
Rank Due to All Travel (tons) Rank Truck Annual Greenhouse Gases (CO2) Produced Excess Due to Truck Congestion (tons) Rank Due to Truck Travel (tons)	Excess Due to Congestion (tons)			
Rank Truck Annual Greenhouse Gases (CO2) Produced Second Secon	Rank			
Rank Truck Annual Greenhouse Gases (CO2) Produced Second Secon	Due to All Travel (tons)			
Excess Due to Truck Congestion (tons) Rank Due to Truck Travel (tons)	Rank			
Excess Due to Truck Congestion (tons) Rank Due to Truck Travel (tons)	Truck Annual Greenhouse Gases (CO2) Produced			
Rank Due to Truck Travel (tons)				
Due to Truck Travel (tons)	- ' '			
	Rank			

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