

Performance Measure Summary - Stockton CA

There are several inventory and performance measures listed in the pages of this Urban Area Report for the years from 1982 to 2017. 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 2017 (estimated at \$18.29 per hour of person travel and \$59.94 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.

Mobility Data for Stockton CA

Inventory Measures	2017	2016	2015	2014	2013	2012
Urban Area Information						
Population (1000s)	390	385	380	375	375	380
Rank	86	86	86	86	86	86
Commuters (1000s)	203	200	197	193	196	199
Daily Vehicle-Miles of Travel (1000s)						
Freeway	3,878	3,878	3,689	3,566	3,595	3,740
Arterial Streets	2,017	1,992	2,062	2,095	2,242	2,245
Cost Components						
Value of Time (\$/hour)	18.12	17.91	17.69	17.67	17.39	17.14
Commercial Cost (\$/hour)	52.14	50.20	46.87	44.82	41.23	39.66
Gasoline (\$/gallon)	2.96	2.78	3.18	3.63	3.89	3.89
Diesel (\$/gallon)	2.95	2.68	2.86	3.85	4.12	4.20
System Performance	2017	2016	2015	2014	2013	2012
Congested Travel (% of peak VMT)	24.5	--	--	--	--	--
Congested System (% of lane-miles)	15.6	--	--	--	--	--
Congested Time (number of "Rush Hours")	3.3	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	3,475	3,287	3,137	2,959	2,912	2,892
Rank	91	91	92	93	93	92
Fuel per Peak Auto Commuter (gallons)	17	16	16	15	14	13
Rank	68	76	73	81	85	87
Annual Delay						
Total Delay (1000s of person-hours)	9,928	9,288	8,788	8,218	7,945	7,820
Rank	85	86	88	88	88	88
Delay per Auto Commuter (pers-hrs)	32	30	30	29	27	26
Rank	93	93	92	92	93	94
Travel Time Index						
Rank	1.15	1.15	1.15	1.15	1.14	1.14
Rank	71	71	69	71	78	79
Commuter Stress Index						
Rank	1.17	--	--	--	--	--
Rank	66	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	1.41	--	--	--	--	--
Rank	53	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	202	186	174	164	156	151
Rank	85	86	87	88	88	88
Cost per Auto Commuter (\$)	704	664	622	580	565	564
Rank	80	83	85	90	90	88
Truck Congestion						
Annual Person-Hours of Delay (000)	417	390	369	345	334	328
Rank	85	86	88	88	88	88
Annual Gallons of Wasted Fuel (000)	737	697	665	627	617	613
Rank	91	91	92	93	93	92
Annual Congestion Cost (\$ million)	21	19	17	16	15	14
Rank	85	86	87	88	88	88

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

Mobility Data for Stockton CA

Inventory Measures	2011	2010	2009	2008	2007	2006
Urban Area Information						
Population (1000s)	385	380	380	375	375	370
Rank	85	85	84	84	84	84
Commuters (1000s)	201	198	197	194	193	189
Daily Vehicle-Miles of Travel (1000s)						
Freeway	3,591	3,547	3,565	3,605	3,835	3,605
Arterial Streets	2,235	2,208	2,200	2,195	2,225	2,195
Cost Components						
Value of Time (\$/hour)	16.79	16.28	16.01	16.07	15.47	15.06
Commercial Cost (\$/hour)	44.62	42.50	41.83	40.77	39.30	37.88
Gasoline (\$/gallon)	3.51	3.05	2.61	3.84	3.24	2.88
Diesel (\$/gallon)	4.02	3.20	2.71	4.39	3.60	3.17
System Performance	2011	2010	2009	2008	2007	2006
Congested Travel (% of peak VMT)	--	--	--	--	--	--
Congested System (% of lane-miles)	--	--	--	--	--	--
Congested Time (number of "Rush Hours")	--	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	2,871	2,816	2,774	2,880	3,148	3,009
Rank	91	91	91	91	90	90
Fuel per Peak Auto Commuter (gallons)	12	12	12	11	12	10
Rank	89	89	83	94	90	93
Annual Delay						
Total Delay (1000s of person-hours)	7,555	7,342	7,096	7,017	7,669	7,330
Rank	87	87	87	86	84	86
Delay per Auto Commuter (pers-hrs)	24	22	21	21	22	21
Rank	94	95	96	96	94	96
Travel Time Index						
Rank	1.14	1.14	1.14	1.14	1.15	1.14
Rank	77	73	74	79	72	78
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	144	135	127	130	135	125
Rank	87	87	87	86	85	85
Cost per Auto Commuter (\$)	563	565	555	547	838	820
Rank	86	87	85	82	38	41
Truck Congestion						
Annual Person-Hours of Delay (000)	317	308	298	295	322	308
Rank	87	87	87	86	84	86
Annual Gallons of Wasted Fuel (000)	609	597	588	611	667	638
Rank	91	91	91	91	90	90
Annual Congestion Cost (\$ million)	15	13	13	13	14	12
Rank	87	87	86	87	82	85

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

Mobility Data for Stockton CA

Inventory Measures	2005	2004	2003	2002	2001	2000
Urban Area Information						
Population (1000s)	370	365	365	360	350	345
Rank	84	84	83	82	81	81
Commuters (1000s)	188	184	183	178	170	165
Daily Vehicle-Miles of Travel (1000s)						
Freeway	3,450	3,360	3,195	3,020	2,970	2,830
Arterial Streets	2,165	2,090	2,000	1,990	1,980	1,975
Cost Components						
Value of Time (\$/hour)	14.58	14.10	13.73	13.43	13.22	12.85
Commercial Cost (\$/hour)	36.51	35.19	33.92	32.69	31.51	30.38
Gasoline (\$/gallon)	2.62	2.28	1.78	1.66	1.93	1.72
Diesel (\$/gallon)	2.93	2.27	1.79	1.58	1.78	1.68
System Performance	2005	2004	2003	2002	2001	2000
Congested Travel (% of peak VMT)	--	--	--	--	--	--
Congested System (% of lane-miles)	--	--	--	--	--	--
Congested Time (number of "Rush Hours")	--	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	2,886	2,452	2,269	2,196	1,997	1,814
Rank	91	93	93	92	92	92
Fuel per Peak Auto Commuter (gallons)	11	9	7	8	7	6
Rank	88	94	95	93	93	94
Annual Delay						
Total Delay (1000s of person-hours)	7,032	5,974	5,527	5,349	4,866	4,420
Rank	85	87	88	88	87	88
Delay per Auto Commuter (pers-hrs)	20	19	18	18	16	16
Rank	96	96	95	95	96	96
Travel Time Index						
Rank	1.14	1.12	1.11	1.11	1.10	1.10
Rank	76	84	87	84	88	86
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	115	94	84	79	71	62
Rank	85	87	87	88	87	88
Cost per Auto Commuter (\$)	815	718	678	677	624	575
Rank	42	53	57	54	61	68
Truck Congestion						
Annual Person-Hours of Delay (000)	295	251	232	225	204	186
Rank	85	87	87	88	87	88
Annual Gallons of Wasted Fuel (000)	612	520	481	465	423	385
Rank	91	93	93	92	92	92
Annual Congestion Cost (\$ million)	11	9	8	7	6	6
Rank	83	86	85	85	87	85

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

Mobility Data for Stockton CA

Inventory Measures	1999	1998	1997	1996	1995	1994
Urban Area Information						
Population (1000s)	340	330	320	310	305	300
Rank	81	82	83	84	84	84
Commuters (1000s)	160	153	146	140	135	131
Daily Vehicle-Miles of Travel (1000s)						
Freeway	2,700	2,615	2,525	2,455	2,335	2,155
Arterial Streets	1,965	1,960	1,950	1,940	1,930	1,925
Cost Components						
Value of Time (\$/hour)	12.43	12.17	11.98	11.71	11.37	11.06
Commercial Cost (\$/hour)	29.28	28.89	28.50	28.12	27.75	27.38
Gasoline (\$/gallon)	1.59	1.27	1.40	1.21	1.27	1.16
Diesel (\$/gallon)	1.50	1.39	1.51	1.24	1.31	1.19
System Performance	1999	1998	1997	1996	1995	1994
Congested Travel (% of peak VMT)	--	--	--	--	--	--
Congested System (% of lane-miles)	--	--	--	--	--	--
Congested Time (number of "Rush Hours")	--	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	1,739	1,621	1,554	1,480	1,446	1,303
Rank	92	92	90	88	88	88
Fuel per Peak Auto Commuter (gallons)	5	5	4	4	4	3
Rank	94	93	94	92	90	94
Annual Delay						
Total Delay (1000s of person-hours)	4,236	3,949	3,786	3,606	3,524	3,175
Rank	87	86	86	85	82	84
Delay per Auto Commuter (pers-hrs)	15	15	14	14	13	12
Rank	96	95	95	95	95	95
Travel Time Index						
Rank	1.09	1.09	1.09	1.09	1.09	1.08
Rank	87	84	83	79	77	80
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	58	52	50	46	44	38
Rank	87	86	86	85	82	84
Cost per Auto Commuter (\$)	576	549	529	523	526	488
Rank	64	65	65	60	55	57
Truck Congestion						
Annual Person-Hours of Delay (000)	178	166	159	151	148	133
Rank	87	86	86	85	82	84
Annual Gallons of Wasted Fuel (000)	369	344	329	314	307	276
Rank	92	92	90	88	88	88
Annual Congestion Cost (\$ million)	5	5	4	4	4	4
Rank	84	84	86	82	79	79

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Mobility Data for Stockton CA

Inventory Measures	1993	1992	1991	1990	1989	1988
Urban Area Information						
Population (1000s)	295	290	285	280	275	265
Rank	84	84	84	84	84	85
Commuters (1000s)	127	123	119	115	112	107
Daily Vehicle-Miles of Travel (1000s)						
Freeway	2,000	1,900	1,800	1,675	1,590	1,445
Arterial Streets	1,900	1,880	1,850	1,805	1,780	1,730
Cost Components						
Value of Time (\$/hour)	10.78	10.47	10.17	9.75	9.25	8.83
Commercial Cost (\$/hour)	27.02	26.66	26.30	25.95	25.60	25.26
Gasoline (\$/gallon)	1.23	1.28	1.11	1.14	1.14	1.05
Diesel (\$/gallon)	1.26	1.25	1.25	1.19	1.09	1.01
System Performance	1993	1992	1991	1990	1989	1988
Congested Travel (% of peak VMT)	--	--	--	--	--	--
Congested System (% of lane-miles)	--	--	--	--	--	--
Congested Time (number of "Rush Hours")	--	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	1,222	1,123	1,079	1,040	888	743
Rank	88	88	87	86	86	87
Fuel per Peak Auto Commuter (gallons)	3	3	3	4	2	2
Rank	90	90	90	81	90	87
Annual Delay						
Total Delay (1000s of person-hours)	2,976	2,737	2,628	2,534	2,163	1,810
Rank	83	82	82	82	82	83
Delay per Auto Commuter (pers-hrs)	12	11	11	10	9	8
Rank	94	93	92	92	92	92
Travel Time Index						
Rank	1.08	1.08	1.08	1.07	1.07	1.06
Rank	77	76	71	76	66	74
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	35	32	29	27	22	18
Rank	83	82	82	82	82	83
Cost per Auto Commuter (\$)	471	442	436	440	403	353
Rank	56	57	51	47	55	60
Truck Congestion						
Annual Person-Hours of Delay (000)	125	115	110	106	91	76
Rank	83	82	82	82	82	83
Annual Gallons of Wasted Fuel (000)	259	238	229	221	188	158
Rank	88	88	87	86	86	87
Annual Congestion Cost (\$ million)	3	3	3	3	2	2
Rank	82	80	80	77	82	80

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

Mobility Data for Stockton CA

Inventory Measures	1987	1986	1985	1984	1983	1982
Urban Area Information						
Population (1000s)	255	245	235	225	220	210
Rank	85	85	86	86	86	86
Commuters (1000s)	102	98	93	88	86	81
Daily Vehicle-Miles of Travel (1000s)						
Freeway	1,380	1,250	1,120	950	885	735
Arterial Streets	1,600	1,590	1,580	1,575	1,550	1,510
Cost Components						
Value of Time (\$/hour)	8.48	8.18	8.03	7.75	7.43	7.20
Commercial Cost (\$/hour)	24.93	24.60	24.27	23.94	23.63	23.31
Gasoline (\$/gallon)	1.05	1.03	1.35	1.36	1.39	1.46
Diesel (\$/gallon)	1.01	0.99	1.29	1.31	1.34	1.40
System Performance	1987	1986	1985	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)	633	592	574	496	472	440
Rank	87	87	86	86	86	85
Fuel per Peak Auto Commuter (gallons)	2	1	1	1	1	1
Rank	86	91	90	87	86	82
Annual Delay						
Total Delay (1000s of person-hours)	1,541	1,443	1,399	1,208	1,149	1,071
Rank	85	85	84	84	83	83
Delay per Auto Commuter (pers-hrs)	7	7	7	6	6	6
Rank	94	94	92	96	94	90
Travel Time Index						
Rank	79	74	64	57	68	61
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	15	13	13	11	10	9
Rank	84	85	83	83	83	82
Cost per Auto Commuter (\$)	318	302	288	258	262	257
Rank	63	64	62	63	57	56
Truck Congestion						
Annual Person-Hours of Delay (000)	65	61	59	51	48	45
Rank	85	85	84	84	83	83
Annual Gallons of Wasted Fuel (000)	134	126	122	105	100	93
Rank	87	87	86	86	86	85
Annual Congestion Cost (\$ million)	2	1	1	1	1	1
Rank	79	84	83	81	78	75

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