

Performance Measure Summary - 494 Area Average

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 494 Area Average

Inventory Measures	2017	2016	2015	2014	2013	2012
Urban Area Information						
Population (1000s)	481	472	469	467	459	455
Rank	--	--	--	--	--	--
Commuters (1000s)	233	226	224	223	224	223
Daily Vehicle-Miles of Travel (1000s)						
Freeway	4,302	3,377	3,274	3,155	3,080	3,038
Arterial Streets	4,425	3,136	3,074	3,042	3,010	2,993
Cost Components						
Value of Time (\$/hour)	18.29	17.91	17.69	17.67	17.39	17.14
Commercial Cost (\$/hour)	54.94	50.20	46.87	44.82	41.23	39.66
Gasoline (\$/gallon)	2.37	2.19	2.35	3.35	3.51	3.30
Diesel (\$/gallon)	2.56	2.32	2.55	3.65	3.90	3.65
System Performance	2017	2016	2015	2014	2013	2012
Congested Travel (% of peak VMT)	25.1	--	--	--	--	--
Congested System (% of lane-miles)	14.6	--	--	--	--	--
Congested Time (number of "Rush Hours")	3.3	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	6,763	6,654	6,579	6,505	6,687	6,577
Rank	--	--	--	--	--	--
Fuel per Peak Auto Commuter (gallons)	21	21	21	20	20	20
Rank	--	--	--	--	--	--
Annual Delay						
Total Delay (1000s of person-hours)	17,834	17,349	16,964	16,546	16,179	15,682
Rank	--	--	--	--	--	--
Delay per Auto Commuter (pers-hrs)	54	53	51	50	48	47
Rank	--	--	--	--	--	--
Travel Time Index						
Rank	1.23	1.23	1.23	1.22	1.22	1.22
Commuter Stress Index						
Rank	1.27	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	1.67	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	336	319	309	307	300	287
Rank	--	--	--	--	--	--
Cost per Auto Commuter (\$)	1,009	985	960	934	921	907
Rank	--	--	--	--	--	--
Truck Congestion						
Annual Person-Hours of Delay (000)	783	761	745	728	711	689
Rank	--	--	--	--	--	--
Annual Gallons of Wasted Fuel (000)	1,390	1,367	1,352	1,337	1,383	1,361
Rank	--	--	--	--	--	--
Annual Congestion Cost (\$ million)	41	37	34	34	31	30
Rank	--	--	--	--	--	--

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

Mobility Data for 494 Area Average

Inventory Measures	2011	2010	2009	2008	2007	2006
Urban Area Information						
Population (1000s)	451	447	442	437	433	428
Rank	--	--	--	--	--	--
Commuters (1000s)	223	221	218	215	213	210
Daily Vehicle-Miles of Travel (1000s)						
Freeway	3,146	3,098	3,047	3,017	3,075	3,048
Arterial Streets	3,043	3,016	3,006	3,005	3,046	3,035
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)	3.40	2.75	2.28	3.51	3.06	2.70
Diesel (\$/gallon)	3.75	3.01	2.62	4.18	3.44	2.87
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)	6,438	6,314	6,193	6,396	6,397	6,291
Rank	--	--	--	--	--	--
Fuel per Peak Auto Commuter (gallons)	19	19	18	19	19	19
Rank	--	--	--	--	--	--
Annual Delay						
Total Delay (1000s of person-hours)	15,086	14,596	14,063	13,848	13,842	13,631
Rank	--	--	--	--	--	--
Delay per Auto Commuter (pers-hrs)	45	44	43	42	43	42
Rank	--	--	--	--	--	--
Travel Time Index						
Rank	1.21	1.21	1.21	1.22	1.22	1.22
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	270	251	235	241	230	218
Rank	--	--	--	--	--	--
Cost per Auto Commuter (\$)	891	890	873	858	893	906
Rank	--	--	--	--	--	--
Truck Congestion						
Annual Person-Hours of Delay (000)	663	641	618	608	608	599
Rank	--	--	--	--	--	--
Annual Gallons of Wasted Fuel (000)	1,332	1,306	1,281	1,323	1,323	1,301
Rank	--	--	--	--	--	--
Annual Congestion Cost (\$ million)	31	28	26	28	26	24
Rank	--	--	--	--	--	--

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

Mobility Data for 494 Area Average

Inventory Measures	2005	2004	2003	2002	2001	2000
Urban Area Information						
Population (1000s)	424	419	414	408	402	396
Rank	--	--	--	--	--	--
Commuters (1000s)	206	203	199	194	188	182
Daily Vehicle-Miles of Travel (1000s)						
Freeway	3,011	2,960	2,873	2,777	2,699	2,622
Arterial Streets	2,998	2,948	2,876	2,808	2,738	2,676
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)	2.36	2.01	1.57	1.45	1.61	1.59
Diesel (\$/gallon)	2.53	1.99	1.53	1.39	1.57	1.52
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)	6,123	5,933	5,703	5,472	5,222	4,973
Rank	--	--	--	--	--	--
Fuel per Peak Auto Commuter (gallons)	19	18	18	17	16	16
Rank	--	--	--	--	--	--
Annual Delay						
Total Delay (1000s of person-hours)	13,262	12,854	12,355	11,857	11,323	10,794
Rank	--	--	--	--	--	--
Delay per Auto Commuter (pers-hrs)	42	41	41	40	39	38
Rank	--	--	--	--	--	--
Travel Time Index						
Rank	1.22	1.21	1.21	1.20	1.20	1.19
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	204	189	175	164	155	144
Rank	--	--	--	--	--	--
Cost per Auto Commuter (\$)	913	917	908	894	871	857
Rank	--	--	--	--	--	--
Truck Congestion						
Annual Person-Hours of Delay (000)	583	565	543	521	497	474
Rank	--	--	--	--	--	--
Annual Gallons of Wasted Fuel (000)	1,267	1,227	1,180	1,132	1,080	1,029
Rank	--	--	--	--	--	--
Annual Congestion Cost (\$ million)	22	20	18	17	16	14
Rank	--	--	--	--	--	--

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Mobility Data for 494 Area Average

Inventory Measures	1999	1998	1997	1996	1995	1994
Urban Area Information						
Population (1000s)	390	385	379	373	368	363
Rank	--	--	--	--	--	--
Commuters (1000s)	177	172	166	162	157	152
Daily Vehicle-Miles of Travel (1000s)						
Freeway	2,550	2,475	2,395	2,329	2,256	2,177
Arterial Streets	2,617	2,551	2,504	2,444	2,380	2,312
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)	1.23	1.12	1.24	1.28	1.20	1.10
Diesel (\$/gallon)	1.17	1.18	1.28	1.36	1.24	1.14
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)	4,729	4,480	4,250	4,018	3,787	3,564
Rank	--	--	--	--	--	--
Fuel per Peak Auto Commuter (gallons)	15	14	13	13	12	12
Rank	--	--	--	--	--	--
Annual Delay						
Total Delay (1000s of person-hours)	10,275	9,748	9,255	8,765	8,265	7,789
Rank	--	--	--	--	--	--
Delay per Auto Commuter (pers-hrs)	37	36	36	34	33	32
Rank	--	--	--	--	--	--
Travel Time Index						
Rank	1.19	1.18	1.18	1.17	1.17	1.16
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	131	121	114	106	97	88
Rank	--	--	--	--	--	--
Cost per Auto Commuter (\$)	847	826	800	779	761	742
Rank	--	--	--	--	--	--
Truck Congestion						
Annual Person-Hours of Delay (000)	451	428	407	385	363	342
Rank	--	--	--	--	--	--
Annual Gallons of Wasted Fuel (000)	978	927	879	831	783	737
Rank	--	--	--	--	--	--
Annual Congestion Cost (\$ million)	13	12	11	11	10	9
Rank	--	--	--	--	--	--

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Mobility Data for 494 Area Average

Inventory Measures	1993	1992	1991	1990	1989	1988
Urban Area Information						
Population (1000s)	358	353	349	343	338	333
Rank	--	--	--	--	--	--
Commuters (1000s)	148	144	140	135	132	129
Daily Vehicle-Miles of Travel (1000s)						
Freeway	2,103	2,025	1,946	1,898	1,826	1,740
Arterial Streets	2,236	2,165	2,092	2,038	1,982	1,935
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)	1.15	1.17	1.14	1.10	1.12	1.03
Diesel (\$/gallon)	1.18	1.20	1.23	1.11	1.09	1.00
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)	3,343	3,143	2,964	2,785	2,625	2,478
Rank	--	--	--	--	--	--
Fuel per Peak Auto Commuter (gallons)	11	10	10	9	9	8
Rank	--	--	--	--	--	--
Annual Delay						
Total Delay (1000s of person-hours)	7,311	6,882	6,504	6,108	5,770	5,453
Rank	--	--	--	--	--	--
Delay per Auto Commuter (pers-hrs)	31	30	29	28	27	26
Rank	--	--	--	--	--	--
Travel Time Index						
Rank	1.16	1.15	1.15	1.14	1.14	1.13
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	81	74	68	61	55	50
Rank	--	--	--	--	--	--
Cost per Auto Commuter (\$)	717	699	684	671	671	666
Rank	--	--	--	--	--	--
Truck Congestion						
Annual Person-Hours of Delay (000)	321	302	286	268	253	240
Rank	--	--	--	--	--	--
Annual Gallons of Wasted Fuel (000)	691	650	613	576	543	513
Rank	--	--	--	--	--	--
Annual Congestion Cost (\$ million)	8	8	7	7	6	6
Rank	--	--	--	--	--	--

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Mobility Data for 494 Area Average

Inventory Measures	1987	1986	1985	1984	1983	1982
Urban Area Information						
Population (1000s)	328	323	318	313	309	307
Rank	--	--	--	--	--	--
Commuters (1000s)	126	123	120	117	114	112
Daily Vehicle-Miles of Travel (1000s)						
Freeway	1,653	1,557	1,470	1,396	1,320	1,251
Arterial Streets	1,865	1,826	1,766	1,708	1,663	1,616
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)	1.03	1.01	1.32	1.33	1.36	1.43
Diesel (\$/gallon)	1.01	0.98	1.29	1.30	1.33	1.39
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)	2,323	2,180	2,054	1,915	1,783	1,663
Rank	--	--	--	--	--	--
Fuel per Peak Auto Commuter (gallons)	8	7	7	6	6	5
Rank	--	--	--	--	--	--
Annual Delay						
Total Delay (1000s of person-hours)	5,110	4,798	4,528	4,216	3,930	3,660
Rank	--	--	--	--	--	--
Delay per Auto Commuter (pers-hrs)	25	24	23	22	21	20
Rank	--	--	--	--	--	--
Travel Time Index						
Rank	1.13	1.12	1.12	1.11	1.10	1.10
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	45	41	38	34	31	28
Rank	--	--	--	--	--	--
Cost per Auto Commuter (\$)	651	635	612	586	573	554
Rank	--	--	--	--	--	--
Truck Congestion						
Annual Person-Hours of Delay (000)	224	211	199	185	173	161
Rank	--	--	--	--	--	--
Annual Gallons of Wasted Fuel (000)	481	451	425	396	369	344
Rank	--	--	--	--	--	--
Annual Congestion Cost (\$ million)	5	5	5	4	4	4
Rank	--	--	--	--	--	--

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