

Performance Measure Summary - Small Area Sum (22 areas)

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 Small Area Sum (22 areas)

Inventory Measures	2017	2016	2015	2014	2013	2012
Urban Area Information						
Population (1000s)	7,695	7,630	7,565	7,505	7,430	7,355
Rank	--	--	--	--	--	--
Commuters (1000s)	3,901	3,844	3,806	3,768	3,767	3,728
Daily Vehicle-Miles of Travel (1000s)						
Freeway	72,984	71,985	69,250	66,394	63,434	64,905
Arterial Streets	79,332	77,510	75,557	74,008	73,088	75,035
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)	2.48	2.29	2.50	3.39	3.61	3.57
Diesel (\$/gallon)	2.59	2.36	2.60	3.68	3.95	3.97
System Performance	2017	2016	2015	2014	2013	2012
Congested Travel (% of peak VMT)	13.0	--	--	--	--	--
Congested System (% of lane-miles)	9.4	--	--	--	--	--
Congested Time (number of "Rush Hours")	1.0	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	79,063	77,254	74,988	73,642	72,489	70,779
Rank	--	--	--	--	--	--
Fuel per Peak Auto Commuter (gallons)	16	16	15	15	14	14
Rank	--	--	--	--	--	--
Annual Delay						
Total Delay (1000s of person-hours)	200,161	193,247	184,766	178,644	172,945	166,692
Rank	--	--	--	--	--	--
Delay per Auto Commuter (pers-hrs)	37	36	35	34	33	32
Rank	--	--	--	--	--	--
Travel Time Index						
Rank	1.14	1.14	1.14	1.14	1.14	1.14
Commuter Stress Index						
Rank	1.15	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	1.27	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	4,057	3,853	3,637	3,574	3,412	3,238
Rank	--	--	--	--	--	--
Cost per Auto Commuter (\$)	684	666	633	608	594	579
Rank	--	--	--	--	--	--
Truck Congestion						
Annual Person-Hours of Delay (000)	8,407	8,116	7,762	7,502	7,266	7,003
Rank	--	--	--	--	--	--
Annual Gallons of Wasted Fuel (000)	16,762	16,379	15,895	15,610	15,367	15,005
Rank	--	--	--	--	--	--
Annual Congestion Cost (\$ million)	429	397	360	355	325	304
Rank	--	--	--	--	--	--

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

Mobility Data for Small Area Sum (22 areas)

Inventory Measures	2011	2010	2009	2008	2007	2006
Urban Area Information						
Population (1000s)	7,280	7,195	7,090	7,005	6,945	6,840
Rank	--	--	--	--	--	--
Commuters (1000s)	3,685	3,627	3,563	3,508	3,462	3,388
Daily Vehicle-Miles of Travel (1000s)						
Freeway	67,154	66,313	65,400	64,465	66,325	65,340
Arterial Streets	75,518	74,879	73,975	74,045	75,145	73,385
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)	3.41	2.81	2.36	3.52	3.07	2.70
Diesel (\$/gallon)	3.79	3.05	2.63	4.23	3.44	2.90
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)	69,555	68,182	66,387	68,497	67,988	65,596
Rank	--	--	--	--	--	--
Fuel per Peak Auto Commuter (gallons)	14	14	13	13	14	13
Rank	--	--	--	--	--	--
Annual Delay						
Total Delay (1000s of person-hours)	161,118	155,683	148,729	145,450	144,783	139,923
Rank	--	--	--	--	--	--
Delay per Auto Commuter (pers-hrs)	31	30	30	29	29	29
Rank	--	--	--	--	--	--
Travel Time Index						
Rank	1.14	1.14	1.14	1.14	1.14	1.14
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	3,102	2,867	2,671	2,708	2,568	2,394
Rank	--	--	--	--	--	--
Cost per Auto Commuter (\$)	578	576	560	542	575	571
Rank	--	--	--	--	--	--
Truck Congestion						
Annual Person-Hours of Delay (000)	6,766	6,539	6,248	6,111	6,081	5,878
Rank	--	--	--	--	--	--
Annual Gallons of Wasted Fuel (000)	14,747	14,454	14,074	14,523	14,413	13,907
Rank	--	--	--	--	--	--
Annual Congestion Cost (\$ million)	323	288	266	280	259	235
Rank	--	--	--	--	--	--

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

Mobility Data for Small Area Sum (22 areas)

Inventory Measures	2005	2004	2003	2002	2001	2000
Urban Area Information						
Population (1000s)	6,750	6,650	6,515	6,385	6,285	6,165
Rank	--	--	--	--	--	--
Commuters (1000s)	3,318	3,246	3,161	3,057	2,961	2,863
Daily Vehicle-Miles of Travel (1000s)						
Freeway	63,465	61,605	58,745	56,480	55,305	53,315
Arterial Streets	71,735	69,630	66,485	64,195	62,295	61,025
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	2.03	1.59	1.45	1.63	1.58
Diesel (\$/gallon)	2.61	2.05	1.60	1.42	1.61	1.55
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)	62,550	59,217	55,836	52,349	48,714	45,210
Rank	--	--	--	--	--	--
Fuel per Peak Auto Commuter (gallons)	13	12	12	11	10	10
Rank	--	--	--	--	--	--
Annual Delay						
Total Delay (1000s of person-hours)	133,188	125,699	118,198	110,802	102,881	95,179
Rank	--	--	--	--	--	--
Delay per Auto Commuter (pers-hrs)	28	27	27	26	25	24
Rank	--	--	--	--	--	--
Travel Time Index						
Rank	1.14	1.13	1.12	1.12	1.11	1.11
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	2,190	1,978	1,791	1,636	1,499	1,347
Rank	--	--	--	--	--	--
Cost per Auto Commuter (\$)	563	548	529	509	479	455
Rank	--	--	--	--	--	--
Truck Congestion						
Annual Person-Hours of Delay (000)	5,594	5,278	4,963	4,654	4,319	3,997
Rank	--	--	--	--	--	--
Annual Gallons of Wasted Fuel (000)	13,259	12,557	11,836	11,100	10,328	9,586
Rank	--	--	--	--	--	--
Annual Congestion Cost (\$ million)	213	187	168	150	136	122
Rank	--	--	--	--	--	--

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Mobility Data for Small Area Sum (22 areas)

Inventory Measures	1999	1998	1997	1996	1995	1994
Urban Area Information						
Population (1000s)	6,065	5,960	5,870	5,740	5,620	5,520
Rank	--	--	--	--	--	--
Commuters (1000s)	2,774	2,694	2,610	2,516	2,426	2,348
Daily Vehicle-Miles of Travel (1000s)						
Freeway	52,085	50,480	48,735	47,255	45,600	44,135
Arterial Streets	60,045	58,170	56,885	55,390	54,020	52,895
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)	1.25	1.12	1.25	1.27	1.20	1.10
Diesel (\$/gallon)	1.23	1.21	1.32	1.31	1.25	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)	42,165	39,063	36,301	33,404	30,907	28,675
Rank	--	--	--	--	--	--
Fuel per Peak Auto Commuter (gallons)	9	8	8	7	7	6
Rank	--	--	--	--	--	--
Annual Delay						
Total Delay (1000s of person-hours)	88,608	82,059	76,185	70,064	64,621	59,961
Rank	--	--	--	--	--	--
Delay per Auto Commuter (pers-hrs)	23	21	20	19	18	17
Rank	--	--	--	--	--	--
Travel Time Index						
Rank	1.10	1.09	1.09	1.09	1.08	1.08
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	1,203	1,089	1,001	904	808	729
Rank	--	--	--	--	--	--
Cost per Auto Commuter (\$)	441	420	398	376	361	344
Rank	--	--	--	--	--	--
Truck Congestion						
Annual Person-Hours of Delay (000)	3,724	3,447	3,198	2,941	2,716	2,517
Rank	--	--	--	--	--	--
Annual Gallons of Wasted Fuel (000)	8,938	8,282	7,694	7,079	6,554	6,082
Rank	--	--	--	--	--	--
Annual Congestion Cost (\$ million)	105	98	89	83	73	69
Rank	--	--	--	--	--	--

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Mobility Data for Small Area Sum (22 areas)

Inventory Measures	1993	1992	1991	1990	1989	1988
Urban Area Information						
Population (1000s)	5,410	5,310	5,215	5,130	5,040	4,945
Rank	--	--	--	--	--	--
Commuters (1000s)	2,268	2,193	2,125	2,059	2,007	1,953
Daily Vehicle-Miles of Travel (1000s)						
Freeway	42,175	40,795	39,145	37,710	36,360	34,980
Arterial Streets	51,780	50,915	49,385	48,255	46,980	45,735
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)	1.16	1.17	1.16	1.09	1.12	1.03
Diesel (\$/gallon)	1.20	1.19	1.24	1.12	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)	26,221	24,162	22,392	20,324	18,509	16,810
Rank	--	--	--	--	--	--
Fuel per Peak Auto Commuter (gallons)	6	5	5	5	4	4
Rank	--	--	--	--	--	--
Annual Delay						
Total Delay (1000s of person-hours)	54,653	50,343	46,676	42,344	38,527	34,977
Rank	--	--	--	--	--	--
Delay per Auto Commuter (pers-hrs)	16	16	15	14	13	12
Rank	--	--	--	--	--	--
Travel Time Index						
Rank	1.07	1.07	1.07	1.06	1.06	1.05
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	649	585	525	459	400	345
Rank	--	--	--	--	--	--
Cost per Auto Commuter (\$)	325	310	299	281	272	260
Rank	--	--	--	--	--	--
Truck Congestion						
Annual Person-Hours of Delay (000)	2,297	2,115	1,960	1,776	1,620	1,469
Rank	--	--	--	--	--	--
Annual Gallons of Wasted Fuel (000)	5,559	5,124	4,746	4,308	3,926	3,563
Rank	--	--	--	--	--	--
Annual Congestion Cost (\$ million)	61	56	49	42	39	37
Rank	--	--	--	--	--	--

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Mobility Data for Small Area Sum (22 areas)

Inventory Measures	1987	1986	1985	1984	1983	1982
Urban Area Information						
Population (1000s)	4,840	4,745	4,650	4,550	4,455	4,385
Rank	--	--	--	--	--	--
Commuters (1000s)	1,894	1,842	1,791	1,739	1,693	1,646
Daily Vehicle-Miles of Travel (1000s)						
Freeway	33,745	32,275	30,925	28,920	27,510	26,350
Arterial Streets	44,460	43,530	42,200	41,070	39,480	38,480
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)	1.04	1.01	1.33	1.34	1.37	1.43
Diesel (\$/gallon)	1.04	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)	15,080	13,804	12,637	11,579	10,488	9,497
Rank	--	--	--	--	--	--
Fuel per Peak Auto Commuter (gallons)	3	3	3	2	2	2
Rank	--	--	--	--	--	--
Annual Delay						
Total Delay (1000s of person-hours)	31,548	28,923	26,503	24,210	21,924	19,799
Rank	--	--	--	--	--	--
Delay per Auto Commuter (pers-hrs)	11	10	10	9	9	8
Rank	--	--	--	--	--	--
Travel Time Index						
Rank	1.05	1.05	1.04	1.04	1.03	1.03
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	301	268	245	217	188	169
Rank	--	--	--	--	--	--
Cost per Auto Commuter (\$)	248	234	219	204	199	187
Rank	--	--	--	--	--	--
Truck Congestion						
Annual Person-Hours of Delay (000)	1,327	1,214	1,113	1,018	918	834
Rank	--	--	--	--	--	--
Annual Gallons of Wasted Fuel (000)	3,196	2,926	2,681	2,452	2,224	2,013
Rank	--	--	--	--	--	--
Annual Congestion Cost (\$ million)	33	29	27	26	22	19
Rank	--	--	--	--	--	--

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