

Performance Measure Summary - San Antonio TX

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 San Antonio TX

Inventory Measures	2017	2016	2015	2014	2013	2012
Urban Area Information						
Population (1000s)	2,000	1,970	1,950	1,935	1,905	1,870
Rank	25	25	26	26	26	25
Commuters (1000s)	1,025	1,010	1,000	989	993	975
Daily Vehicle-Miles of Travel (1000s)						
Freeway	24,890	25,621	24,330	22,323	21,185	20,645
Arterial Streets	16,751	15,129	14,794	13,970	12,866	13,210
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)	2.17	1.97	2.11	3.12	3.37	3.33
Diesel (\$/gallon)	2.31	2.10	2.36	3.47	3.76	3.75
System Performance	2017	2016	2015	2014	2013	2012
Congested Travel (% of peak VMT)	29.0	--	--	--	--	--
Congested System (% of lane-miles)	18.3	--	--	--	--	--
Congested Time (number of "Rush Hours")	4.1	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	26,044	25,969	25,815	25,630	25,471	24,696
Rank	29	29	28	28	28	28
Fuel per Peak Auto Commuter (gallons)	22	22	21	20	21	20
Rank	32	33	36	38	30	33
Annual Delay						
Total Delay (1000s of person-hours)	69,982	68,421	66,862	65,239	63,697	60,658
Rank	26	26	26	26	26	26
Delay per Auto Commuter (pers-hrs)	51	50	48	47	45	44
Rank	34	33	35	34	41	38
Travel Time Index						
Rank	1.23	1.23	1.23	1.24	1.24	1.24
Rank	30	29	29	27	27	26
Commuter Stress Index						
Rank	1.30	--	--	--	--	--
Rank	23	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	1.74	--	--	--	--	--
Rank	28	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	1,407	1,352	1,304	1,294	1,246	1,169
Rank	26	26	26	26	26	26
Cost per Auto Commuter (\$)	964	949	923	895	883	850
Rank	38	37	36	35	36	37
Truck Congestion						
Annual Person-Hours of Delay (000)	2,939	2,874	2,808	2,740	2,675	2,548
Rank	26	26	26	26	26	26
Annual Gallons of Wasted Fuel (000)	5,521	5,505	5,473	5,433	5,400	5,236
Rank	29	29	28	28	28	28
Annual Congestion Cost (\$ million)	147	138	128	127	117	108
Rank	26	26	26	26	26	26

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

Mobility Data for San Antonio TX

Inventory Measures	2011	2010	2009	2008	2007	2006
Urban Area Information						
Population (1000s)	1,840	1,800	1,800	1,770	1,710	1,670
Rank	24	25	24	26	27	28
Commuters (1000s)	958	933	930	911	874	848
Daily Vehicle-Miles of Travel (1000s)						
Freeway	19,114	18,758	19,200	19,465	19,600	19,300
Arterial Streets	13,345	13,097	12,800	12,650	12,300	12,100
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)	3.29	2.56	2.13	3.36	2.92	2.55
Diesel (\$/gallon)	3.56	2.83	2.43	4.07	3.30	2.73
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)	23,718	22,875	21,883	22,556	22,330	21,989
Rank	29	29	29	30	30	30
Fuel per Peak Auto Commuter (gallons)	19	18	16	17	17	18
Rank	40	46	54	61	61	47
Annual Delay						
Total Delay (1000s of person-hours)	57,196	54,651	51,304	50,365	49,859	49,099
Rank	26	27	27	28	27	27
Delay per Auto Commuter (pers-hrs)	43	42	41	40	41	42
Rank	38	38	38	38	36	32
Travel Time Index						
Rank	1.23	1.23	1.22	1.23	1.24	1.24
Rank	28	28	31	30	29	27
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	1,093	998	914	930	878	834
Rank	26	27	27	28	28	27
Cost per Auto Commuter (\$)	829	816	779	757	779	789
Rank	39	43	44	46	45	45
Truck Congestion						
Annual Person-Hours of Delay (000)	2,402	2,295	2,155	2,115	2,094	2,062
Rank	26	27	27	28	27	27
Annual Gallons of Wasted Fuel (000)	5,028	4,849	4,639	4,782	4,734	4,662
Rank	29	29	29	30	30	30
Annual Congestion Cost (\$ million)	112	99	90	95	88	81
Rank	26	27	27	28	27	27

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

Mobility Data for San Antonio TX

Inventory Measures	2005	2004	2003	2002	2001	2000
Urban Area Information						
Population (1000s)	1,620	1,600	1,550	1,500	1,470	1,465
Rank	28	28	29	29	28	28
Commuters (1000s)	816	802	773	737	710	697
Daily Vehicle-Miles of Travel (1000s)						
Freeway	19,000	18,600	18,000	17,650	17,100	16,700
Arterial Streets	11,400	11,030	10,600	10,430	10,340	10,400
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)	2.23	1.83	1.45	1.32	1.46	1.47
Diesel (\$/gallon)	2.40	1.85	1.43	1.29	1.48	1.42
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)	20,986	20,566	19,609	18,907	18,125	17,278
Rank	31	29	31	30	28	27
Fuel per Peak Auto Commuter (gallons)	16	16	16	15	15	14
Rank	58	56	49	53	47	50
Annual Delay						
Total Delay (1000s of person-hours)	46,859	45,920	43,785	42,217	40,470	38,579
Rank	28	27	28	27	27	28
Delay per Auto Commuter (pers-hrs)	42	41	41	41	41	40
Rank	31	32	30	28	28	28
Travel Time Index						
Rank	27	28	28	23	24	24
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	765	718	659	619	586	543
Rank	29	28	28	27	28	28
Cost per Auto Commuter (\$)	778	788	772	760	739	725
Rank	44	42	42	43	43	41
Truck Congestion						
Annual Person-Hours of Delay (000)	1,968	1,929	1,839	1,773	1,700	1,620
Rank	28	27	28	27	27	28
Annual Gallons of Wasted Fuel (000)	4,449	4,360	4,157	4,008	3,842	3,663
Rank	31	29	31	30	28	27
Annual Congestion Cost (\$ million)	74	68	61	56	53	48
Rank	29	28	28	27	28	28

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Mobility Data for San Antonio TX

Inventory Measures	1999	1998	1997	1996	1995	1994
Urban Area Information						
Population (1000s)	1,450	1,445	1,440	1,400	1,325	1,275
Rank	28	27	26	27	29	29
Commuters (1000s)	678	665	652	624	581	551
Daily Vehicle-Miles of Travel (1000s)						
Freeway	16,200	15,500	15,000	14,200	13,400	12,200
Arterial Streets	9,590	9,495	9,785	9,410	8,320	9,040
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)	1.07	1.01	1.12	1.21	1.14	1.03
Diesel (\$/gallon)	1.07	1.10	1.19	1.29	1.21	1.09
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)	16,362	15,553	14,899	13,635	12,181	10,584
Rank	28	29	29	29	29	31
Fuel per Peak Auto Commuter (gallons)	13	13	12	11	10	9
Rank	51	42	47	49	52	56
Annual Delay						
Total Delay (1000s of person-hours)	36,533	34,728	33,268	30,445	27,198	23,633
Rank	27	26	26	29	29	30
Delay per Auto Commuter (pers-hrs)	39	38	37	35	33	30
Rank	27	26	22	25	31	38
Travel Time Index						
Rank	1.22	1.21	1.20	1.19	1.19	1.17
Rank	24	24	24	25	23	26
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	492	458	434	390	338	285
Rank	28	26	26	29	29	30
Cost per Auto Commuter (\$)	708	690	671	628	579	518
Rank	42	40	38	38	46	51
Truck Congestion						
Annual Person-Hours of Delay (000)	1,534	1,459	1,397	1,279	1,142	993
Rank	27	26	26	29	29	30
Annual Gallons of Wasted Fuel (000)	3,469	3,297	3,159	2,891	2,582	2,244
Rank	28	29	29	29	29	31
Annual Congestion Cost (\$ million)	43	41	39	35	31	26
Rank	28	27	27	29	29	30

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Mobility Data for San Antonio TX

Inventory Measures	1993	1992	1991	1990	1989	1988
Urban Area Information						
Population (1000s)	1,250	1,200	1,180	1,170	1,165	1,165
Rank	29	30	30	29	29	28
Commuters (1000s)	531	502	485	473	468	464
Daily Vehicle-Miles of Travel (1000s)						
Freeway	11,340	10,500	9,700	9,280	8,575	8,900
Arterial Streets	8,720	8,570	8,385	7,935	7,720	7,510
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)	1.10	1.09	1.12	1.04	1.07	0.99
Diesel (\$/gallon)	1.17	1.17	1.20	1.07	1.05	0.97
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)	9,550	8,433	7,418	6,829	6,419	6,042
Rank	33	33	34	33	33	32
Fuel per Peak Auto Commuter (gallons)	8	7	7	5	5	5
Rank	58	59	57	72	63	58
Annual Delay						
Total Delay (1000s of person-hours)	21,324	18,829	16,563	15,248	14,332	13,492
Rank	31	31	33	33	32	31
Delay per Auto Commuter (pers-hrs)	28	26	24	22	21	20
Rank	40	41	43	46	45	44
Travel Time Index						
Rank	1.16	1.15	1.13	1.12	1.12	1.11
Rank	26	26	33	34	32	32
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	252	217	186	164	147	133
Rank	31	31	33	33	32	32
Cost per Auto Commuter (\$)	479	438	396	380	378	375
Rank	53	58	62	63	59	57
Truck Congestion						
Annual Person-Hours of Delay (000)	896	791	696	640	602	567
Rank	31	31	33	33	32	31
Annual Gallons of Wasted Fuel (000)	2,025	1,788	1,573	1,448	1,361	1,281
Rank	33	33	34	33	32	32
Annual Congestion Cost (\$ million)	24	21	18	16	15	14
Rank	31	31	33	33	32	30

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Mobility Data for San Antonio TX

Inventory Measures	1987	1986	1985	1984	1983	1982
Urban Area Information						
Population (1000s)	1,050	1,035	1,005	980	980	960
Rank	32	32	33	34	33	33
Commuters (1000s)	415	405	391	378	376	364
Daily Vehicle-Miles of Travel (1000s)						
Freeway	8,770	8,710	8,420	7,780	7,150	6,835
Arterial Streets	7,300	7,255	6,725	6,505	6,385	6,155
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)	0.99	0.97	1.27	1.28	1.31	1.37
Diesel (\$/gallon)	0.97	0.95	1.24	1.25	1.28	1.34
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)	5,793	5,634	5,137	4,758	4,517	4,205
Rank	30	27	27	27	27	26
Fuel per Peak Auto Commuter (gallons)	4	4	4	4	3	3
Rank	61	54	50	41	46	34
Annual Delay						
Total Delay (1000s of person-hours)	12,936	12,581	11,470	10,623	10,086	9,389
Rank	27	27	27	26	26	26
Delay per Auto Commuter (pers-hrs)	21	21	20	19	18	18
Rank	31	26	25	27	25	21
Travel Time Index						
Rank	1.12	1.12	1.11	1.11	1.10	1.10
Rank	26	24	24	22	22	19
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	123	115	105	94	86	79
Rank	27	27	27	26	26	26
Cost per Auto Commuter (\$)	375	380	350	337	334	320
Rank	54	47	45	41	41	40
Truck Congestion						
Annual Person-Hours of Delay (000)	543	528	482	446	424	394
Rank	27	27	27	26	26	26
Annual Gallons of Wasted Fuel (000)	1,228	1,194	1,089	1,009	958	891
Rank	30	27	27	27	27	26
Annual Congestion Cost (\$ million)	13	13	12	11	10	9
Rank	27	27	27	26	26	25

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