

# Performance Measure Summary - Oklahoma City OK

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 Oklahoma City OK

Inventory Measures	2017	2016	2015	2014	2013	2012
<b>Urban Area Information</b>						
Population (1000s)	1,010	1,005	1,000	1,000	980	960
Rank	47	46	46	45	46	47
Commuters (1000s)	558	554	551	550	539	528
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	11,995	11,881	11,572	11,267	10,871	10,500
Arterial Streets	10,737	11,057	10,737	10,964	13,116	13,140
<b>Cost Components</b>						
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)	2.14	1.98	2.11	3.21	3.35	3.33
Diesel (\$/gallon)	2.29	2.06	2.27	3.43	3.66	3.75
System Performance	2017	2016	2015	2014	2013	2012
<b>Congested Travel (% of peak VMT)</b>	19.3	--	--	--	--	--
<b>Congested System (% of lane-miles)</b>	9.5	--	--	--	--	--
<b>Congested Time (number of "Rush Hours")</b>	2.7	--	--	--	--	--
<b>Annual Excess Fuel Consumed</b>						
Total Fuel (1000 gallons)	16,913	16,556	16,179	15,974	15,892	15,321
Rank	40	40	40	39	39	39
Fuel per Peak Auto Commuter (gallons)	21	21	20	20	20	20
Rank	41	37	42	38	37	33
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	43,448	41,693	40,393	39,188	38,643	36,587
Rank	38	39	40	40	39	41
Delay per Auto Commuter (pers-hrs)	50	49	47	46	46	45
Rank	37	37	39	42	34	36
<b>Travel Time Index</b>						
Rank	1.19	1.19	1.19	1.18	1.18	1.18
Rank	41	40	39	40	41	40
<b>Commuter Stress Index</b>						
Rank	1.20	--	--	--	--	--
Rank	47	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	1.45	--	--	--	--	--
Rank	49	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	874	826	789	780	757	707
Rank	39	40	40	40	40	41
Cost per Auto Commuter (\$)	842	813	783	756	754	722
Rank	47	52	54	53	51	55
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	1,825	1,751	1,696	1,646	1,623	1,537
Rank	38	39	40	40	39	41
Annual Gallons of Wasted Fuel (000)	3,585	3,510	3,430	3,387	3,369	3,248
Rank	40	40	40	39	39	39
Annual Congestion Cost (\$ million)	92	84	78	76	71	66
Rank	39	40	40	40	40	40

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

# Mobility Data for Oklahoma City OK

Inventory Measures	2011	2010	2009	2008	2007	2006
<b>Urban Area Information</b>						
Population (1000s)	940	925	900	875	865	860
Rank	47	48	49	51	50	50
Commuters (1000s)	517	506	486	465	451	446
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	10,647	10,385	10,000	9,665	9,770	9,435
Arterial Streets	13,048	12,849	12,338	12,590	12,180	11,790
<b>Cost Components</b>						
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)	3.26	2.55	2.11	3.31	2.87	2.51
Diesel (\$/gallon)	3.53	2.76	2.32	3.98	3.22	2.73
System Performance	2011	2010	2009	2008	2007	2006
<b>Congested Travel (% of peak VMT)</b>	--	--	--	--	--	--
<b>Congested System (% of lane-miles)</b>	--	--	--	--	--	--
<b>Congested Time (number of "Rush Hours")</b>	--	--	--	--	--	--
<b>Annual Excess Fuel Consumed</b>						
Total Fuel (1000 gallons)	14,675	14,147	13,898	13,994	13,443	13,160
Rank	39	39	39	40	42	41
Fuel per Peak Auto Commuter (gallons)	19	17	17	18	16	16
Rank	40	61	43	49	70	64
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	34,408	32,864	31,681	30,381	29,186	28,570
Rank	41	41	41	41	43	43
Delay per Auto Commuter (pers-hrs)	44	43	43	43	42	41
Rank	35	34	31	31	33	34
<b>Travel Time Index</b>						
Rank	1.18	1.18	1.18	1.19	1.18	1.18
Rank	40	39	41	40	44	43
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	659	601	565	562	514	486
Rank	41	41	41	41	43	43
Cost per Auto Commuter (\$)	700	689	676	642	642	646
Rank	58	63	64	65	68	64
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	1,445	1,380	1,331	1,276	1,226	1,200
Rank	41	41	41	41	43	43
Annual Gallons of Wasted Fuel (000)	3,111	2,999	2,946	2,967	2,850	2,790
Rank	39	39	39	40	42	41
Annual Congestion Cost (\$ million)	68	60	56	57	51	47
Rank	41	41	41	42	43	43

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

# Mobility Data for Oklahoma City OK

Inventory Measures	2005	2004	2003	2002	2001	2000
<b>Urban Area Information</b>						
Population (1000s)	855	850	830	820	810	800
Rank	50	50	50	50	50	48
Commuters (1000s)	440	435	423	413	402	392
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	9,300	9,230	9,200	9,100	9,060	8,930
Arterial Streets	11,500	11,110	11,000	11,380	11,020	10,715
<b>Cost Components</b>						
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)	2.19	1.77	1.42	1.27	1.31	1.48
Diesel (\$/gallon)	2.34	1.77	1.35	1.21	1.39	1.38
System Performance	2005	2004	2003	2002	2001	2000
<b>Congested Travel (% of peak VMT)</b>	--	--	--	--	--	--
<b>Congested System (% of lane-miles)</b>	--	--	--	--	--	--
<b>Congested Time (number of "Rush Hours")</b>	--	--	--	--	--	--
<b>Annual Excess Fuel Consumed</b>						
Total Fuel (1000 gallons)	12,966	12,746	11,943	11,670	11,073	10,221
Rank	41	41	42	42	42	42
Fuel per Peak Auto Commuter (gallons)	15	16	14	15	14	13
Rank	64	56	69	53	54	56
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	28,150	27,670	25,927	25,336	24,039	22,189
Rank	42	40	42	41	41	40
Delay per Auto Commuter (pers-hrs)	41	41	39	39	38	36
Rank	34	32	37	36	38	40
<b>Travel Time Index</b>						
Rank	41	38	45	41	38	45
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	460	432	390	371	347	313
Rank	42	41	42	41	40	40
Cost per Auto Commuter (\$)	657	669	642	641	618	586
Rank	63	62	66	65	63	65
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	1,182	1,162	1,089	1,064	1,010	932
Rank	42	40	42	41	40	40
Annual Gallons of Wasted Fuel (000)	2,749	2,702	2,532	2,474	2,347	2,167
Rank	41	41	42	42	42	42
Annual Congestion Cost (\$ million)	44	41	36	34	31	28
Rank	42	40	42	41	40	40

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

# Mobility Data for Oklahoma City OK

Inventory Measures	1999	1998	1997	1996	1995	1994
<b>Urban Area Information</b>						
Population (1000s)	790	780	770	760	750	740
Rank	46	46	46	46	46	45
Commuters (1000s)	383	373	364	354	346	337
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	8,985	8,730	8,665	8,500	8,245	7,740
Arterial Streets	10,455	10,145	9,865	9,595	9,360	9,065
<b>Cost Components</b>						
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)	1.03	1.00	1.08	1.21	1.06	0.97
Diesel (\$/gallon)	1.00	1.03	1.13	1.27	1.11	1.01
System Performance	1999	1998	1997	1996	1995	1994
<b>Congested Travel (% of peak VMT)</b>	--	--	--	--	--	--
<b>Congested System (% of lane-miles)</b>	--	--	--	--	--	--
<b>Congested Time (number of "Rush Hours")</b>	--	--	--	--	--	--
<b>Annual Excess Fuel Consumed</b>						
Total Fuel (1000 gallons)	9,316	8,499	8,028	7,362	6,488	6,004
Rank	43	45	43	42	45	46
Fuel per Peak Auto Commuter (gallons)	13	11	11	10	9	7
Rank	51	65	54	57	59	73
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	20,225	18,452	17,430	15,983	14,086	13,035
Rank	43	43	43	44	44	44
Delay per Auto Commuter (pers-hrs)	33	31	29	28	25	24
Rank	51	56	60	59	65	65
<b>Travel Time Index</b>						
Rank	1.15	1.14	1.13	1.12	1.11	1.10
Rank	52	55	62	67	68	72
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	272	243	227	205	175	157
Rank	43	43	44	44	44	44
Cost per Auto Commuter (\$)	553	515	493	464	423	402
Rank	69	73	70	71	75	76
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	849	775	732	671	592	547
Rank	43	43	43	44	44	44
Annual Gallons of Wasted Fuel (000)	1,975	1,802	1,702	1,561	1,376	1,273
Rank	43	45	43	42	45	46
Annual Congestion Cost (\$ million)	24	21	20	19	16	14
Rank	40	44	44	44	44	44

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

# Mobility Data for Oklahoma City OK

Inventory Measures	1993	1992	1991	1990	1989	1988
<b>Urban Area Information</b>						
Population (1000s)	725	720	705	690	680	675
Rank	45	45	46	46	45	45
Commuters (1000s)	326	319	309	298	291	287
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	7,725	7,300	7,125	6,935	6,830	6,850
Arterial Streets	9,150	8,040	7,860	7,350	7,505	7,155
<b>Cost Components</b>						
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)	1.05	1.03	1.05	1.11	1.06	0.98
Diesel (\$/gallon)	1.09	1.08	1.10	1.09	0.98	0.90
System Performance	1993	1992	1991	1990	1989	1988
<b>Congested Travel (% of peak VMT)</b>	--	--	--	--	--	--
<b>Congested System (% of lane-miles)</b>	--	--	--	--	--	--
<b>Congested Time (number of "Rush Hours")</b>	--	--	--	--	--	--
<b>Annual Excess Fuel Consumed</b>						
Total Fuel (1000 gallons)	5,714	4,772	4,184	3,924	3,650	3,503
Rank	45	48	51	49	48	47
Fuel per Peak Auto Commuter (gallons)	9	6	5	4	4	4
Rank	49	69	79	81	76	71
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	12,405	10,361	9,083	8,518	7,924	7,605
Rank	42	49	50	49	47	46
Delay per Auto Commuter (pers-hrs)	23	20	18	17	16	16
Rank	64	67	72	70	68	61
<b>Travel Time Index</b>						
Rank	1.10	1.09	1.08	1.08	1.07	1.07
Rank	67	70	71	63	66	60
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	147	119	102	92	82	75
Rank	42	49	50	49	47	45
Cost per Auto Commuter (\$)	394	338	305	298	295	297
Rank	74	77	80	79	75	72
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	521	435	381	358	333	319
Rank	42	49	50	49	47	46
Annual Gallons of Wasted Fuel (000)	1,211	1,012	887	832	774	743
Rank	45	48	51	48	48	47
Annual Congestion Cost (\$ million)	14	11	10	9	8	8
Rank	41	49	48	48	46	42

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

# Mobility Data for Oklahoma City OK

Inventory Measures	1987	1986	1985	1984	1983	1982
<b>Urban Area Information</b>						
Population (1000s)	670	665	655	650	645	640
Rank	44	44	44	43	43	43
Commuters (1000s)	283	279	273	268	264	259
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	6,425	6,075	5,975	5,850	5,155	4,885
Arterial Streets	7,100	7,030	7,020	6,820	6,400	6,085
<b>Cost Components</b>						
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)	0.98	0.96	1.25	1.27	1.30	1.35
Diesel (\$/gallon)	0.90	0.88	1.15	1.16	1.19	1.25
System Performance	1987	1986	1985	1984	1983	1982
<b>Congested Travel (% of peak VMT)</b>	--	--	--	--	--	--
<b>Congested System (% of lane-miles)</b>	--	--	--	--	--	--
<b>Congested Time (number of "Rush Hours")</b>	--	--	--	--	--	--
<b>Annual Excess Fuel Consumed</b>						
Total Fuel (1000 gallons)	3,291	2,854	2,752	2,609	2,233	2,096
Rank	44	47	44	44	46	44
Fuel per Peak Auto Commuter (gallons)	4	4	4	4	3	2
Rank	61	54	50	41	46	55
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	7,146	6,197	5,974	5,664	4,847	4,550
Rank	45	45	45	44	45	44
Delay per Auto Commuter (pers-hrs)	15	13	13	13	11	11
Rank	60	64	56	52	56	53
<b>Travel Time Index</b>						
Rank	1.07	1.06	1.06	1.06	1.05	1.05
Rank	55	57	54	51	55	51
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	68	57	55	50	42	38
Rank	45	45	45	44	45	44
Cost per Auto Commuter (\$)	292	264	260	255	229	221
Rank	67	70	66	64	66	65
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	300	260	251	238	204	191
Rank	45	45	45	44	45	44
Annual Gallons of Wasted Fuel (000)	698	605	583	553	473	444
Rank	44	47	44	44	46	44
Annual Congestion Cost (\$ million)	7	6	6	6	5	4
Rank	43	45	43	40	43	44

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