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 2020. 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 2020 (estimated at \$20.17 per hour of person travel and \$55.24 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.

Annual Greenhouse Gases (CO2) Produced -Tons of CO2 produced from all vehicle travel.

Excess Greenhouse Gases (CO2) Produced due to Congestion-Tons of CO2 produced due to congested portion of travel. The excess CO2 is a subset of the total CO2 produced.

Inventory Measures	2020	2019	2018	2017	2016	2015
Urban Area Information						
Population (1000s)	1,005	1,005	1,005	1,010	1,005	1,000
Rank	47	47	47	47	46	46
Commuters (1000s)	555	555	555	558	554	551
Daily Vehicle-Miles of Travel (1000s)						
Freeway	10,151	11,329	11,084	11,995	11,881	11,572
Arterial Streets	8,024	8,955	9,565	10,737	11,057	10,737
Cost Components			,		,	
Value of Time (\$/hour)	20.17	19.14	18.71	18.12	17.91	17.69
Commercial Cost (\$/hour)	55.24	49.49	54.71	52.14	50.20	46.87
Gasoline (\$/gallon)	2.07	2.36	2.64	2.14	1.98	2.11
Diesel (\$/gallon)	2.44	2.67	3.02	2.29	2.06	2.27
System Performance	2020	2019	2018	2017	2016	2015
Congested Travel (% of peak VMT)				19.3		
Congested System (% of lane-miles)				9.5		
Congested Time (number of "Rush Hours")				2.7		
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	11,757	16,039	16,198	16,913	16,556	16,179
Rank	31	42	41	40	40	40
Fuel per Peak Auto Commuter (gallons)	15	20	20	21	21	20
Rank	9	52	47	41	37	42
Annual Delay						
Total Delay (1000s of person-hours)	30,057	41,004	41,922	43,448	41,693	40,393
Rank	30	39	39	38	39	39
Delay per Auto Commuter (pers-hrs)	35	47	48	50	49	47
Rank	14	51	43	37	37	39
Travel Time Index	1.12	1.20	1.20	1.19	1.19	1.19
Rank	10	38	37	38	38	38
Commuter Stress Index	1.13	1.21	1.22	1.20		
Rank	14	44	43	47		
Freeway Planning Time Index (95th Pctile)		1.56	1.54	1.45		
Rank		39	39	49		
Congestion Cost						
Total Cost (\$ millions)	685	894	922	931	879	839
Rank	30	39	39	39	39	39
Cost per Auto Commuter (\$)	656	857	884	888	858	826
Rank	27	59	55	47	52	54
Truck Congestion						
Annual Person-Hours of Delay (000)	1,868	2,434	2,283	2,125	2,039	1,975
Rank	26	33	34	38	36	36
Annual Gallons of Wasted Fuel (000)	3,231	4,210	3,928	3,585	3,510	3,430
Rank	25	33	33	35	35	37
Annual Congestion Cost (\$ million)	98	118	125	111	102	94
Rank	26	40	34	38	37	37
Annual Greenhouse Gases (CO2) Produced					ı	
Excess Due to Congestion (tons)	119,019	162,367				
Rank	31	41				
Due to All Travel (tons)	3,053,204	4,165,224				
Rank	32	46				
Truck Annual Greenhouse Gases (CO2) Produced	2.5				ı	
Excess Due to Truck Congestion (tons)	35,671	46,476				
Rank	25	34				
Due to Truck Travel (tons)	753,924	982,291				
Rank	35	46				

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

Inventory Measures	2014	2013	2012	2011	2010	2009
Urban Area Information						
Population (1000s)	1,000	980	960	940	925	900
Rank	45	46	47	47	48	49
Commuters (1000s)	550	539	528	517	506	486
Daily Vehicle-Miles of Travel (1000s)						
Freeway	11,267	10,871	10,500	10,647	10,385	10,000
Arterial Streets	10,964	13,116	13,140	13,048	12,849	12,338
Cost Components	,	,	,	,	,	
Value of Time (\$/hour)	17.67	17.39	17.14	16.79	16.28	16.01
Commercial Cost (\$/hour)	44.82	41.23	39.66	44.62	42.50	41.83
Gasoline (\$/gallon)	3.21	3.35	3.33	3.26	2.55	2.11
Diesel (\$/gallon)	3.43	3.66	3.75	3.53	2.76	2.32
System Performance	2014	2013	2012	2011	2010	2009
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	15,974	15,892	15,321	14,675	14,147	13,898
Rank	39	39	39	40	40	40
Fuel per Peak Auto Commuter (gallons)	20	20	20	19	17	17
Rank	38	37	33	40	61	43
Annual Delay		37	33	10	01	
Total Delay (1000s of person-hours)	39,188	38,643	36,587	34,408	32,864	31,681
Rank	39,188	39	40	40	41	41
Delay per Auto Commuter (pers-hrs)	46	46	45	44	43	43
Rank	42	34	36	35	34	31
Travel Time Index						
Rank	1.18	1.18	1.18	1.18	1.18	1.18
Commuter Stress Index	39	39	38	39	38	40
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost Total Cost (\$ millions)	920	904	750	700	(20	(00
Rank	829 39	804 39	750 39	700 41	639 41	600 41
Cost per Auto Commuter (\$)	797	795	762	738	727	713
Rank	53	51	55	58	63	64
	33	31	55	30	0.5	07
Truck Congestion	1.017	1 000	1 700	1 (02	1 (07	1 550
Annual Person-Hours of Delay (000) Rank	1,917	1,890 35	1,790 36	1,683 37	1,607	1,550 37
Annual Gallons of Wasted Fuel (000)	3,387		3,248		2,999	2,946
Rank	3,387	3,369 35	3,248	3,111 36	38	2,946
Annual Congestion Cost (\$ million)	92	85 85	35 79	81	72	67
Rank	37	36	36	37	37	37
	37	30	30	31	31	31
Annual Greenhouse Gases (CO2) Produced				1	I	
Excess Due to Congestion (tons) Rank						
Nank Due to All Travel (tons)						
Rank						
Truck Annual Greenhouse Gases (CO2) Produced					ı	
Excess Due to Truck Congestion (tons)						
Rank						
Due to Truck Travel (tons)						
Rank						

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

Inventory Measures	2008	2007	2006	2005	2004	2003
Urban Area Information						
Population (1000s)	875	865	860	855	850	830
Rank	51	50	50	50	50	50
Commuters (1000s)	465	451	446	440	435	423
Daily Vehicle-Miles of Travel (1000s)	100					
Freeway	9,665	9,770	9,435	9,300	9,230	9,200
Arterial Streets	12,590	12,180	11,790	11,500	11,110	11,000
Cost Components	12,000	12,100	11,770	11,000	11,110	11,000
Value of Time (\$/hour)	16.07	15.47	15.06	14.58	14.10	13.73
Commercial Cost (\$/hour)	40.77	39.30	37.88	36.51	35.19	33.92
Gasoline (\$/gallon)	3.31	2.87	2.51	2.19	1.77	1.42
Diesel (\$\(\frac{9}{2}\)gallon)	3.98	3.22	2.73	2.34	1.77	1.35
System Performance	2008	2007	2006	2005	2004	2003
						2003
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	13,994	13,443	13,160	12,966	12,746	11,943
Rank	42	43	42	42	42	42
Fuel per Peak Auto Commuter (gallons)	18	16	16	15	16	14
Rank	49	70	64	64	56	69
Annual Delay						
Total Delay (1000s of person-hours)	30,381	29,186	28,570	28,150	27,670	25,927
Rank	41	44	44	43	41	42
Delay per Auto Commuter (pers-hrs)	43	42	41	41	41	39
Rank	31	33	34	34	32	37
Travel Time Index	1.19	1.18	1.18	1.18	1.18	1.17
Rank	39	43	42	41	38	44
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	597	547	516	489	459	415
Rank	42	43	43	43	42	42
Cost per Auto Commuter (\$)	677	677	681	693	706	677
Rank	65	68	64	63	62	66
Truck Congestion						
Annual Person-Hours of Delay (000)	1,486	1,428	1,397	1,376	1,353	1,268
Rank	38	39	38	38	38	39
Annual Gallons of Wasted Fuel (000)	2,967	2,850	2,790	2,749	2,702	2,532
Rank	40	40	39	39	39	40
Annual Congestion Cost (\$ million)	69	62	57	53	49	43
Rank	37	38	39	38	38	39
Annual Greenhouse Gases (CO2) Produced					· · · · · · · · · · · · · · · · · · ·	
Excess Due to Congestion (tons)						
Rank						
Due to All Travel (tons)						
Rank						
Truck Annual Greenhouse Gases (CO2) Produced						
Excess Due to Truck Congestion (tons)						
Rank						
Due to Truck Travel (tons) Rank						

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

Inventory Measures	2002	2001	2000	1999	1998	1997
Urban Area Information						
Population (1000s)	820	810	800	790	780	770
Rank	50	50	48	46	46	46
Commuters (1000s)	413	402	392	383	373	364
Daily Vehicle-Miles of Travel (1000s)						
Freeway	9,100	9,060	8,930	8,985	8,730	8,665
Arterial Streets	11,380	11,020	10,715	10,455	10,145	9,865
Cost Components						
Value of Time (\$/hour)	13.43	13.22	12.85	12.43	12.17	11.98
Commercial Cost (\$/hour)	32.69	31.51	30.38	29.28	28.89	28.50
Gasoline (\$/gallon)	1.27	1.31	1.48	1.03	1.00	1.08
Diesel (\$/gallon)	1.21	1.39	1.38	1.00	1.03	1.13
System Performance	2002	2001	2000	1999	1998	1997
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	11,670	11,073	10,221	9,316	8,499	8,028
Rank	42	42	42	44	44	44
Fuel per Peak Auto Commuter (gallons)	15	14	13	13	11	11
Rank	53	54	56	51	65	54
Annual Delay						
Total Delay (1000s of person-hours)	25,336	24,039	22,189	20,225	18,452	17,430
Rank	41	41	40	43	43	43
Delay per Auto Commuter (pers-hrs)	39	38	36	33	31	29
Rank	36	38	40	51	56	60
Travel Time Index	1.17	1.17	1.16	1.15	1.14	1.13
Rank	40	38	43	50	53	60
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	394	369	332	289	258	241
Rank	41	40	40	43	43	44
Cost per Auto Commuter (\$)	676	652	618	583	543	520
Rank	65	63	65	69	73	70
Truck Congestion	1 220	1.156	1.005	000	002	0.50
Annual Person-Hours of Delay (000)	1,239	1,176	1,085	989	902	852
Rank	39	38	38	1 075	39	1 702
Annual Gallons of Wasted Fuel (000) Rank	2,474	2,347 39	2,167 39	1,975 40	1,802 41	1,702 41
Rank Annual Congestion Cost (\$ million)	40	39	39	29	26	25
Rank	39	38	39	40	40	38
Annual Greenhouse Gases (CO2) Produced	39	39	39	40	40	30
Excess Due to Congestion (tons)				ı		
Rank			 			
Due to All Travel (tons)						 -
Rank			 			
Truck Annual Greenhouse Gases (CO2) Produced						
Excess Due to Truck Congestion (tons)				ı	I	
Rank (tons)			 			
Nank Due to Truck Travel (tons)			 			 -
Rank			 			 -
Rain						

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

Inventory Measures	1996	1995	1994	1993	1992	1991
Urban Area Information						
Population (1000s)	760	750	740	725	720	705
Rank	46	46	45	45	45	46
Commuters (1000s)	354	346	337	326	319	309
Daily Vehicle-Miles of Travel (1000s)						
Freeway	8,500	8,245	7,740	7,725	7,300	7,125
Arterial Streets	9,595	9,360	9,065	9,150	8,040	7,860
Cost Components						
Value of Time (\$/hour)	11.71	11.37	11.06	10.78	10.47	10.17
Commercial Cost (\$/hour)	28.12	27.75	27.38	27.02	26.66	26.30
Gasoline (\$/gallon)	1.21	1.06	0.97	1.05	1.03	1.05
Diesel (\$/gallon)	1.27	1.11	1.01	1.09	1.08	1.10
System Performance	1996	1995	1994	1993	1992	1991
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	7,362	6,488	6,004	5,714	4,772	4,184
Rank	44	46	46	45	48	49
Fuel per Peak Auto Commuter (gallons)	10	9	7	9	6	5
Rank	57	59	73	49	69	79
Annual Delay						
Total Delay (1000s of person-hours)	15,983	14,086	13,035	12,405	10,361	9,083
Rank	44	44	44	42	48	49
Delay per Auto Commuter (pers-hrs)	28	25	24	23	20	18
Rank	59	65	65	64	67	72
Travel Time Index	1.12	1.11	1.10	1.10	1.09	1.08
Rank	65	66	69	64	67	68
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	218	186	167	156	127	108
Rank	44	44	43	42	48	49
Cost per Auto Commuter (\$)	489	446	424	416	357	322
Rank	71	75	76	74	77	80
Truck Congestion						
Annual Person-Hours of Delay (000)	781	689	637	607	507	444
Rank	38	1 276	40	39	42	43
Annual Gallons of Wasted Fuel (000)	1,561	1,376	1,273	1,211	1,012	887
Rank	41	44	44	42	44	45
Annual Congestion Cost (\$ million) Rank	22 39	19 41	17 41	17 37	14 41	12 42
	39	41	41	3/	41	42
Annual Greenhouse Gases (CO2) Produced				1		
Excess Due to Congestion (tons) Rank						
Nank Due to All Travel (tons)						
Rank			 		 	 -
Truck Annual Greenhouse Gases (CO2) Produced				1		
Excess Due to Truck Congestion (tons) Rank						
Rank Due to Truck Travel (tons)						
Rank						
Канк						

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

Inventory Measures	1990	1989	1988	1987	1986	1985
Urban Area Information						
Population (1000s)	690	680	675	670	665	655
Rank	46	45	45	44	44	44
Commuters (1000s)	298	291	287	283	279	273
Daily Vehicle-Miles of Travel (1000s)						
Freeway	6,935	6,830	6,850	6,425	6,075	5,975
Arterial Streets	7,350	7,505	7,155	7,100	7,030	7,020
Cost Components						
Value of Time (\$/hour)	9.75	9.25	8.83	8.48	8.18	8.03
Commercial Cost (\$/hour)	25.95	25.60	25.26	24.93	24.60	24.27
Gasoline (\$/gallon)	1.11	1.06	0.98	0.98	0.96	1.25
Diesel (\$/gallon)	1.09	0.98	0.90	0.90	0.88	1.15
System Performance	1990	1989	1988	1987	1986	1985
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	3,924	3,650	3,503	3,291	2,854	2,752
Rank	48	49	46	43	46	45
Fuel per Peak Auto Commuter (gallons)	4	4	4	4	4	4
Rank	81	76	71	61	54	50
Annual Delay						
Total Delay (1000s of person-hours)	8,518	7,924	7,605	7,146	6,197	5,974
Rank	49	47	44	44	44	44
Delay per Auto Commuter (pers-hrs)	17	16	16	15	13	13
Rank	70	68	61	60	64	56
Travel Time Index	1.08	1.07	1.07	1.07	1.06	1.06
Rank	62	65	59	54	56	53
Commuter Stress Index						
Rank Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost	00	07	90	72	(1	£0
Total Cost (\$ millions) Rank	98 47	87 46	80 43	72 44	61 44	58 44
Cost per Auto Commuter (\$)	314	311	313	308	278	274
Rank	79	75	72	67	70	66
Truck Congestion	,,	7.5	, 2	07	70	
Annual Person-Hours of Delay (000)	417	388	371	349	303	292
Rank	41	41	41	40	42	41
Annual Gallons of Wasted Fuel (000)	832	774	743	698	605	583
Rank	44	43	42	42	43	42
Annual Congestion Cost (\$ million)	11	10	9	9	7	7
Rank	41	41	42	37	43	41
Annual Greenhouse Gases (CO2) Produced					-	
Excess Due to Congestion (tons)						
Rank						
Due to All Travel (tons)						
Rank						
Truck Annual Greenhouse Gases (CO2) Produced					-	
Tracer ramatar Greenmouse Guses (GG2) Troubeta						
Excess Due to Truck Congestion (tons)						
` '	 	 				
Excess Due to Truck Congestion (tons)		 		 		

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

Inventory Measures	1984	1983	1982
Urban Area Information			
Population (1000s)	650	645	640
Rank	43	43	43
Commuters (1000s)	268	264	259
Daily Vehicle-Miles of Travel (1000s)			
Freeway	5,850	5,155	4,885
Arterial Streets	6,820	6,400	6,085
Cost Components			
Value of Time (\$/hour)	7.75	7.43	7.20
Commercial Cost (\$/hour)	23.94	23.63	23.31
Gasoline (\$/gallon)	1.27	1.30	1.35
Diesel (\$/gallon)	1.16	1.19	1.25
System Performance	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)	2,609	2,233	2,096
Rank	44	45	43
Fuel per Peak Auto Commuter (gallons)	4	3	2
Rank	41	46	55
Annual Delay			
Total Delay (1000s of person-hours)	5,664	4,847	4,550
Rank	43	44	44
Delay per Auto Commuter (pers-hrs)	13	11	11
Rank	52	56	53
Travel Time Index	1.06	1.05	1.05
Rank	50	55	51
Commuter Stress Index	50		J1
Rank			
Freeway Planning Time Index (95th Pctile)			
Rank			
Congestion Cost	5.1	44	41
Total Cost (\$ millions) Rank	54 43	44	41
Cost per Auto Commuter (\$)	269	242	233
Rank	64	66	65
	04	00	- 03
Truck Congestion Annual Person-Hours of Delay (000)	277	238	222
Rank	39	41	40
Annual Gallons of Wasted Fuel (000)	553	473	444
Rank	42	43	41
Annual Congestion Cost (\$ million)	7	6	5
Rank	35	37	40
	33	31	70
Annual Greenhouse Gases (CO2) Produced			
Excess Due to Congestion (tons)			
Rank			
Due to All Travel (tons)			
Rank			
Truck Annual Greenhouse Gases (CO2) Produced			
Excess Due to Truck Congestion (tons)			
Rank			
Due to Truck Travel (tons)			
Rank			

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