

Performance Measure Summary - Dallas-Fort Worth-Arlington 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 Dallas-Fort Worth-Arlington TX

Inventory Measures	2017	2016	2015	2014	2013	2012
Urban Area Information						
Population (1000s)	5,630	5,570	5,520	5,485	5,435	5,365
Rank	5	5	6	6	6	6
Commuters (1000s)	2,645	2,615	2,590	2,573	2,549	2,565
Daily Vehicle-Miles of Travel (1000s)						
Freeway	71,557	72,450	69,589	66,781	64,670	64,235
Arterial Streets	47,773	47,111	45,640	44,837	42,827	43,900
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)	31.8	--	--	--	--	--
Congested System (% of lane-miles)	18.0	--	--	--	--	--
Congested Time (number of "Rush Hours")	4.5	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	79,677	79,381	78,784	78,282	77,248	76,053
Rank	9	9	9	9	9	9
Fuel per Peak Auto Commuter (gallons)	25	24	23	22	22	23
Rank	20	23	25	24	24	18
Annual Delay						
Total Delay (1000s of person-hours)	224,883	220,076	214,718	209,671	205,089	198,340
Rank	9	9	9	9	9	9
Delay per Auto Commuter (pers-hrs)	67	65	63	60	59	57
Rank	13	13	13	14	13	13
Travel Time Index						
Rank	1.26	1.26	1.26	1.27	1.27	1.26
Rank	23	23	23	20	20	21
Commuter Stress Index						
Rank	1.31	--	--	--	--	--
Rank	21	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	1.79	--	--	--	--	--
Rank	26	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	4,511	4,342	4,180	4,146	3,995	3,807
Rank	9	9	9	9	9	9
Cost per Auto Commuter (\$)	1,272	1,253	1,216	1,180	1,173	1,142
Rank	18	17	17	17	15	16
Truck Congestion						
Annual Person-Hours of Delay (000)	9,445	9,243	9,018	8,806	8,614	8,330
Rank	9	9	9	9	9	9
Annual Gallons of Wasted Fuel (000)	16,891	16,829	16,702	16,596	16,377	16,123
Rank	9	9	9	9	9	9
Annual Congestion Cost (\$ million)	471	442	410	404	373	350
Rank	9	9	9	9	9	9

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

Mobility Data for Dallas-Fort Worth-Arlington TX

Inventory Measures	2011	2010	2009	2008	2007	2006
Urban Area Information						
Population (1000s)	5,260	5,160	5,015	4,900	4,860	4,750
Rank	6	6	6	6	6	6
Commuters (1000s)	2,609	2,606	2,556	2,519	2,608	2,545
Daily Vehicle-Miles of Travel (1000s)						
Freeway	62,600	61,386	62,500	62,465	63,300	63,000
Arterial Streets	44,012	43,159	44,723	44,500	46,000	45,680
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)	72,750	69,639	67,823	71,310	77,195	75,192
Rank	10	10	10	10	8	8
Fuel per Peak Auto Commuter (gallons)	22	21	18	18	23	22
Rank	18	24	34	49	13	18
Annual Delay						
Total Delay (1000s of person-hours)	186,308	175,068	167,318	167,543	181,368	176,664
Rank	9	9	9	8	8	8
Delay per Auto Commuter (pers-hrs)	53	50	49	50	53	53
Rank	17	17	15	15	12	12
Travel Time Index						
Rank	21	22	22	22	20	21
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	3,547	3,187	2,973	3,081	3,182	2,990
Rank	9	9	10	8	8	8
Cost per Auto Commuter (\$)	1,107	1,073	1,044	1,035	1,165	1,166
Rank	17	17	17	17	14	14
Truck Congestion						
Annual Person-Hours of Delay (000)	7,825	7,353	7,027	7,037	7,617	7,420
Rank	9	9	9	8	8	8
Annual Gallons of Wasted Fuel (000)	15,423	14,763	14,379	15,118	16,365	15,941
Rank	10	10	10	10	8	8
Annual Congestion Cost (\$ million)	361	316	293	313	317	290
Rank	9	10	10	8	8	8

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

Mobility Data for Dallas-Fort Worth-Arlington TX

Inventory Measures	2005	2004	2003	2002	2001	2000
Urban Area Information						
Population (1000s)	4,650	4,525	4,400	4,280	4,160	4,075
Rank	6	6	6	6	6	6
Commuters (1000s)	2,479	2,400	2,322	2,243	2,143	2,062
Daily Vehicle-Miles of Travel (1000s)						
Freeway	61,500	59,180	57,870	56,000	54,300	52,000
Arterial Streets	45,750	44,805	42,970	42,240	42,150	42,265
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)	70,525	66,031	62,032	58,455	57,024	55,240
Rank	11	11	12	12	12	11
Fuel per Peak Auto Commuter (gallons)	21	20	19	17	17	17
Rank	20	21	23	34	31	24
Annual Delay						
Total Delay (1000s of person-hours)	165,698	155,139	145,744	137,340	133,978	129,786
Rank	9	9	10	10	10	9
Delay per Auto Commuter (pers-hrs)	51	49	48	46	47	47
Rank	15	14	14	17	12	12
Travel Time Index						
Rank	22	23	25	26	23	19
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	2,697	2,418	2,189	2,009	1,936	1,824
Rank	9	9	10	10	10	9
Cost per Auto Commuter (\$)	1,131	1,094	1,056	1,015	1,005	1,001
Rank	15	16	15	16	16	15
Truck Congestion						
Annual Person-Hours of Delay (000)	6,959	6,516	6,121	5,768	5,627	5,451
Rank	9	9	10	10	10	9
Annual Gallons of Wasted Fuel (000)	14,951	13,999	13,151	12,392	12,089	11,711
Rank	11	11	12	12	12	11
Annual Congestion Cost (\$ million)	259	227	201	181	173	162
Rank	9	9	10	10	10	10

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

Mobility Data for Dallas-Fort Worth-Arlington TX

Inventory Measures	1999	1998	1997	1996	1995	1994
Urban Area Information						
Population (1000s)	3,970	3,860	3,740	3,650	3,500	3,425
Rank	7	8	8	8	9	9
Commuters (1000s)	1,977	1,891	1,798	1,728	1,629	1,566
Daily Vehicle-Miles of Travel (1000s)						
Freeway	50,285	48,740	46,165	44,900	42,840	40,365
Arterial Streets	40,695	37,345	37,530	35,215	35,095	34,815
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)	52,776	49,623	46,988	45,027	42,341	39,399
Rank	11	11	11	11	11	11
Fuel per Peak Auto Commuter (gallons)	16	15	14	14	13	11
Rank	27	25	26	18	19	37
Annual Delay						
Total Delay (1000s of person-hours)	123,997	116,589	110,397	105,790	99,479	92,567
Rank	9	10	9	9	9	9
Delay per Auto Commuter (pers-hrs)	47	46	45	45	45	43
Rank	10	10	10	10	10	10
Travel Time Index						
Rank	1.24	1.23	1.23	1.23	1.23	1.22
Rank	17	20	15	10	10	11
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	1,667	1,534	1,436	1,352	1,234	1,115
Rank	9	10	10	9	9	9
Cost per Auto Commuter (\$)	988	951	915	897	868	833
Rank	16	17	17	17	17	17
Truck Congestion						
Annual Person-Hours of Delay (000)	5,208	4,897	4,637	4,443	4,178	3,888
Rank	9	10	9	9	9	9
Annual Gallons of Wasted Fuel (000)	11,188	10,520	9,961	9,546	8,976	8,353
Rank	11	11	11	11	11	11
Annual Congestion Cost (\$ million)	146	136	128	122	113	102
Rank	9	10	10	9	9	9

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Mobility Data for Dallas-Fort Worth-Arlington TX

Inventory Measures	1993	1992	1991	1990	1989	1988
Urban Area Information						
Population (1000s)	3,370	3,325	3,290	3,250	3,175	3,100
Rank	9	8	8	8	8	9
Commuters (1000s)	1,517	1,470	1,430	1,390	1,346	1,303
Daily Vehicle-Miles of Travel (1000s)						
Freeway	38,500	37,240	36,200	35,700	33,200	32,770
Arterial Streets	33,035	31,520	30,040	27,980	25,990	24,030
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)	37,922	36,306	34,636	33,189	30,352	29,209
Rank	10	10	10	10	11	11
Fuel per Peak Auto Commuter (gallons)	11	10	10	10	9	8
Rank	22	24	19	14	19	20
Annual Delay						
Total Delay (1000s of person-hours)	89,097	85,300	81,376	77,977	71,311	68,626
Rank	9	8	8	9	9	10
Delay per Auto Commuter (pers-hrs)	43	42	41	40	38	37
Rank	9	9	9	9	11	11
Travel Time Index						
Rank	1.22	1.21	1.21	1.20	1.19	1.19
Rank	7	11	8	9	11	9
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	1,051	980	911	838	732	673
Rank	9	8	9	9	9	10
Cost per Auto Commuter (\$)	823	811	799	800	773	784
Rank	15	14	14	14	16	15
Truck Congestion						
Annual Person-Hours of Delay (000)	3,742	3,583	3,418	3,275	2,995	2,882
Rank	9	8	8	9	9	10
Annual Gallons of Wasted Fuel (000)	8,039	7,697	7,343	7,036	6,435	6,192
Rank	10	10	10	10	11	11
Annual Congestion Cost (\$ million)	98	93	88	82	74	70
Rank	9	8	9	9	9	10

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

Mobility Data for Dallas-Fort Worth-Arlington TX

Inventory Measures	1987	1986	1985	1984	1983	1982
Urban Area Information						
Population (1000s)	3,010	2,900	2,750	2,640	2,520	2,450
Rank	9	10	10	10	10	10
Commuters (1000s)	1,254	1,198	1,126	1,074	1,016	979
Daily Vehicle-Miles of Travel (1000s)						
Freeway	32,360	30,000	28,975	26,920	25,040	23,000
Arterial Streets	22,025	20,355	19,710	18,565	17,930	17,735
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)	27,857	25,307	25,883	26,731	23,508	21,381
Rank	11	11	10	9	9	9
Fuel per Peak Auto Commuter (gallons)	9	7	7	9	8	6
Rank	13	21	15	10	10	10
Annual Delay						
Total Delay (1000s of person-hours)	65,451	59,459	60,813	62,804	55,232	50,235
Rank	11	11	10	7	7	9
Delay per Auto Commuter (pers-hrs)	37	35	38	41	38	36
Rank	10	11	5	5	4	4
Travel Time Index						
Rank	1.19	1.18	1.19	1.21	1.19	1.18
Rank	8	8	6	4	5	5
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	619	544	555	556	472	419
Rank	11	11	10	7	7	9
Cost per Auto Commuter (\$)	780	736	764	820	753	708
Rank	13	13	11	10	11	11
Truck Congestion						
Annual Person-Hours of Delay (000)	2,749	2,497	2,554	2,638	2,320	2,110
Rank	11	11	10	7	7	9
Annual Gallons of Wasted Fuel (000)	5,906	5,365	5,487	5,667	4,984	4,533
Rank	11	11	10	9	9	9
Annual Congestion Cost (\$ million)	66	59	61	62	54	49
Rank	11	11	10	7	8	9

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