

Performance Measure Summary - McAllen 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 McAllen TX

Inventory Measures	2017	2016	2015	2014	2013	2012
Urban Area Information						
Population (1000s)	800	775	755	735	720	705
Rank	55	57	57	60	60	61
Commuters (1000s)	410	401	392	381	380	372
Daily Vehicle-Miles of Travel (1000s)						
Freeway	3,475	3,294	3,107	3,123	2,676	3,225
Arterial Streets	6,406	6,428	6,055	5,454	6,039	5,980
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)	15.2	--	--	--	--	--
Congested System (% of lane-miles)	9.5	--	--	--	--	--
Congested Time (number of "Rush Hours")	1.1	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	6,802	6,739	6,647	6,436	6,405	6,192
Rank	73	74	74	74	74	74
Fuel per Peak Auto Commuter (gallons)	13	13	13	13	13	13
Rank	93	92	92	88	89	87
Annual Delay						
Total Delay (1000s of person-hours)	19,111	18,660	17,669	16,823	16,459	15,501
Rank	64	63	64	66	65	68
Delay per Auto Commuter (pers-hrs)	38	38	36	34	32	32
Rank	80	79	82	85	85	83
Travel Time Index						
Rank	1.16	1.16	1.16	1.15	1.15	1.15
Rank	61	61	60	71	70	71
Commuter Stress Index						
Rank	1.19	--	--	--	--	--
Rank	50	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	1.33	--	--	--	--	--
Rank	66	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	383	368	344	333	321	298
Rank	64	64	64	67	65	70
Cost per Auto Commuter (\$)	701	689	648	615	607	577
Rank	81	79	81	81	81	85
Truck Congestion						
Annual Person-Hours of Delay (000)	803	784	742	707	691	651
Rank	63	63	64	65	65	68
Annual Gallons of Wasted Fuel (000)	1,442	1,429	1,409	1,364	1,358	1,313
Rank	73	74	74	74	74	74
Annual Congestion Cost (\$ million)	40	38	34	33	30	28
Rank	64	63	64	64	66	68

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

Mobility Data for McAllen TX

Inventory Measures	2011	2010	2009	2008	2007	2006
Urban Area Information						
Population (1000s)	690	675	645	620	570	525
Rank	61	61	62	65	68	71
Commuters (1000s)	364	355	338	323	296	271
Daily Vehicle-Miles of Travel (1000s)						
Freeway	3,192	3,120	3,170	3,190	3,250	3,000
Arterial Streets	6,178	6,039	6,030	6,000	6,100	5,900
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)	5,985	5,840	5,593	5,633	5,377	4,932
Rank	75	75	75	76	76	77
Fuel per Peak Auto Commuter (gallons)	12	13	11	13	12	11
Rank	89	84	91	84	90	91
Annual Delay						
Total Delay (1000s of person-hours)	14,585	13,842	13,009	12,480	11,912	10,926
Rank	70	70	71	74	75	74
Delay per Auto Commuter (pers-hrs)	31	30	29	29	30	31
Rank	84	84	84	83	83	80
Travel Time Index						
Rank	70	73	74	72	63	62
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	279	253	232	231	210	186
Rank	70	70	72	74	75	75
Cost per Auto Commuter (\$)	562	551	525	499	495	468
Rank	88	90	90	91	92	93
Truck Congestion						
Annual Person-Hours of Delay (000)	613	581	546	524	500	459
Rank	70	70	71	74	75	74
Annual Gallons of Wasted Fuel (000)	1,269	1,238	1,186	1,194	1,140	1,046
Rank	75	75	75	76	76	77
Annual Congestion Cost (\$ million)	29	25	23	24	21	18
Rank	68	70	72	73	75	74

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

Mobility Data for McAllen TX

Inventory Measures	2005	2004	2003	2002	2001	2000
Urban Area Information						
Population (1000s)	480	450	410	370	345	330
Rank	74	75	79	80	82	83
Commuters (1000s)	246	229	208	185	170	161
Daily Vehicle-Miles of Travel (1000s)						
Freeway	2,800	2,600	2,425	2,300	2,180	1,900
Arterial Streets	5,700	5,500	5,250	5,000	4,650	4,250
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)	4,373	4,056	3,623	3,182	2,927	2,762
Rank	77	77	78	81	80	80
Fuel per Peak Auto Commuter (gallons)	10	9	8	8	6	6
Rank	93	94	92	93	95	94
Annual Delay						
Total Delay (1000s of person-hours)	9,688	8,985	8,027	7,050	6,484	6,118
Rank	77	77	78	79	81	79
Delay per Auto Commuter (pers-hrs)	31	30	30	29	29	29
Rank	80	81	80	80	79	71
Travel Time Index						
Rank	1.16	1.15	1.15	1.15	1.15	1.15
Rank	61	66	64	61	58	56
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	158	140	121	103	94	86
Rank	77	77	78	79	81	79
Cost per Auto Commuter (\$)	428	410	377	338	317	307
Rank	93	93	94	96	96	95
Truck Congestion						
Annual Person-Hours of Delay (000)	407	377	337	296	272	257
Rank	77	77	78	79	81	79
Annual Gallons of Wasted Fuel (000)	927	860	768	675	620	585
Rank	77	77	78	81	80	80
Annual Congestion Cost (\$ million)	15	13	11	9	8	8
Rank	77	77	77	79	81	77

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

Mobility Data for McAllen TX

Inventory Measures	1999	1998	1997	1996	1995	1994
Urban Area Information						
Population (1000s)	315	310	310	305	300	290
Rank	85	86	85	86	86	86
Commuters (1000s)	152	148	146	142	137	131
Daily Vehicle-Miles of Travel (1000s)						
Freeway	1,860	1,800	1,750	1,695	1,590	1,440
Arterial Streets	3,800	3,200	2,900	2,770	2,455	2,340
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)	2,571	2,176	1,959	1,745	1,669	1,579
Rank	81	82	83	84	84	82
Fuel per Peak Auto Commuter (gallons)	6	4	4	4	3	3
Rank	93	96	94	92	94	94
Annual Delay						
Total Delay (1000s of person-hours)	5,695	4,820	4,341	3,866	3,697	3,499
Rank	79	82	82	82	81	80
Delay per Auto Commuter (pers-hrs)	29	25	22	20	20	20
Rank	67	76	83	85	82	80
Travel Time Index						
Rank	1.14	1.12	1.11	1.09	1.09	1.09
Rank	61	72	72	79	77	75
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	77	64	57	50	46	42
Rank	79	80	82	82	81	80
Cost per Auto Commuter (\$)	292	256	233	210	210	203
Rank	96	96	96	97	95	96
Truck Congestion						
Annual Person-Hours of Delay (000)	239	202	182	162	155	147
Rank	79	82	82	82	81	79
Annual Gallons of Wasted Fuel (000)	545	461	415	370	354	335
Rank	81	82	83	84	83	82
Annual Congestion Cost (\$ million)	7	6	5	4	4	4
Rank	77	77	79	82	79	79

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

Mobility Data for McAllen TX

Inventory Measures	1993	1992	1991	1990	1989	1988
Urban Area Information						
Population (1000s)	280	270	260	250	240	230
Rank	86	86	87	87	88	89
Commuters (1000s)	125	119	113	108	102	97
Daily Vehicle-Miles of Travel (1000s)						
Freeway	1,475	1,320	1,230	1,150	1,050	940
Arterial Streets	2,095	1,900	1,820	1,750	1,710	1,675
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)	1,413	1,224	1,085	884	795	673
Rank	85	85	86	89	88	88
Fuel per Peak Auto Commuter (gallons)	3	3	2	2	2	1
Rank	90	90	94	93	90	94
Annual Delay						
Total Delay (1000s of person-hours)	3,131	2,711	2,404	1,959	1,761	1,492
Rank	82	83	84	88	88	88
Delay per Auto Commuter (pers-hrs)	18	17	16	13	13	11
Rank	82	83	83	88	84	86
Travel Time Index						
Rank	77	82	81	90	87	92
Commuter Stress Index						
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	37	31	27	21	18	15
Rank	82	83	84	88	88	88
Cost per Auto Commuter (\$)	186	165	151	131	127	113
Rank	96	96	98	98	98	98
Truck Congestion						
Annual Person-Hours of Delay (000)	132	114	101	82	74	63
Rank	82	83	83	87	88	88
Annual Gallons of Wasted Fuel (000)	300	259	230	187	169	143
Rank	85	85	86	89	88	88
Annual Congestion Cost (\$ million)	3	3	3	2	2	2
Rank	82	80	80	83	82	80

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

Mobility Data for McAllen TX

Inventory Measures	1987	1986	1985	1984	1983	1982
Urban Area Information						
Population (1000s)	220	210	200	190	180	170
Rank	89	89	90	90	92	93
Commuters (1000s)	92	88	83	78	73	68
Daily Vehicle-Miles of Travel (1000s)						
Freeway	870	780	690	600	510	420
Arterial Streets	1,620	1,530	1,460	1,400	1,380	1,300
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)	581	563	517	432	384	327
Rank	88	88	88	90	90	91
Fuel per Peak Auto Commuter (gallons)	1	1	1	1	1	1
Rank	93	91	90	87	86	82
Annual Delay						
Total Delay (1000s of person-hours)	1,286	1,248	1,145	957	851	724
Rank	88	87	88	90	90	91
Delay per Auto Commuter (pers-hrs)	10	10	10	9	8	8
Rank	85	83	80	78	76	73
Travel Time Index						
Rank	1.03	1.03	1.03	1.03	1.02	1.02
Rank	93	93	91	85	90	90
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	12	11	10	8	7	6
Rank	88	87	88	89	91	91
Cost per Auto Commuter (\$)	99	103	98	78	71	73
Rank	98	97	97	98	98	97
Truck Congestion						
Annual Person-Hours of Delay (000)	54	52	48	40	36	30
Rank	87	87	88	90	90	91
Annual Gallons of Wasted Fuel (000)	123	119	110	92	81	69
Rank	88	88	88	90	90	91
Annual Congestion Cost (\$ million)	1	1	1	1	1	1
Rank	87	84	83	81	78	75

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