

# Performance Measure Summary - El Paso TX-NM

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 El Paso TX-NM

Inventory Measures	2017	2016	2015	2014	2013	2012
<b>Urban Area Information</b>						
Population (1000s)	825	825	820	820	805	790
Rank	54	54	54	54	54	54
Commuters (1000s)	422	422	419	419	418	411
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	6,786	6,505	6,314	6,141	5,806	5,800
Arterial Streets	6,731	6,555	6,474	5,550	5,667	6,225
<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)	2.17	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
<b>Congested Travel (% of peak VMT)</b>	2.2	--	--	--	--	--
<b>Congested System (% of lane-miles)</b>	13.1	--	--	--	--	--
<b>Congested Time (number of "Rush Hours")</b>	2.3	--	--	--	--	--
<b>Annual Excess Fuel Consumed</b>						
Total Fuel (1000 gallons)	9,238	9,213	9,114	9,022	8,939	8,864
Rank	55	55	55	55	55	55
Fuel per Peak Auto Commuter (gallons)	17	17	16	16	16	16
Rank	68	68	73	70	71	69
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	22,711	22,216	21,604	21,018	20,459	20,106
Rank	58	58	58	58	58	58
Delay per Auto Commuter (pers-hrs)	41	40	39	38	37	38
Rank	70	72	71	71	71	65
<b>Travel Time Index</b>						
Rank	1.16	1.16	1.16	1.16	1.16	1.17
Rank	61	61	60	61	58	50
<b>Commuter Stress Index</b>						
Rank	1.18	--	--	--	--	--
Rank	56	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	1.35	--	--	--	--	--
Rank	64	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	458	441	423	419	403	390
Rank	58	58	58	58	58	58
Cost per Auto Commuter (\$)	794	780	755	730	718	716
Rank	57	57	57	57	57	57
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	954	933	907	883	859	844
Rank	58	58	58	58	58	58
Annual Gallons of Wasted Fuel (000)	1,958	1,953	1,932	1,913	1,895	1,879
Rank	55	55	55	55	55	55
Annual Congestion Cost (\$ million)	48	45	42	41	38	36
Rank	58	57	58	58	58	58

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

# Mobility Data for El Paso TX-NM

Inventory Measures	2011	2010	2009	2008	2007	2006
<b>Urban Area Information</b>						
Population (1000s)	775	750	725	710	700	685
Rank	55	55	56	57	58	58
Commuters (1000s)	402	388	373	364	357	348
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	5,684	5,569	5,522	5,495	5,505	5,695
Arterial Streets	6,314	6,186	6,045	6,015	6,090	5,925
<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)	3.29	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
<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)	8,648	8,536	8,454	8,464	8,535	8,330
Rank	55	55	55	56	56	55
Fuel per Peak Auto Commuter (gallons)	16	15	15	15	15	15
Rank	67	73	62	75	73	73
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	19,262	18,665	18,140	17,296	17,441	17,022
Rank	58	58	57	58	58	58
Delay per Auto Commuter (pers-hrs)	36	36	37	36	37	37
Rank	69	64	57	61	54	52
<b>Travel Time Index</b>						
Rank	1.17	1.17	1.17	1.18	1.18	1.18
Rank	45	43	45	44	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)	370	343	325	322	309	291
Rank	58	58	57	58	58	58
Cost per Auto Commuter (\$)	707	707	698	659	692	693
Rank	57	57	58	61	60	60
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	809	784	762	726	733	715
Rank	58	58	57	58	58	58
Annual Gallons of Wasted Fuel (000)	1,833	1,810	1,792	1,794	1,809	1,766
Rank	55	55	55	56	56	55
Annual Congestion Cost (\$ million)	38	34	32	33	31	29
Rank	58	58	57	58	57	56

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

# Mobility Data for El Paso TX-NM

Inventory Measures	2005	2004	2003	2002	2001	2000
<b>Urban Area Information</b>						
Population (1000s)	680	675	670	665	660	655
Rank	58	58	58	56	58	57
Commuters (1000s)	343	338	334	328	321	314
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	5,350	5,100	4,800	4,550	4,350	4,100
Arterial Streets	6,100	5,910	5,705	5,435	5,300	5,205
<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)	2.23	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
<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)	8,150	8,140	8,002	7,372	7,084	6,673
Rank	53	53	53	54	55	56
Fuel per Peak Auto Commuter (gallons)	15	15	15	14	14	12
Rank	64	65	58	61	54	68
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	16,655	16,634	16,352	15,064	14,477	13,636
Rank	56	54	54	55	56	57
Delay per Auto Commuter (pers-hrs)	37	37	37	34	33	32
Rank	48	47	45	54	58	61
<b>Travel Time Index</b>						
Rank	1.18	1.18	1.18	1.17	1.17	1.16
Rank	41	38	38	41	38	45
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	274	261	247	222	211	193
Rank	55	54	54	55	56	56
Cost per Auto Commuter (\$)	702	724	730	687	670	648
Rank	56	52	50	52	51	55
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	700	699	687	633	608	573
Rank	55	54	54	55	56	57
Annual Gallons of Wasted Fuel (000)	1,728	1,726	1,696	1,563	1,502	1,415
Rank	53	53	53	54	55	56
Annual Congestion Cost (\$ million)	27	25	23	20	19	17
Rank	54	53	53	55	54	56

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

# Mobility Data for El Paso TX-NM

Inventory Measures	1999	1998	1997	1996	1995	1994
<b>Urban Area Information</b>						
Population (1000s)	650	640	610	605	590	580
Rank	57	57	59	59	60	60
Commuters (1000s)	308	300	282	276	266	258
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	3,900	3,650	3,460	3,400	3,430	3,410
Arterial Streets	5,110	5,025	4,950	4,805	4,690	4,550
<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)	1.07	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
<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)	6,500	6,004	5,521	5,201	4,879	4,617
Rank	56	57	57	57	58	57
Fuel per Peak Auto Commuter (gallons)	13	12	11	10	10	9
Rank	51	53	54	57	52	56
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	13,283	12,270	11,283	10,629	9,971	9,436
Rank	56	56	57	57	55	55
Delay per Auto Commuter (pers-hrs)	32	30	29	28	27	26
Rank	57	61	60	59	57	55
<b>Travel Time Index</b>						
Rank	41	44	47	45	47	42
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	179	162	148	137	124	114
Rank	56	56	57	57	55	55
Cost per Auto Commuter (\$)	655	620	576	555	539	524
Rank	52	54	57	54	50	48
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	558	515	474	446	419	396
Rank	56	56	57	57	55	55
Annual Gallons of Wasted Fuel (000)	1,378	1,273	1,171	1,103	1,034	979
Rank	56	57	57	57	58	57
Annual Congestion Cost (\$ million)	16	14	13	12	11	11
Rank	55	57	57	57	55	53

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

# Mobility Data for El Paso TX-NM

Inventory Measures	1993	1992	1991	1990	1989	1988
<b>Urban Area Information</b>						
Population (1000s)	570	565	560	540	520	510
Rank	59	58	56	57	59	60
Commuters (1000s)	251	245	240	229	218	213
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	3,255	3,030	2,830	2,650	2,420	2,620
Arterial Streets	4,460	4,115	3,960	3,725	3,620	3,490
<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)	1.10	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
<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)	4,330	4,106	3,683	3,216	2,643	2,371
Rank	56	56	57	57	59	61
Fuel per Peak Auto Commuter (gallons)	8	8	8	7	6	5
Rank	58	53	45	50	53	58
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	8,849	8,391	7,525	6,571	5,401	4,845
Rank	54	53	56	57	59	60
Delay per Auto Commuter (pers-hrs)	25	24	22	20	18	16
Rank	53	53	53	59	59	61
<b>Travel Time Index</b>						
Rank	1.12	1.12	1.11	1.09	1.08	1.07
Rank	44	40	45	56	56	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)	105	97	85	71	56	48
Rank	54	53	54	57	58	59
Cost per Auto Commuter (\$)	505	491	453	415	360	344
Rank	48	47	49	54	63	61
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	372	352	316	276	227	203
Rank	54	53	55	57	58	60
Annual Gallons of Wasted Fuel (000)	918	871	781	682	560	503
Rank	56	56	57	57	59	61
Annual Congestion Cost (\$ million)	10	9	8	7	6	5
Rank	53	52	54	54	57	58

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

# Mobility Data for El Paso TX-NM

Inventory Measures	1987	1986	1985	1984	1983	1982
<b>Urban Area Information</b>						
Population (1000s)	500	480	455	450	450	450
Rank	59	61	63	63	61	60
Commuters (1000s)	206	197	185	182	180	178
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	2,510	2,680	2,386	2,190	1,995	1,980
Arterial Streets	3,265	3,195	3,105	3,075	2,960	2,910
<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)	0.99	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
<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)	1,976	1,727	1,483	1,359	1,202	1,081
Rank	64	66	67	67	67	66
Fuel per Peak Auto Commuter (gallons)	5	3	3	2	2	2
Rank	48	74	66	79	69	55
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	4,039	3,530	3,030	2,777	2,457	2,209
Rank	65	66	66	65	65	67
Delay per Auto Commuter (pers-hrs)	14	13	11	11	9	9
Rank	64	64	72	64	70	65
<b>Travel Time Index</b>						
Rank	66	74	64	75	80	76
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	38	33	28	25	21	19
Rank	65	66	66	65	65	66
Cost per Auto Commuter (\$)	295	273	238	228	207	189
Rank	65	67	69	68	75	77
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	170	148	127	117	103	93
Rank	64	66	66	65	65	67
Annual Gallons of Wasted Fuel (000)	419	366	314	288	255	229
Rank	64	66	67	67	66	66
Annual Congestion Cost (\$ million)	4	4	3	3	2	2
Rank	63	58	65	61	66	65

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