

# Performance Measure Summary - Omaha NE-IA

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 Omaha NE-IA

Inventory Measures	2017	2016	2015	2014	2013	2012
<b>Urban Area Information</b>						
Population (1000s)	785	780	775	770	755	740
Rank	57	56	56	56	56	57
Commuters (1000s)	406	402	399	396	396	388
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	6,571	6,255	6,117	5,249	5,182	5,070
Arterial Streets	6,500	6,353	6,048	5,989	5,954	6,010
<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)	2.33	2.16	2.37	3.35	3.50	3.47
Diesel (\$/gallon)	2.46	2.24	2.43	3.55	3.81	3.88
System Performance	2017	2016	2015	2014	2013	2012
<b>Congested Travel (% of peak VMT)</b>	19.0	--	--	--	--	--
<b>Congested System (% of lane-miles)</b>	14.4	--	--	--	--	--
<b>Congested Time (number of "Rush Hours")</b>	2.2	--	--	--	--	--
<b>Annual Excess Fuel Consumed</b>						
Total Fuel (1000 gallons)	8,415	8,287	8,095	7,906	7,867	7,820
Rank	61	61	61	61	61	61
Fuel per Peak Auto Commuter (gallons)	17	17	17	17	16	17
Rank	68	68	65	65	71	61
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	19,117	18,535	17,796	17,079	16,842	16,444
Rank	63	64	63	63	63	62
Delay per Auto Commuter (pers-hrs)	38	37	36	35	35	34
Rank	80	81	82	80	79	79
<b>Travel Time Index</b>						
Rank	1.17	1.17	1.16	1.16	1.16	1.16
Rank	49	49	60	61	58	60
<b>Commuter Stress Index</b>						
Rank	1.18	--	--	--	--	--
Rank	56	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	1.29	--	--	--	--	--
Rank	72	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	388	370	352	344	334	322
Rank	63	63	63	63	63	62
Cost per Auto Commuter (\$)	674	659	629	600	597	591
Rank	84	84	83	83	82	80
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	803	778	747	717	707	691
Rank	63	64	63	63	63	62
Annual Gallons of Wasted Fuel (000)	1,784	1,757	1,716	1,676	1,668	1,658
Rank	61	61	61	61	61	61
Annual Congestion Cost (\$ million)	41	38	35	34	32	30
Rank	63	63	63	63	62	61

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

# Mobility Data for Omaha NE-IA

Inventory Measures	2011	2010	2009	2008	2007	2006
<b>Urban Area Information</b>						
Population (1000s)	730	720	710	705	695	685
Rank	58	58	59	59	59	58
Commuters (1000s)	382	375	369	365	358	351
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	5,119	4,971	4,475	4,260	4,340	4,300
Arterial Streets	6,725	6,663	6,950	7,235	7,025	7,110
<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)	3.44	2.74	2.28	3.42	3.04	2.65
Diesel (\$/gallon)	3.64	2.92	2.47	4.07	3.40	2.90
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)	7,339	7,267	7,063	7,160	6,576	6,483
Rank	62	62	61	63	69	68
Fuel per Peak Auto Commuter (gallons)	15	15	15	16	14	15
Rank	74	73	62	68	81	73
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	15,153	14,864	14,177	13,688	12,571	12,394
Rank	66	65	64	66	71	71
Delay per Auto Commuter (pers-hrs)	32	32	32	30	29	29
Rank	82	81	80	81	84	84
<b>Travel Time Index</b>						
Rank	1.16	1.16	1.16	1.16	1.15	1.15
Rank	59	58	58	63	72	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)	294	275	256	257	225	214
Rank	66	64	64	66	71	71
Cost per Auto Commuter (\$)	562	568	552	529	503	511
Rank	88	85	86	87	90	90
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	636	624	595	575	528	521
Rank	66	65	64	66	71	71
Annual Gallons of Wasted Fuel (000)	1,556	1,541	1,497	1,518	1,394	1,374
Rank	62	62	61	63	69	68
Annual Congestion Cost (\$ million)	31	28	26	27	23	21
Rank	63	63	62	65	71	70

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

# Mobility Data for Omaha NE-IA

Inventory Measures	2005	2004	2003	2002	2001	2000
<b>Urban Area Information</b>						
Population (1000s)	675	665	655	645	635	620
Rank	59	60	60	60	60	60
Commuters (1000s)	343	336	329	321	311	300
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	3,900	3,750	3,600	3,635	3,420	3,300
Arterial Streets	6,705	6,795	6,740	6,690	6,675	6,625
<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)	2.32	1.92	1.53	1.40	1.44	1.60
Diesel (\$/gallon)	2.48	1.92	1.49	1.34	1.52	1.50
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)	6,229	6,181	5,934	5,763	5,453	5,071
Rank	68	66	66	65	68	68
Fuel per Peak Auto Commuter (gallons)	13	14	12	13	12	12
Rank	81	71	83	71	74	68
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	11,908	11,815	11,344	11,017	10,424	9,694
Rank	71	70	70	70	70	71
Delay per Auto Commuter (pers-hrs)	29	29	28	28	27	26
Rank	84	83	84	83	82	81
<b>Travel Time Index</b>						
Rank	71	66	71	69	68	72
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	197	187	172	163	152	138
Rank	71	70	70	70	70	70
Cost per Auto Commuter (\$)	507	521	513	509	488	468
Rank	90	88	87	84	83	80
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	500	496	476	463	438	407
Rank	71	70	70	70	70	71
Annual Gallons of Wasted Fuel (000)	1,321	1,310	1,258	1,222	1,156	1,075
Rank	68	66	66	65	68	68
Annual Congestion Cost (\$ million)	19	18	16	15	14	12
Rank	70	68	69	68	67	70

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

# Mobility Data for Omaha NE-IA

Inventory Measures	1999	1998	1997	1996	1995	1994
<b>Urban Area Information</b>						
Population (1000s)	605	590	575	565	555	545
Rank	60	61	61	61	61	61
Commuters (1000s)	289	279	268	260	252	245
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	3,280	3,135	2,955	2,860	2,715	2,690
Arterial Streets	6,310	6,220	6,005	6,070	5,895	5,810
<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)	1.12	1.10	1.20	1.30	1.16	1.14
Diesel (\$/gallon)	1.11	1.13	1.26	1.35	1.21	1.18
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)	4,653	4,173	3,875	3,788	3,391	3,297
Rank	69	70	70	69	71	69
Fuel per Peak Auto Commuter (gallons)	11	10	8	9	7	8
Rank	72	73	79	69	77	65
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	8,895	7,976	7,407	7,242	6,481	6,303
Rank	71	72	72	71	71	71
Delay per Auto Commuter (pers-hrs)	25	23	22	22	20	20
Rank	82	83	83	79	82	80
<b>Travel Time Index</b>						
Rank	70	72	72	72	73	72
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	121	106	97	94	81	77
Rank	71	72	72	71	71	71
Cost per Auto Commuter (\$)	444	405	382	385	352	352
Rank	81	84	82	80	82	79
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	374	335	311	304	272	265
Rank	71	72	72	71	71	71
Annual Gallons of Wasted Fuel (000)	986	885	821	803	719	699
Rank	69	70	70	69	71	69
Annual Congestion Cost (\$ million)	11	9	9	9	7	7
Rank	68	72	70	69	71	70

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

# Mobility Data for Omaha NE-IA

Inventory Measures	1993	1992	1991	1990	1989	1988
<b>Urban Area Information</b>						
Population (1000s)	540	535	535	530	525	520
Rank	61	61	60	59	58	56
Commuters (1000s)	240	234	231	226	222	219
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	2,455	2,370	2,095	2,040	2,050	1,965
Arterial Streets	5,685	5,565	5,155	5,135	4,890	4,875
<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)	1.15	1.17	1.14	1.13	1.17	1.08
Diesel (\$/gallon)	1.19	1.21	1.26	1.13	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)	3,022	2,811	2,502	2,283	1,939	1,840
Rank	70	69	70	69	69	68
Fuel per Peak Auto Commuter (gallons)	6	7	5	6	4	4
Rank	76	59	79	60	76	71
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	5,778	5,374	4,783	4,364	3,706	3,518
Rank	71	70	70	70	72	70
Delay per Auto Commuter (pers-hrs)	19	18	16	15	13	12
Rank	78	80	83	84	84	85
<b>Travel Time Index</b>						
Rank	1.10	1.09	1.08	1.08	1.07	1.06
Rank	67	70	71	63	66	74
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	69	62	54	48	39	35
Rank	71	70	70	69	69	69
Cost per Auto Commuter (\$)	335	320	290	282	251	248
Rank	79	79	83	81	83	82
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	243	226	201	183	156	148
Rank	71	70	70	70	69	69
Annual Gallons of Wasted Fuel (000)	641	596	530	484	411	390
Rank	70	69	70	69	69	68
Annual Congestion Cost (\$ million)	7	6	5	5	4	4
Rank	67	69	70	67	69	64

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

# Mobility Data for Omaha NE-IA

Inventory Measures	1987	1986	1985	1984	1983	1982
<b>Urban Area Information</b>						
Population (1000s)	520	515	510	510	505	500
Rank	56	56	56	56	56	54
Commuters (1000s)	217	213	210	208	204	200
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	1,940	1,895	1,735	1,705	1,585	1,520
Arterial Streets	4,755	4,790	4,255	1,235	4,015	3,810
<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)	1.08	1.06	1.38	1.40	1.43	1.50
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)	1,672	1,634	1,540	1,385	1,273	1,193
Rank	69	67	66	66	65	65
Fuel per Peak Auto Commuter (gallons)	4	3	3	3	3	2
Rank	61	74	66	61	46	55
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	3,196	3,123	2,943	2,648	2,433	2,280
Rank	69	67	67	66	66	66
Delay per Auto Commuter (pers-hrs)	11	11	11	10	9	9
Rank	82	78	72	70	70	65
<b>Travel Time Index</b>						
Rank	66	57	64	57	55	61
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	31	29	27	24	21	19
Rank	69	67	67	66	65	66
Cost per Auto Commuter (\$)	235	242	229	212	208	206
Rank	82	76	75	75	74	70
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	134	131	124	111	102	96
Rank	69	67	67	66	66	66
Annual Gallons of Wasted Fuel (000)	354	346	326	294	270	253
Rank	69	67	66	66	65	65
Annual Congestion Cost (\$ million)	3	3	3	3	2	2
Rank	69	67	65	61	66	65

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