

# Performance Measure Summary - Salem OR

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 Salem OR

Inventory Measures	2017	2016	2015	2014	2013	2012
<b>Urban Area Information</b>						
Population (1000s)	260	260	255	255	250	250
Rank	98	97	97	97	97	97
Commuters (1000s)	128	128	125	125	125	125
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	1,788	1,778	1,716	1,624	1,509	1,495
Arterial Streets	2,213	2,256	2,186	2,101	1,987	2,010
<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)	2.69	2.42	2.64	3.51	3.70	3.67
Diesel (\$/gallon)	2.68	2.42	2.68	3.69	3.92	4.06
System Performance	2017	2016	2015	2014	2013	2012
<b>Congested Travel (% of peak VMT)</b>	13.2	--	--	--	--	--
<b>Congested System (% of lane-miles)</b>	11.8	--	--	--	--	--
<b>Congested Time (number of "Rush Hours")</b>	1.0	--	--	--	--	--
<b>Annual Excess Fuel Consumed</b>						
Total Fuel (1000 gallons)	3,691	3,666	3,565	3,535	3,501	3,427
Rank	89	87	89	88	88	89
Fuel per Peak Auto Commuter (gallons)	21	21	20	20	21	21
Rank	41	37	42	38	30	28
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	7,131	7,005	6,695	6,525	6,348	6,157
Rank	95	95	95	95	95	95
Delay per Auto Commuter (pers-hrs)	41	40	39	38	38	37
Rank	70	72	71	71	68	69
<b>Travel Time Index</b>						
Rank	1.15	1.15	1.15	1.16	1.16	1.16
Rank	71	71	69	61	58	60
<b>Commuter Stress Index</b>						
Rank	1.15	--	--	--	--	--
Rank	78	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	1.24	--	--	--	--	--
Rank	87	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	147	142	134	134	129	123
Rank	95	95	95	95	95	95
Cost per Auto Commuter (\$)	737	730	693	672	659	648
Rank	70	71	72	71	72	72
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	300	294	281	274	267	259
Rank	95	95	95	95	95	95
Annual Gallons of Wasted Fuel (000)	783	777	756	749	742	727
Rank	89	87	89	88	88	89
Annual Congestion Cost (\$ million)	16	15	14	14	13	12
Rank	95	94	93	93	92	93

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

# Mobility Data for Salem OR

Inventory Measures	2011	2010	2009	2008	2007	2006
<b>Urban Area Information</b>						
Population (1000s)	245	245	240	235	230	225
Rank	98	97	98	98	98	98
Commuters (1000s)	122	122	119	116	113	110
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	1,617	1,560	1,480	1,420	1,505	1,500
Arterial Streets	2,049	2,032	1,964	2,025	2,115	2,110
<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)	3.56	2.86	2.42	3.54	3.14	2.81
Diesel (\$/gallon)	3.91	3.10	2.63	4.27	3.45	3.03
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)	3,404	3,459	3,537	3,692	3,693	3,576
Rank	88	85	85	84	84	83
Fuel per Peak Auto Commuter (gallons)	21	21	20	22	23	22
Rank	25	24	18	19	13	18
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	6,004	6,045	6,066	6,030	6,032	5,840
Rank	95	95	93	93	93	92
Delay per Auto Commuter (pers-hrs)	38	37	39	39	40	40
Rank	63	58	47	43	41	40
<b>Travel Time Index</b>						
Rank	1.16	1.17	1.17	1.19	1.19	1.19
Rank	59	43	45	40	40	39
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	119	114	111	116	110	103
Rank	95	94	90	89	89	91
Cost per Auto Commuter (\$)	652	680	691	684	710	707
Rank	69	65	60	56	56	56
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	252	254	255	253	253	245
Rank	95	95	93	93	93	92
Annual Gallons of Wasted Fuel (000)	722	733	750	783	783	758
Rank	88	85	85	84	84	83
Annual Congestion Cost (\$ million)	13	12	11	12	11	10
Rank	91	90	89	88	90	89

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

# Mobility Data for Salem OR

Inventory Measures	2005	2004	2003	2002	2001	2000
<b>Urban Area Information</b>						
Population (1000s)	225	220	215	215	210	200
Rank	98	98	98	98	98	98
Commuters (1000s)	109	106	103	102	98	92
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	1,490	1,450	1,350	1,220	1,190	1,190
Arterial Streets	2,020	2,010	1,960	1,910	1,870	1,810
<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)	2.48	2.11	1.65	1.52	1.67	1.64
Diesel (\$/gallon)	2.77	2.19	1.65	1.47	1.67	1.61
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)	3,531	3,351	3,206	2,981	2,694	2,385
Rank	83	83	82	83	84	84
Fuel per Peak Auto Commuter (gallons)	22	21	20	20	18	16
Rank	15	14	17	15	23	32
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	5,767	5,473	5,236	4,868	4,401	3,895
Rank	89	91	91	90	91	95
Delay per Auto Commuter (pers-hrs)	40	39	38	36	33	31
Rank	38	39	42	45	58	65
<b>Travel Time Index</b>						
Rank	1.19	1.18	1.18	1.17	1.16	1.15
Rank	38	38	38	41	51	56
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	97	88	81	73	65	56
Rank	89	89	89	90	91	93
Cost per Auto Commuter (\$)	714	706	696	660	607	548
Rank	54	55	55	59	67	75
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	242	230	220	204	185	164
Rank	89	91	91	90	91	95
Annual Gallons of Wasted Fuel (000)	749	710	680	632	571	506
Rank	83	83	82	83	84	84
Annual Congestion Cost (\$ million)	10	9	8	7	6	5
Rank	88	86	85	85	87	89

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

# Mobility Data for Salem OR

Inventory Measures	1999	1998	1997	1996	1995	1994
<b>Urban Area Information</b>						
Population (1000s)	195	190	185	180	175	175
Rank	98	98	98	98	98	98
Commuters (1000s)	88	85	81	78	74	73
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	1,170	1,125	1,060	1,025	1,010	970
Arterial Streets	1,760	1,680	1,610	1,520	1,550	1,570
<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)	1.47	1.19	1.40	1.37	1.28	1.24
Diesel (\$/gallon)	1.37	1.27	1.39	1.40	1.31	1.26
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)	2,138	1,996	1,807	1,740	1,688	1,637
Rank	85	85	85	85	81	81
Fuel per Peak Auto Commuter (gallons)	14	13	11	10	10	11
Rank	42	42	54	57	52	37
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	3,493	3,259	2,951	2,842	2,757	2,674
Rank	95	95	94	93	92	91
Delay per Auto Commuter (pers-hrs)	29	28	26	26	26	26
Rank	67	66	69	67	61	55
<b>Travel Time Index</b>						
Rank	1.14	1.13	1.12	1.12	1.12	1.12
Rank	61	66	69	67	59	51
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	48	44	39	37	35	33
Rank	94	93	93	93	92	88
Cost per Auto Commuter (\$)	506	491	452	444	443	446
Rank	76	75	76	75	71	67
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	147	137	124	119	116	112
Rank	95	95	94	93	92	91
Annual Gallons of Wasted Fuel (000)	453	423	383	369	358	347
Rank	85	85	85	85	81	81
Annual Congestion Cost (\$ million)	4	4	4	3	3	3
Rank	93	88	86	93	88	85

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

# Mobility Data for Salem OR

Inventory Measures	1993	1992	1991	1990	1989	1988
<b>Urban Area Information</b>						
Population (1000s)	175	170	170	170	165	165
Rank	98	98	97	97	97	97
Commuters (1000s)	72	69	68	67	65	64
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	935	955	930	920	905	880
Arterial Streets	1,535	1,410	1,300	1,220	1,205	1,145
<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)	1.26	1.26	1.48	1.16	1.32	1.22
Diesel (\$/gallon)	1.29	1.33	1.28	1.01	1.17	1.08
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)	1,529	1,423	1,306	1,250	1,162	996
Rank	81	81	82	82	82	83
Fuel per Peak Auto Commuter (gallons)	10	10	8	9	8	8
Rank	38	24	45	23	26	20
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	2,497	2,324	2,133	2,041	1,897	1,627
Rank	88	88	89	86	85	86
Delay per Auto Commuter (pers-hrs)	24	24	22	21	20	18
Rank	58	53	53	52	48	52
<b>Travel Time Index</b>						
Rank	1.11	1.11	1.10	1.10	1.10	1.08
Rank	54	49	51	46	43	48
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	30	27	25	22	20	16
Rank	88	87	86	85	85	85
Cost per Auto Commuter (\$)	418	407	377	393	383	338
Rank	67	64	66	60	58	64
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	105	98	90	86	80	68
Rank	88	88	89	86	85	86
Annual Gallons of Wasted Fuel (000)	324	302	277	265	246	211
Rank	81	81	82	82	82	83
Annual Congestion Cost (\$ million)	3	3	2	2	2	2
Rank	82	80	85	83	82	80

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

# Mobility Data for Salem OR

Inventory Measures	1987	1986	1985	1984	1983	1982
<b>Urban Area Information</b>						
Population (1000s)	165	165	165	160	160	160
Rank	96	96	96	96	96	96
Commuters (1000s)	64	63	62	60	60	59
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	755	660	680	615	530	520
Arterial Streets	1,100	1,075	1,030	1,005	915	860
<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)	1.22	1.19	1.56	1.58	1.61	1.69
Diesel (\$/gallon)	1.08	1.06	1.38	1.40	1.43	1.50
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)	790	611	530	491	398	389
Rank	84	86	87	87	89	89
Fuel per Peak Auto Commuter (gallons)	6	5	3	4	2	2
Rank	32	40	66	41	69	55
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	1,290	998	865	803	651	636
Rank	87	93	94	94	94	93
Delay per Auto Commuter (pers-hrs)	14	11	9	9	7	7
Rank	64	78	83	78	85	82
<b>Travel Time Index</b>						
Rank	55	74	81	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)	13	9	8	7	6	6
Rank	87	91	93	94	93	91
Cost per Auto Commuter (\$)	291	214	212	184	170	165
Rank	69	83	78	82	82	82
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	54	42	36	34	27	27
Rank	87	93	94	94	94	93
Annual Gallons of Wasted Fuel (000)	167	130	112	104	84	83
Rank	84	86	87	87	89	89
Annual Congestion Cost (\$ million)	1	1	1	1	1	1
Rank	87	84	83	81	78	75

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