

# Performance Measure Summary - Orlando FL

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 Orlando FL

Inventory Measures	2017	2016	2015	2014	2013	2012
<b>Urban Area Information</b>						
Population (1000s)	1,690	1,660	1,635	1,615	1,600	1,555
Rank	30	30	31	31	31	32
Commuters (1000s)	839	823	809	797	804	782
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	16,405	15,504	14,183	13,491	12,825	12,285
Arterial Streets	18,899	18,125	17,450	17,057	16,732	16,240
<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)	2.28	2.12	2.23	3.27	3.47	3.50
Diesel (\$/gallon)	2.48	2.31	2.55	3.60	3.90	3.87
System Performance	2017	2016	2015	2014	2013	2012
<b>Congested Travel (% of peak VMT)</b>	23.8	--	--	--	--	--
<b>Congested System (% of lane-miles)</b>	17.3	--	--	--	--	--
<b>Congested Time (number of "Rush Hours")</b>	2.8	--	--	--	--	--
<b>Annual Excess Fuel Consumed</b>						
Total Fuel (1000 gallons)	24,203	23,820	23,248	22,914	22,648	22,193
Rank	30	30	30	30	30	31
Fuel per Peak Auto Commuter (gallons)	22	23	22	21	20	20
Rank	32	27	29	30	37	33
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	63,205	61,392	58,893	57,037	55,877	53,777
Rank	30	30	30	30	30	30
Delay per Auto Commuter (pers-hrs)	57	55	53	52	49	50
Rank	28	29	29	28	31	23
<b>Travel Time Index</b>						
Rank	1.24	1.23	1.23	1.23	1.22	1.22
Rank	28	29	29	30	31	32
<b>Commuter Stress Index</b>						
Rank	1.24	--	--	--	--	--
Rank	36	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	1.61	--	--	--	--	--
Rank	37	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	1,275	1,218	1,153	1,136	1,096	1,041
Rank	30	30	30	30	30	30
Cost per Auto Commuter (\$)	1,103	1,078	1,028	990	979	955
Rank	29	29	30	30	29	29
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	2,655	2,578	2,473	2,396	2,347	2,259
Rank	30	30	30	30	30	30
Annual Gallons of Wasted Fuel (000)	5,131	5,050	4,929	4,858	4,801	4,705
Rank	30	30	30	30	30	31
Annual Congestion Cost (\$ million)	134	125	114	112	104	97
Rank	30	30	30	30	29	29

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

# Mobility Data for Orlando FL

Inventory Measures	2011	2010	2009	2008	2007	2006
<b>Urban Area Information</b>						
Population (1000s)	1,515	1,485	1,455	1,415	1,405	1,375
Rank	32	32	32	33	33	34
Commuters (1000s)	775	771	753	729	719	699
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	13,353	13,154	13,199	13,265	13,540	12,980
Arterial Streets	16,909	16,657	16,472	16,555	17,000	16,595
<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)	3.24	2.74	2.33	3.47	2.98	2.66
Diesel (\$/gallon)	3.65	2.96	2.59	4.15	3.36	2.85
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)	22,003	21,925	21,719	23,053	22,586	22,094
Rank	30	30	30	29	29	29
Fuel per Peak Auto Commuter (gallons)	20	20	18	21	20	21
Rank	32	29	34	24	28	24
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	52,345	51,679	50,236	50,782	49,753	48,670
Rank	28	28	28	27	28	28
Delay per Auto Commuter (pers-hrs)	49	48	48	50	50	50
Rank	22	22	19	15	17	18
<b>Travel Time Index</b>						
Rank	32	32	31	30	31	31
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	1,001	948	900	941	879	830
Rank	29	28	28	27	27	28
Cost per Auto Commuter (\$)	960	976	966	968	985	991
Rank	28	25	24	19	23	22
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	2,199	2,171	2,110	2,133	2,090	2,044
Rank	28	28	28	27	28	28
Annual Gallons of Wasted Fuel (000)	4,665	4,648	4,605	4,887	4,788	4,684
Rank	30	30	30	29	29	29
Annual Congestion Cost (\$ million)	103	95	89	97	88	81
Rank	29	28	28	27	27	27

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

# Mobility Data for Orlando FL

Inventory Measures	2005	2004	2003	2002	2001	2000
<b>Urban Area Information</b>						
Population (1000s)	1,360	1,320	1,290	1,260	1,230	1,185
Rank	34	34	34	34	34	34
Commuters (1000s)	686	662	644	620	595	564
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	12,470	11,765	10,570	10,000	9,950	9,400
Arterial Streets	16,770	16,530	17,000	17,000	16,970	15,855
<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)	2.34	1.99	1.53	1.41	1.51	1.54
Diesel (\$/gallon)	2.53	2.01	1.61	1.41	1.58	1.55
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)	21,312	20,315	19,640	18,433	17,246	15,875
Rank	29	31	30	31	33	33
Fuel per Peak Auto Commuter (gallons)	20	19	19	17	16	15
Rank	25	27	23	34	36	40
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	46,947	44,750	43,264	40,604	37,990	34,970
Rank	27	29	29	29	30	32
Delay per Auto Commuter (pers-hrs)	49	48	48	47	45	43
Rank	18	18	14	15	17	19
<b>Travel Time Index</b>						
Rank	1.23	1.23	1.22	1.22	1.21	1.20
Rank	28	29	30	29	29	29
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	770	703	654	597	552	494
Rank	27	29	29	29	30	32
Cost per Auto Commuter (\$)	987	973	965	928	880	831
Rank	22	25	25	23	26	28
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	1,972	1,879	1,817	1,705	1,596	1,469
Rank	27	29	29	29	30	31
Annual Gallons of Wasted Fuel (000)	4,518	4,307	4,164	3,908	3,656	3,366
Rank	29	31	30	31	33	33
Annual Congestion Cost (\$ million)	75	67	61	54	50	44
Rank	27	29	28	29	30	32

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

# Mobility Data for Orlando FL

Inventory Measures	1999	1998	1997	1996	1995	1994
<b>Urban Area Information</b>						
Population (1000s)	1,140	1,120	1,105	1,065	1,035	995
Rank	35	35	35	37	37	37
Commuters (1000s)	533	516	501	475	454	430
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	8,725	8,565	8,205	7,695	7,280	7,360
Arterial Streets	15,290	14,440	14,040	13,215	12,625	11,760
<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)	1.14	1.07	1.17	1.30	1.20	1.08
Diesel (\$/gallon)	1.19	1.20	1.27	1.40	1.30	1.17
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)	14,463	13,174	12,327	11,333	10,480	9,574
Rank	33	33	33	33	35	35
Fuel per Peak Auto Commuter (gallons)	14	13	12	11	10	10
Rank	42	42	47	49	52	45
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	31,860	29,020	27,154	24,965	23,086	21,090
Rank	32	32	32	33	33	33
Delay per Auto Commuter (pers-hrs)	42	39	37	36	35	33
Rank	17	22	22	20	20	22
<b>Travel Time Index</b>						
Rank	1.19	1.18	1.17	1.17	1.16	1.16
Rank	30	30	32	30	32	30
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	430	384	355	321	288	255
Rank	32	32	33	33	33	34
Cost per Auto Commuter (\$)	784	729	694	653	623	586
Rank	31	32	34	35	33	39
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	1,338	1,219	1,140	1,049	970	886
Rank	32	32	32	33	33	33
Annual Gallons of Wasted Fuel (000)	3,066	2,793	2,613	2,403	2,222	2,030
Rank	33	33	33	33	35	35
Annual Congestion Cost (\$ million)	38	34	32	29	27	24
Rank	32	32	32	33	32	33

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

# Mobility Data for Orlando FL

Inventory Measures	1993	1992	1991	1990	1989	1988
<b>Urban Area Information</b>						
Population (1000s)	965	935	910	860	805	785
Rank	37	38	38	38	40	41
Commuters (1000s)	410	391	374	348	324	313
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	6,700	6,250	5,800	5,350	5,000	4,500
Arterial Streets	10,860	10,790	10,280	9,500	8,745	8,050
<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)	1.13	1.12	1.10	1.05	1.08	1.00
Diesel (\$/gallon)	1.22	1.20	1.24	1.11	1.07	0.99
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)	8,949	8,410	7,839	7,070	6,422	5,741
Rank	34	34	32	32	32	35
Fuel per Peak Auto Commuter (gallons)	9	9	8	7	7	6
Rank	49	45	45	50	39	45
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	19,713	18,525	17,267	15,573	14,146	12,646
Rank	33	33	32	32	33	33
Delay per Auto Commuter (pers-hrs)	32	32	31	30	29	27
Rank	22	17	17	16	16	18
<b>Travel Time Index</b>						
Rank	1.15	1.15	1.14	1.14	1.14	1.12
Rank	30	26	28	25	23	27
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	233	214	194	168	146	124
Rank	33	33	32	32	33	33
Cost per Auto Commuter (\$)	561	545	523	493	474	444
Rank	38	37	31	38	39	39
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	828	778	725	654	594	531
Rank	33	33	32	32	33	33
Annual Gallons of Wasted Fuel (000)	1,897	1,783	1,662	1,499	1,361	1,217
Rank	34	34	32	32	32	35
Annual Congestion Cost (\$ million)	22	20	19	17	15	13
Rank	33	32	31	31	32	33

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

# Mobility Data for Orlando FL

Inventory Measures	1987	1986	1985	1984	1983	1982
<b>Urban Area Information</b>						
Population (1000s)	760	690	675	650	630	610
Rank	42	43	43	43	44	46
Commuters (1000s)	301	271	263	251	242	231
<b>Daily Vehicle-Miles of Travel (1000s)</b>						
Freeway	4,100	3,815	3,435	3,150	3,010	2,750
Arterial Streets	6,955	6,270	6,275	6,130	5,635	5,250
<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)	1.00	0.98	1.28	1.29	1.32	1.38
Diesel (\$/gallon)	0.99	0.97	1.27	1.28	1.31	1.37
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)	5,004	4,304	3,637	3,176	2,541	2,391
Rank	35	36	39	40	41	41
Fuel per Peak Auto Commuter (gallons)	5	5	3	4	2	2
Rank	48	40	66	41	69	55
<b>Annual Delay</b>						
Total Delay (1000s of person-hours)	11,022	9,481	8,012	6,997	5,598	5,267
Rank	34	36	37	38	42	41
Delay per Auto Commuter (pers-hrs)	24	23	20	18	15	15
Rank	20	21	25	30	40	33
<b>Travel Time Index</b>						
Rank	29	26	35	29	39	35
<b>Commuter Stress Index</b>						
Rank	--	--	--	--	--	--
<b>Freeway Planning Time Index (95th Pctile)</b>						
Rank	--	--	--	--	--	--
<b>Congestion Cost</b>						
Total Cost (\$ millions)	105	87	73	62	48	44
Rank	34	36	38	38	41	41
Cost per Auto Commuter (\$)	403	359	313	282	237	227
Rank	44	55	58	59	63	63
<b>Truck Congestion</b>						
Annual Person-Hours of Delay (000)	463	398	337	294	235	221
Rank	34	36	37	38	41	41
Annual Gallons of Wasted Fuel (000)	1,061	912	771	673	539	507
Rank	35	36	39	40	41	41
Annual Congestion Cost (\$ million)	11	9	8	7	6	5
Rank	32	36	38	37	38	40

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