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 2020. 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 2020 (estimated at \$20.17 per hour of person travel and \$55.24 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.

Annual Greenhouse Gases (CO2) Produced -Tons of CO2 produced from all vehicle travel.

Excess Greenhouse Gases (CO2) Produced due to Congestion-Tons of CO2 produced due to congested portion of travel. The excess CO2 is a subset of the total CO2 produced.

Inventory Measures	2020	2019	2018	2017	2016	2015
Urban Area Information						
Population (1000s)	1,770	1,770	1,730	1,690	1,660	1,635
Rank	28	28	30	30	30	31
Commuters (1000s)	879	879	859	839	823	809
Daily Vehicle-Miles of Travel (1000s)						
Freeway	14,383	17,757	16,853	16,405	15,504	14,183
Arterial Streets	15,473	19,102	19,084	18,899	18,125	17,450
Cost Components	30,110	,	27,001	,	10,120	-,,
Value of Time (\$/hour)	20.17	19.14	18.71	18.12	17.91	17.69
Commercial Cost (\$/hour)	55.24	49.49	54.71	52.14	50.20	46.87
Gasoline (\$/gallon)	2.26	2.48	2.77	2.28	2.12	2.23
Diesel (\$\(\frac{9}{2}\)gallon)	2.71	2.85	3.15	2.48	2.31	2.55
System Performance	2020	2019	2018	2017	2016	2015
Congested Travel (% of peak VMT)				23.8		
Congested System (% of lane-miles)				17.3		
Congested Time (number of "Rush Hours")				2.8		
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	10,208	28,577	26,953	24,203	23,820	23,248
Rank	40	26	27	29	29	29
Fuel per Peak Auto Commuter (gallons)	9	25	24	22	23	22
Rank	70	21	27	32	27	29
Annual Delay						
Total Delay (1000s of person-hours)	25,458	71,267	66,034	63,205	61,392	58,893
Rank	36	27	28	28	28	28
Delay per Auto Commuter (pers-hrs)	22	61	58	57	55	53
Rank	72	22	25	28	29	29
Travel Time Index	1.07	1.24	1.24	1.24	1.23	1.23
Rank	57	28	27	28	29	29
Commuter Stress Index	1.08	1.30	1.28	1.24		
Rank	58	29	31	36		
Freeway Planning Time Index (95th Pctile)		1.67	1.65	1.61		
Rank		35	34	37		
Congestion Cost						
Total Cost (\$ millions)	570	1,526	1,434	1,345	1,285	1,216
Rank	37	28	28	28	28	28
Cost per Auto Commuter (\$)	471	1,261	1,212	1,163	1,137	1,084
Rank	69	25	26	29	29	30
Truck Congestion					İ	
Annual Person-Hours of Delay (000)	1,164	2,939	2,724	2,655	2,578	2,473
Rank	41	29	28	29	29	29
Annual Gallons of Wasted Fuel (000)	2,137	5,397	5,299	5,131	5,050	4,929
Rank	38	27	27	29	29	29
Annual Congestion Cost (\$ million)	62	145	152	142	132	121
Rank	40	30	29	29	29	29
Annual Greenhouse Gases (CO2) Produced			-	-		
Excess Due to Congestion (tons)	102,097	285,813				
Rank	40	265,615				
Due to All Travel (tons)	2,304,564	6,451,491				
Rank	2,304,304	32				
	44	32				
Truck Annual Greenhouse Gases (CO2) Produced	22.420	50 102			1	
Excess Due to Truck Congestion (tons)	23,438	59,193				
Rank	525 904	28				
Due to Truck Travel (tons)	535,894	1,353,406				
Rank	50	37			I	

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

Inventory Measures	2014	2013	2012	2011	2010	2009
Urban Area Information						
Population (1000s)	1,615	1,600	1,555	1,515	1,485	1,455
Rank	31	31	32	32	32	32
Commuters (1000s)	797	804	782	775	771	753
Daily Vehicle-Miles of Travel (1000s)						
Freeway	13,491	12,825	12,285	13,353	13,154	13,199
Arterial Streets	17,057	16,732	16,240	16,909	16,657	16,472
Cost Components						
Value of Time (\$/hour)	17.67	17.39	17.14	16.79	16.28	16.01
Commercial Cost (\$/hour)	44.82	41.23	39.66	44.62	42.50	41.83
Gasoline (\$/gallon)	3.27	3.47	3.50	3.24	2.74	2.33
Diesel (\$/gallon)	3.60	3.90	3.87	3.65	2.96	2.59
System Performance	2014	2013	2012	2011	2010	2009
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	22,914	22,648	22,193	22,003	21,925	21,719
Rank	29	29	29	28	27	28
Fuel per Peak Auto Commuter (gallons)	21	20	20	20	20	18
Rank	30	37	33	32	29	34
Annual Delay						
Total Delay (1000s of person-hours)	57,037	55,877	53,777	52,345	51,679	50,236
Rank	28	28	28	27	27	27
Delay per Auto Commuter (pers-hrs)	52	49	50	49	48	48
Rank	28	31	23	22	22	19
Travel Time Index	1.23	1.22	1.22	1.22	1.22	1.22
Rank	30	31	32	32	32	31
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	1,199	1,157	1,098	1,056	1,000	949
Rank	28	28	28	27	27	27
Cost per Auto Commuter (\$)	1,044	1,033	1,007	1,013	1,030	1,019
Rank	30	29	29	28	25	24
Truck Congestion	2.226	2 2 4 5	2 250	2.100	2.151	0.110
Annual Person-Hours of Delay (000)	2,396	2,347	2,259	2,199	2,171	2,110
Rank	29	28	4 705	26	26	26 4.605
Annual Gallons of Wasted Fuel (000) Rank	4,858	4,801 28	4,705 28	4,665 28	4,648	4,605 27
Rank Annual Congestion Cost (\$ million)	118	109	102	109	100	27 94
Rank	29	29	28	26	26	26
Annual Greenhouse Gases (CO2) Produced	2.9	23	20	20	20	20
Excess Due to Congestion (tons)				I		
Rank						
Due to All Travel (tons)						 -
Rank				<u></u>		
Truck Annual Greenhouse Gases (CO2) Produced						
Excess Due to Truck Congestion (tons)				I	I	
Rank						 -
Due to Truck Travel (tons)						
Rank				 		<u></u>
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^{*} Note: Zeroes in the table reflect values less than 0.5.

2008	2007	2006	2005	2004	2003
1,415	1,405	1,375	1,360	1,320	1,290
33	33	34	34	34	34
729	719	699	686	662	644
13,265	13,540	12,980	12,470	11,765	10,570
I I		l I		· · · · · · · · · · · · · · · · · · ·	17,000
16.07	15.47	15.06	14.58	14.10	13.73
		l I		l I	33.92
3.47	2.98	2.66	2.34	1.99	1.53
4.15	3.36	2.85	2.53	2.01	1.61
2008	2007	2006	2005	2004	2003
	<u></u>		<u></u>		
23.052	22 586	22 004	21 312	20 315	19,640
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		l I		l I	23
21	20	21	23	21	
50.782	40.753	18 670	46 047	44.750	43,264
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			-		48
					14
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		l .			30
30	31	31		29	30
993	927	875	812	742	689
					27
					1,018
	23	22		25	25
2,133	2.090	2,044	1,972	1.879	1,817
		· .		· .	26
4,887		4,684			4,164
26	26	26	26	27	26
102	93	86	79	70	64
25	25	24	25	26	25
+					
	1,415 33 729 13,265 16,555 16,07 40,77 3,47 4,15 2008 23,053 26 21 24 50,782 25 50 15 1.23 30	1,415 33 729 719 13,265 13,540 16,555 17,000 16,07 40,77 39,30 3,47 2,98 4,15 3,36 2008 2007	1,415 1,405 1,375 33 33 34 729 719 699 13,265 13,540 12,980 16,555 17,000 16,595 16,07 15,47 15,06 40,77 39,30 37,88 3,47 2,98 2,66 4,15 3,36 2,85 2008 2007 2006 23,053 22,586 22,094 26 26 26 21 20 21 24 28 24 50,782 49,753 48,670 25 26 26 50 50 50 15 17 18 1,23 1,23 1,23 30 31 31 <	1,415 1,405 1,375 1,360 33 33 34 34 729 719 699 686 13,265 13,540 12,980 12,470 16,555 17,000 16,595 16,770 16,07 15,47 15,06 14,58 40,77 39,30 37,88 36,51 3,47 2,98 2,66 2,34 4,15 3,36 2,85 2,53 2008 2007 2006 2005 20 20 20 20 21 20 21 20 24 28 24 25 50,782 49,753 48,670 46,947 25 26 26 26 50 50 50 49 15 17 18 18 1.23 1,23 1,23 1,23 30 31 31 28	1,415 1,405 1,375 1,360 1,320 33 33 34 34 34 729 719 699 686 662 13,265 13,540 12,980 12,470 11,765 16,555 17,000 16,595 16,770 16,530 40,77 39,30 37,88 36,51 35,19 3,47 2,98 2,66 2,34 1,99 4,15 3,36 2,85 2,53 2,01 2008 2007 2006 2005 2004

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

Inventory Measures	2002	2001	2000	1999	1998	1997
Urban Area Information	Ì					
Population (1000s)	1,260	1,230	1,185	1,140	1,120	1,105
Rank	34	34	34	35	35	35
Commuters (1000s)	620	595	564	533	516	501
Daily Vehicle-Miles of Travel (1000s)						
Freeway	10,000	9,950	9,400	8,725	8,565	8,205
Arterial Streets	17,000	16,970	15,855	15,290	14,440	14,040
Cost Components						
Value of Time (\$/hour)	13.43	13.22	12.85	12.43	12.17	11.98
Commercial Cost (\$/hour)	32.69	31.51	30.38	29.28	28.89	28.50
Gasoline (\$/gallon)	1.41	1.51	1.54	1.14	1.07	1.17
Diesel (\$/gallon)	1.41	1.58	1.55	1.19	1.20	1.27
System Performance	2002	2001	2000	1999	1998	1997
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	18,433	17,246	15,875	14,463	13,174	12,327
Rank	28	29	29	31	31	31
Fuel per Peak Auto Commuter (gallons)	17	16	15	14	13	12
Rank	34	36	40	42	42	47
Annual Delay						
Total Delay (1000s of person-hours)	40,604	37,990	34,970	31,860	29,020	27,154
Rank	27	28	30	30	30	31
Delay per Auto Commuter (pers-hrs)	47	45	43	42	39	37
Rank	15	17	19	17	22	22
Travel Time Index	1.22	1.21	1.20	1.19	1.18	1.17
Rank	29	29	29	30	30	32
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	630	582	521	454	405	374
Rank	27	28	30	30	30	31
Cost per Auto Commuter (\$)	979	928	877	827	769	732
Rank	23	26	28	31	32	34
Truck Congestion						
Annual Person-Hours of Delay (000)	1,705	1,596	1,469	1,338	1,219	1,140
Rank	26	27	28	28	28	29
Annual Gallons of Wasted Fuel (000)	3,908	3,656	3,366	3,066	2,793	2,613
Rank	28	28	28	28	28	28
Annual Congestion Cost (\$ million)	57	53	47	40	36	34
Rank	26	27	27	28	28	28
Annual Greenhouse Gases (CO2) Produced						
Excess Due to Congestion (tons)						
Rank						
Due to All Travel (tons)						
Rank						
Truck Annual Greenhouse Gases (CO2) Produced						
Excess Due to Truck Congestion (tons)						
Rank						
Dec. 4- Torolo Tressal (4-1-)						
Due to Truck Travel (tons) Rank					¹ I	

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

Inventory Measures	1996	1995	1994	1993	1992	1991
Urban Area Information						
Population (1000s)	1,065	1,035	995	965	935	910
Rank	37	37	37	37	38	38
Commuters (1000s)	475	454	430	410	391	374
Daily Vehicle-Miles of Travel (1000s)						
Freeway	7,695	7,280	7,360	6,700	6,250	5,800
Arterial Streets	13,215	12,625	11,760	10,860	10,790	10,280
Cost Components						
Value of Time (\$/hour)	11.71	11.37	11.06	10.78	10.47	10.17
Commercial Cost (\$/hour)	28.12	27.75	27.38	27.02	26.66	26.30
Gasoline (\$/gallon)	1.30	1.20	1.08	1.13	1.12	1.10
Diesel (\$/gallon)	1.40	1.30	1.17	1.22	1.20	1.24
System Performance	1996	1995	1994	1993	1992	1991
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	11,333	10,480	9,574	8,949	8,410	7,839
Rank	31	32	32	32	32	31
Fuel per Peak Auto Commuter (gallons)	11	10	10	9	9	8
Rank	49	52	45	49	45	45
Annual Delay	12	32	15	12	15	15
Total Delay (1000s of person-hours)	24,965	23,086	21,090	19,713	18,525	17,267
Rank	31	31	32	33	33	32
Delay per Auto Commuter (pers-hrs)	36	35	33	32	32	31
Rank	20	20	22	22	17	17
Travel Time Index						
Rank	1.17	1.16	1.16	1.15 31	1.15 27	1.14 29
Commuter Stress Index	30		30	31	21	
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	338	304	269	246	225	204
Rank	31	32	33	33	33	32
Cost per Auto Commuter (\$)	689	657	618	592	575	552
Rank	35	33	39	38	37	31
Truck Congestion						
Annual Person-Hours of Delay (000)	1,049	970	886	828	778	725
Rank	30	31	32	31	31	30
Annual Gallons of Wasted Fuel (000)	2,403	2,222	2,030	1,897	1,783	1,662
Rank	28	29	28	29	29	28
Annual Congestion Cost (\$ million)	31	28	25	23	21	20
Rank	30	31	32	31	31	28
Annual Greenhouse Gases (CO2) Produced						
Excess Due to Congestion (tons)						
Rank						
Due to All Travel (tons)						
Rank						
Truck Annual Greenhouse Gases (CO2) Produced						
Excess Due to Truck Congestion (tons)		<u></u>				
Rank						
Due to Truck Travel (tons)					 	
Rank			 			
IXAIIK						

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

Inventory Measures	1990	1989	1988	1987	1986	1985
Urban Area Information						
Population (1000s)	860	805	785	760	690	675
Rank	38	40	41	42	43	43
Commuters (1000s)	348	324	313	301	271	263
Daily Vehicle-Miles of Travel (1000s)						
Freeway	5,350	5,000	4,500	4,100	3,815	3,435
Arterial Streets	9,500	8,745	8,050	6,955	6,270	6,275
Cost Components						
Value of Time (\$/hour)	9.75	9.25	8.83	8.48	8.18	8.03
Commercial Cost (\$/hour)	25.95	25.60	25.26	24.93	24.60	24.27
Gasoline (\$/gallon)	1.05	1.08	1.00	1.00	0.98	1.28
Diesel (\$/gallon)	1.11	1.07	0.99	0.99	0.97	1.27
System Performance	1990	1989	1988	1987	1986	1985
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	7,070	6,422	5,741	5,004	4,304	3,637
Rank	31	31	33	33	36	38
Fuel per Peak Auto Commuter (gallons)	7	7	6	5	5	3
Rank	50	39	45	48	40	66
Annual Delay						
Total Delay (1000s of person-hours)	15,573	14,146	12,646	11,022	9,481	8,012
Rank	32	33	32	31	33	37
Delay per Auto Commuter (pers-hrs)	30	29	27	24	23	20
Rank	16	16	18	20	21	25
Travel Time Index	1.14	1.14	1.12	1.11	1.11	1.09
Rank	26	23	28	30	27	36
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	177	154	131	110	92	77
Rank	32	33	32	31	33	38
Cost per Auto Commuter (\$)	520	500	468	425	379	330
Rank	38	39	39	44	55	58
Truck Congestion						
Annual Person-Hours of Delay (000)	654	594	531	463	398	337
Rank	30	32	32	32	32	33
Annual Gallons of Wasted Fuel (000)	1,499	1,361	1,217	1,061	912	771
Rank	29	29	32	32	33	34
Annual Congestion Cost (\$ million)	17	16	14	12	10	9
Rank	30	30	31	31	32	31
Annual Greenhouse Gases (CO2) Produced						
Excess Due to Congestion (tons)						
Rank						
Due to All Travel (tons)						
Rank						
Truck Annual Greenhouse Gases (CO2) Produced		I	ı			
Truck Annual Greenhouse Gases (CO2) Produced Excess Due to Truck Congestion (tons)						
Excess Due to Truck Congestion (tons) Rank	 	 	 	 	 	
Excess Due to Truck Congestion (tons)		 		 		

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

Inventory Measures	1984	1983	1982
Urban Area Information			
Population (1000s)	650	630	610
Rank	43	44	46
Commuters (1000s)	251	242	231
Daily Vehicle-Miles of Travel (1000s)			
Freeway	3,150	3,010	2,750
Arterial Streets	6,130	5,635	5,250
Cost Components			
Value of Time (\$/hour)	7.75	7.43	7.20
Commercial Cost (\$/hour)	23.94	23.63	23.31
Gasoline (\$/gallon)	1.29	1.32	1.38
Diesel (\$/gallon)	1.28	1.31	1.37
System Performance	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)	3,176	2,541	2,391
Rank	39	40	40
Fuel per Peak Auto Commuter (gallons)	4	2	2
Rank	41	69	55
Annual Delay			
Total Delay (1000s of person-hours)	6,997	5,598	5,267
Rank	38	41	40
Delay per Auto Commuter (pers-hrs)	18	15	15
Rank	30	40	33
Travel Time Index	1.09	1.07	1.07
Rank	30	40	36
Commuter Stress Index			
Rank			
Freeway Planning Time Index (95th Pctile)			
Rank			
Congestion Cost			
Total Cost (\$ millions)	66	51	47
Rank	38	40	40
Cost per Auto Commuter (\$)	297	250	239
Rank	59	63	63
Truck Congestion			
Annual Person-Hours of Delay (000)	294	235	221
Rank	35	43	41
Annual Gallons of Wasted Fuel (000)	673	539	507
Rank	34	39	36
Annual Congestion Cost (\$ million)	7	6	5
Rank	35	37	40
Annual Greenhouse Gases (CO2) Produced			
Excess Due to Congestion (tons)			
Rank			
Due to All Travel (tons)			
Rank			
Truck Annual Greenhouse Gases (CO2) Produced			
Excess Due to Truck Congestion (tons)			
Rank			
Due to Truck Travel (tons)			
Rank			

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