Performance Measure Summary - Tampa-St. Petersburg 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)	2,760	2,760	2,725	2,650	2,610	2,570
Rank	17	17	17	18	19	19
Commuters (1000s)	1,380	1,380	1,363	1,325	1,305	1,285
Daily Vehicle-Miles of Travel (1000s)						
Freeway	15,741	17,908	17,436	17,361	17,153	15,789
Arterial Streets	28,097	31,965	31,516	31,509	30,534	29,598
Cost Components						
Value of Time (\$/hour)	20.17	19.14	18.71	18.12	17.91	17.69
Commercial Cost (\$/hour)	55.24	61.03	54.71	52.14	50.20	46.87
Gasoline (\$/gallon)	2.26	2.48	2.77	2.28	2.12	2.23
Diesel (\$/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)				22.3		
Congested System (% of lane-miles)				14.9		
Congested Time (number of "Rush Hours")				2.4		
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	14,128	40,492	38,576	36,954	34,924	32,562
Rank	27	18	18	18	18	21
Fuel per Peak Auto Commuter (gallons)	7	21	20	20	19	19
Rank	90	43	47	47	53	50
Annual Delay						
Total Delay (1000s of person-hours)	34,479	98,821	93,015	89,940	86,151	83,008
Rank	28	21	21	21	21	21
Delay per Auto Commuter (pers-hrs)	18	53	50	50	48	47
Rank	87	33	40	37	39	39
Travel Time Index	1.08	1.25	1.24	1.23	1.22	1.22
Rank	44	25	27	30	33	34
Commuter Stress Index	1.09	1.32	1.32	1.27		
Rank	44	23	24	27		
Freeway Planning Time Index (95th Pctile)		1.87	1.79	1.83		
Rank		20	25	23		
Congestion Cost						
Total Cost (\$ millions)	767	2,154	2,020	1,914	1,804	1,713
Rank	28	21	21	21	21	21
Cost per Auto Commuter (\$)	401	1,125	1,068	1,041	1,027	997
Rank	79	35	34	34	34	33
Truck Congestion						
Annual Person-Hours of Delay (000)	1,370	3,909	3,792	3,606	3,534	3,444
Rank	36	24	24	23	23	23
Annual Gallons of Wasted Fuel (000)	2,438	6,958	6,882	6,774	6,739	6,681
Rank	35	23	23	22	22	21
Annual Congestion Cost (\$ million)	73	232	210	192	181	167
Rank	36	20	23	23	23	23
Annual Greenhouse Gases (CO2) Produced						
Excess Due to Congestion (tons)	140,907	403,855				
Rank	27	18				
Due to All Travel (tons)	2,986,307	8,559,085				
Rank	34	22				
Truck Annual Greenhouse Gases (CO2) Produced						
Truck Annual Greenhouse Gases (CO2) Produced Excess Due to Truck Congestion (tons)	26,699	76,186				
	35	76,186 24	 	 		
Excess Due to Truck Congestion (tons)				 		

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

Inventory Measures	2014	2013	2012	2011	2010	2009
Urban Area Information						
Population (1000s)	2,540	2,500	2,470	2,440	2,395	2,355
Rank	19	19	19	18	18	18
Commuters (1000s)	1,270	1,277	1,282	1,264	1,237	1,212
Daily Vehicle-Miles of Travel (1000s)					Ì	
Freeway	14,980	14,318	14,155	14,360	14,174	13,800
Arterial Streets	29,024	27,108	27,185	28,370	28,002	27,681
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)	31,330	31,092	30,473	29,635	29,098	28,843
Rank	21	21	20	20	20	19
Fuel per Peak Auto Commuter (gallons)	18	18	19	17	17	16
Rank	57	54	42	60	61	54
Annual Delay						
Total Delay (1000s of person-hours)	80,817	78,796	76,538	72,423	70,452	68,528
Rank	21	21	21	21	21	21
Delay per Auto Commuter (pers-hrs)	47	46	44	42	42	42
Rank	34	34	38	42	38	35
Travel Time Index	1.22	1.22	1.21	1.21	1.21	1.21
Rank	33	31	34	33	33	33
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost	1.604	1 (20	1.550	1 450	1 261	1 202
Total Cost (\$ millions) Rank	1,694 21	1,628 21	1,559 21	1,458 21	1,361	1,293 21
Cost per Auto Commuter (\$)	976	961	946	923	926	917
Rank	33	33	33	33	32	30
Truck Congestion	33	33	33	33	32	30
Annual Person-Hours of Delay (000)	3,394	3,309	3,215	3,042	2,959	2,878
Rank	23	23	23	24	23	2,676
Annual Gallons of Wasted Fuel (000)	6,642	6,591	6,460	6,283	6,169	6,115
Rank	21	21	21	21	20	20
Annual Congestion Cost (\$ million)	166	153	144	150	136	128
Rank	23	23	23	23	22	22
Annual Greenhouse Gases (CO2) Produced						
Excess Due to Congestion (tons)						
Rank						
Due to All Travel (tons)						
Rank						
Truck Annual Greenhouse Gases (CO2) Produced						
Truck Annual Greenhouse Gases (CO2) Produced Excess Due to Truck Congestion (tons)						
Excess Due to Truck Congestion (tons)		 		 	 	

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

Inventory Measures	2008	2007	2006	2005	2004	2003
Urban Area Information						
Population (1000s)	2,330	2,320	2,295	2,250	2,215	2,050
Rank	18	18	18	18	18	20
Commuters (1000s)	1,195	1,181	1,160	1,129	1,105	1,017
Daily Vehicle-Miles of Travel (1000s)						
Freeway	13,600	14,100	13,585	13,050	12,980	12,000
Arterial Streets	27,820	28,915	29,000	28,000	27,340	24,675
Cost Components						
Value of Time (\$/hour)	16.07	15.47	15.06	14.58	14.10	13.73
Commercial Cost (\$/hour)	40.77	39.30	37.88	36.51	35.19	33.92
Gasoline (\$/gallon)	3.47	2.98	2.66	2.34	1.99	1.53
Diesel (\$/gallon)	4.15	3.36	2.85	2.53	2.01	1.61
System Performance	2008	2007	2006	2005	2004	2003
Congested Travel (% of peak VMT)						
Congested System (% of lane-miles)						
Congested Time (number of "Rush Hours")						
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	30,892	31,250	30,451	28,862	27,847	24,568
Rank	19	18	18	18	18	22
Fuel per Peak Auto Commuter (gallons)	18	18	19	18	18	15
Rank	49	49	36	43	38	58
Annual Delay						
Total Delay (1000s of person-hours)	69,903	70,712	68,903	65,307	63,012	55,592
Rank	21	21	21	21	21	21
Delay per Auto Commuter (pers-hrs)	43	44	44	42	42	40
Rank	31	30	29	31	30	32
Travel Time Index	1.23	1.23	1.23	1.22	1.22	1.21
Rank	30	31	31	32	32	32
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	1,364	1,314	1,237	1,127	1,043	885
Rank	21	21	21	21	21	21
Cost per Auto Commuter (\$)	926	975	975	955	953	864
Rank	30	28	28	30	32	39
Truck Congestion						
Annual Person-Hours of Delay (000)	2,936	2,970	2,894	2,743	2,646	2,335
Rank	22	22	22	22	22	23
Annual Gallons of Wasted Fuel (000)	6,549	6,625	6,456	6,119	5,904	5,208
Rank	20	19	20	20	22	22
Annual Congestion Cost (\$ million)	139	131	121	109	99	82
Rank	21	22	22	22	22	22
Annual Greenhouse Gases (CO2) Produced						
Excess Due to Congestion (tons)						
Rank						
Due to All Travel (tons)						
Rank						
Rank Truck Annual Greenhouse Gases (CO2) Produced						
Rank				<u> </u> 		
Rank Truck Annual Greenhouse Gases (CO2) Produced				 	 	
Rank Truck Annual Greenhouse Gases (CO2) Produced Excess Due to Truck Congestion (tons)				 		

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

Inventory Measures	2002	2001	2000	1999	1998	1997
Urban Area Information						
Population (1000s)	2,025	2,000	1,945	1,895	1,865	1,845
Rank	21	21	20	20	20	20
Commuters (1000s)	990	962	921	882	854	832
Daily Vehicle-Miles of Travel (1000s)						
Freeway	11,100	10,400	9,700	9,100	8,500	8,110
Arterial Streets	24,200	22,605	21,000	19,550	18,700	17,730
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)	23,642	21,940	20,146	18,778	18,233	17,916
Rank	21	23	23	23	22	22
Fuel per Peak Auto Commuter (gallons)	15	14	13	11	11	10
Rank	53	54	56	72	65	66
Annual Delay						
Total Delay (1000s of person-hours)	53,496	49,647	45,586	42,490	41,257	40,541
Rank	21	22	22	22	22	22
Delay per Auto Commuter (pers-hrs)	39	37	36	34	34	35
Rank	36	40	40	45	40	36
Travel Time Index	1.21	1.20	1.19	1.18	1.18	1.18
Rank	31	32	34	35	30	28
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	829	759	679	605	575	558
Rank	21	22	22	22	22	22
Cost per Auto Commuter (\$)	849	800	754	727	722	719
Rank	38	40	43	46	43	35
Truck Congestion						
Annual Person-Hours of Delay (000)	2,247	2,085	1,915	1,785	1,733	1,703
Rank	23	23	23	23	23	23
Annual Gallons of Wasted Fuel (000)	5,012	4,651	4,271	3,981	3,865	3,798
Rank	22	22	24	24	22	22
Annual Congestion Cost (\$ million)	75	69	61	53	51	50
Rank	23	23	23	24	24	24
Annual Greenhouse Gases (CO2) Produced						
Excess Due to Congestion (tons)						
Rank						
Due to All Travel (tons)						
Rank						
Truck Annual Greenhouse Gases (CO2) Produced						
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	1996	1995	1994	1993	1992	1991
Urban Area Information						
Population (1000s)	1,840	1,830	1,780	1,755	1,730	1,725
Rank	20	20	20	22	22	22
Commuters (1000s)	816	798	765	742	720	706
Daily Vehicle-Miles of Travel (1000s)						
Freeway	7,845	7,615	7,165	6,825	6,300	5,850
Arterial Streets	16,840	16,205	15,405	14,785	14,225	13,960
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)	17,745	17,074	16,234	15,371	14,753	14,263
Rank	21	20	20	18	18	17
Fuel per Peak Auto Commuter (gallons)	10	11	10	9	9	9
Rank	57	41	45	49	45	27
Annual Delay						
Total Delay (1000s of person-hours)	40,153	38,636	36,734	34,782	33,384	32,275
Rank	19	19	19	19	19	18
Delay per Auto Commuter (pers-hrs)	35	34	33	33	32	31
Rank	25	24	22	18	17	17
Travel Time Index	1.18	1.18	1.18	1.17	1.17	1.16
Rank	26	26	23	23	22	21
Commuter Stress Index						
Rank Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	544	508	468	434	405	382
Rank	20	19	19	19	19	18
Cost per Auto Commuter (\$)	730	724	709	689	682	679
Rank	31	29	28	26	24	23
Truck Congestion						
Annual Person-Hours of Delay (000)	1,686	1,623	1,543	1,461	1,402	1,356
Rank	21	21	21	21	20	20
Annual Gallons of Wasted Fuel (000)	3,762	3,620	3,442	3,259	3,128	3,024
Rank	22	21	19	19	19	17
Annual Congestion Cost (\$ million)	49	47	43	41	39	37
Rank	22	21	21	20	20	20
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.

Inventory Measures	1990	1989	1988	1987	1986	1985
Urban Area Information						
Population (1000s)	1,720	1,670	1,635	1,610	1,565	1,520
Rank	22	22	22	22	22	22
Commuters (1000s)	693	668	648	634	610	589
Daily Vehicle-Miles of Travel (1000s)						
Freeway	5,315	5,000	4,885	4,590	3,985	3,700
Arterial Streets	12,980	12,390	12,010	11,655	11,420	11,115
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)	12,554	11,413	10,821	10,272	9,597	8,995
Rank	17	17	17	17	19	17
Fuel per Peak Auto Commuter (gallons)	8	7	6	6	6	5
Rank	35	39	45	32	28	32
Annual Delay						
Total Delay (1000s of person-hours)	28,408	25,824	24,485	23,242	21,716	20,354
Rank	18	18	18	18	18	17
Delay per Auto Commuter (pers-hrs)	28	26	26	25	24	23
Rank	21	23	20	18	18	17
Travel Time Index	1.15	1.14	1.13	1.13	1.13	1.12
Rank	22	23	23	22	20	21
Commuter Stress Index						
Rank						
Freeway Planning Time Index (95th Pctile)						
Rank						
Congestion Cost						
Total Cost (\$ millions)	323	280	254	232	210	196
Rank	18	18	18	18	18	17
Cost per Auto Commuter (\$)	624	602	600	595	575	550
Rank	24	22	21	20	21	20
Truck Congestion						
Annual Person-Hours of Delay (000)	1,193	1,085	1,028	976	912	855
Rank	20	20	20	20	20	19
Annual Gallons of Wasted Fuel (000)	2,662	2,419	2,294	2,178	2,035	1,907
Rank Appeal Congestion Cost (\$ million)	18	18	18	18	18	18
Annual Congestion Cost (\$ million) Rank	32 20	28 20	26 20	25 19	23 19	22 19
	20	20	20	19	19	19
Annual Greenhouse Gases (CO2) Produced				ı	I	
Excess Due to Congestion (tons) Rank						
Nank Due to All Travel (tons)	 					
Rank	 		 			 -
Truck Annual Greenhouse Gases (CO2) Produced				ı	I	
Excess Due to Truck Congestion (tons) Rank						
Nank Due to Truck Travel (tons)	 					
Rank	 					
IXAIIK						

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

	1001	1000	4000
Inventory Measures	1984	1983	1982
Urban Area Information			
Population (1000s)	1,485	1,455	1,420
Rank	22	22	22
Commuters (1000s)	571	555	536
Daily Vehicle-Miles of Travel (1000s)			
Freeway	3,545	3,230	2,985
Arterial Streets	10,855	10,500	10,300
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)	8,321	7,520	7,086
Rank	18	18	17
Fuel per Peak Auto Commuter (gallons)	6	4	4
Rank	20	35	19
Annual Delay			
Total Delay (1000s of person-hours)	18,828	17,016	16,035
Rank	17	17,010	16,033
Delay per Auto Commuter (pers-hrs)	22	21	20
Rank	17	14	15
Travel Time Index	1.12	1.11	1.11
Rank	20	18	1.11
Commuter Stress Index			
Rank			<u></u>
Freeway Planning Time Index (95th Pctile)			
Rank			
Congestion Cost			
Total Cost (\$ millions)	176	154	141
Rank	170	17	17
Cost per Auto Commuter (\$)	526	498	487
Rank	19	20	19
Truck Congestion			
Annual Person-Hours of Delay (000)	791	715	673
Rank	19	19	19
Annual Gallons of Wasted Fuel (000)	1,764	1,594	1,502
Rank	17	17	1,302
Annual Congestion Cost (\$ million)	20	18	17
Rank	19	19	17
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			
Канк			

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