

Performance Measure Summary - Atlanta GA

There are several inventory and performance measures listed in the pages of this Urban Area Report for the years from 1982 to 2010. 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 Report 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 a 20-minute free-flow trip takes 26 minutes in the peak.

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 the per-mile congestion 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 overnight speeds in the INRIX speed database. They are used as the national comparison thresholds. Other speed values may be appropriate for urban project evaluations or sub-regions studies.

Excess Fuel Consumed – Increased fuel consumption due to travel in congested conditions rather than free-flow conditions.

Public Transportation – Regular route service from all public transportation providers in an urban area.

Operations Treatments – Freeway incident management, freeway ramp metering, arterial street signal coordination and arterial street access management.

Congestion Cost – Value of travel delay for 2010 (estimated at \$16.30 per hour of person travel and \$88.12 per hour of truck time) and excess gasoline consumption (passenger vehicles) and diesel (trucks) 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). The annual change in miles traveled and lane-miles, therefore, includes both new travel and roads due to growth and travel and roads that were previously in areas designated as rural.

Number of Rush Hours – Time when the road system might have congestion.

The Mobility Data for Atlanta GA

Inventory Measures	2010	2009	2008	2007	2006	2005
Urban Area Information						
Population (1000s)	4,304	4,200	4,170	4,130	4,070	4,020
Rank	8	9	9	9	9	9
Peak Travelers (1000s)	2,333	2,268	2,243	2,205	2,157	2,115
Commuters (1000s)	2,099	2,041	2,019	1,985	1,941	1,903
Freeway						
Daily Vehicle-Miles of Travel (1000s)	46,779	45,862	46,000	47,830	48,055	49,200
Lane-Miles	2,545	2,520	2,520	2,525	2,525	2,530
Arterial Streets						
Daily Vehicle-Miles of Travel (1000s)	43,220	42,373	42,500	44,800	44,630	45,000
Lane-Miles	7,666	7,590	7,590	7,570	7,520	7,500
Public Transportation						
Annual Psgr-Miles of Travel (millions)	934.4	940.8	978.0	911.1	889.4	810.9
Annual Unlinked Psgr Trips (millions)	155.6	156.7	162.9	158.5	150.0	150.3
Cost Components						
Value of Time (\$/hour)	16.30	16.01	16.10	15.47	15.06	14.58
Commercial Cost (\$/hour)	88.12	89.75	81.52	82.56	80.43	78.05
Gasoline (\$/gallon)	2.60	2.15	3.42	2.92	2.59	2.23
Diesel (\$/gallon)	2.88	2.46	4.12	3.29	2.77	2.40
System Performance	2010	2009	2008	2007	2006	2005
Congested Travel (% of peak VMT)	77	74	74	75	76	76
Congested System (% of lane-miles)	58	56	56	58	58	58
Congested Time (number of "Rush Hours")	5.00	5.00	5.50	6.25	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	53,021	50,899	52,053	61,685	63,321	64,897
Rank	10	11	10	9	10	10
Fuel per Peak Auto Commuter (gallons)	20	20	21	26	27	27
Rank	12	12	12	7	6	7
Annual Delay						
Total Delay (1000s of person-hours)	115,958	112,249	111,551	122,953	134,305	137,040
Rank	11	11	11	11	10	10
Delay per Peak Auto Commuter (pers-hrs)	43	44	45	51	57	58
Rank	13	11	13	10	5	5
Travel Time Index						
	1.23	1.22	1.23	1.27	1.28	1.28
Rank	16	16	13	15	13	14
Commuter Stress Index						
	1.34	1.31	1.32	1.38	--	--
Rank	11	17	17	19	--	--
Truck Congestion Cost (\$ millions)						
	623	600	545	663	--	--
Truck Commodity Value (\$ millions)						
	189,488	186,923	184,393	181,896	--	--
Congestion Cost						
Total Cost (\$ millions)	2,489	2,372	2,364	2,566	2,710	2,645
Rank	9	11	11	9	9	9
Cost per Peak Auto Commuter (\$)	924	913	938	1,066	1,578	1,559
Rank	11	12	13	7	5	5

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

The Mobility Data for Atlanta GA

Inventory Measures	2004	2003	2002	2001	2000	1999
Urban Area Information						
Population (1000s)	3,980	3,940	3,900	3,850	3,775	3,690
Rank	11	11	11	11	11	11
Peak Travelers (1000s)	2,078	2,041	1,985	1,929	1,861	1,790
Commuters (1000s)	1,870	1,837	1,787	1,736	1,675	1,611
Freeway						
Daily Vehicle-Miles of Travel (1000s)	49,000	48,500	47,390	46,150	45,800	44,630
Lane-Miles	2,530	2,510	2,470	2,425	2,400	2,350
Arterial Streets						
Daily Vehicle-Miles of Travel (1000s)	44,850	44,000	42,500	41,000	39,750	38,600
Lane-Miles	7,200	6,900	6,600	6,250	6,030	5,800
Public Transportation						
Annual Psgr-Miles of Travel (millions)	802.7	779.8	856.3	874.4	803.3	808.3
Annual Unlinked Psgr Trips (millions)	147.6	149.0	165.7	167.0	170.0	166.2
Cost Components						
Value of Time (\$/hour)	14.10	13.73	13.43	13.22	12.85	12.43
Commercial Cost (\$/hour)	74.17	72.23	70.86	71.38	70.47	66.76
Gasoline (\$/gallon)	1.83	1.14	1.24	1.39	1.41	0.98
Diesel (\$/gallon)	1.84	1.40	1.24	1.39	1.38	1.02
System Performance	2004	2003	2002	2001	2000	1999
Congested Travel (% of peak VMT)	77	77	79	76	76	74
Congested System (% of lane-miles)	58	58	62	61	59	58
Congested Time (number of "Rush Hours")	--	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	61,906	61,267	59,082	55,332	53,203	48,721
Rank	9	8	7	7	7	7
Fuel per Peak Auto Commuter (gallons)	27	27	26	24	24	23
Rank	5	5	5	7	6	7
Annual Delay						
Total Delay (1000s of person-hours)	130,331	128,256	124,612	118,454	113,659	104,612
Rank	10	8	8	7	7	6
Delay per Peak Auto Commuter (pers-hrs)	56	56	55	53	52	49
Rank	5	5	5	6	6	6
Travel Time Index						
	1.27	1.27	1.27	1.26	1.25	1.23
Rank	13	13	11	13	13	15
Commuter Stress Index						
	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Truck Congestion Cost (\$ millions)						
	--	--	--	--	--	--
Truck Commodity Value (\$ millions)						
	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	2,372	2,213	2,092	1,976	1,854	1,598
Rank	9	8	7	7	6	6
Cost per Peak Auto Commuter (\$)	1,412	1,331	1,271	1,216	1,164	1,026
Rank	5	5	5	5	5	6

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

The Mobility Data for Atlanta GA

Inventory Measures	1998	1997	1996	1995	1994	1993
Urban Area Information						
Population (1000s)	3,575	3,450	3,330	3,250	3,150	3,060
Rank	11	11	11	11	11	11
Peak Travelers (1000s)	1,705	1,618	1,538	1,476	1,408	1,346
Commuters (1000s)	1,535	1,456	1,385	1,328	1,267	1,212
Freeway						
Daily Vehicle-Miles of Travel (1000s)	42,000	39,650	36,750	35,395	33,840	30,675
Lane-Miles	2,300	2,240	2,200	2,190	2,155	2,120
Arterial Streets						
Daily Vehicle-Miles of Travel (1000s)	37,000	35,900	34,400	32,500	31,000	28,500
Lane-Miles	5,500	5,200	4,900	4,750	4,500	4,250
Public Transportation						
Annual Psgr-Miles of Travel (millions)	765.4	835.0	688.4	643.9	617.2	582.0
Annual Unlinked Psgr Trips (millions)	160.8	173.1	147.9	146.6	145.6	140.7
Cost Components						
Value of Time (\$/hour)	12.17	11.98	11.71	11.37	11.06	10.78
Commercial Cost (\$/hour)	65.76	66.83	66.20	64.27	62.23	60.84
Gasoline (\$/gallon)	0.93	1.03	1.13	1.05	0.94	0.97
Diesel (\$/gallon)	1.05	1.15	1.26	1.17	1.04	1.08
System Performance	1998	1997	1996	1995	1994	1993
Congested Travel (% of peak VMT)	70	67	64	63	60	56
Congested System (% of lane-miles)	56	53	52	52	50	48
Congested Time (number of "Rush Hours")	--	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	46,757	42,053	37,581	34,511	31,070	26,064
Rank	7	8	8	9	9	11
Fuel per Peak Auto Commuter (gallons)	23	21	20	18	17	15
Rank	6	7	7	7	7	8
Annual Delay						
Total Delay (1000s of person-hours)	101,935	92,129	84,417	76,831	69,313	60,503
Rank	6	7	7	7	9	11
Delay per Peak Auto Commuter (pers-hrs)	49	46	43	40	38	34
Rank	6	6	6	7	6	7
Travel Time Index						
	1.24	1.22	1.21	1.20	1.19	1.17
Rank	8	14	14	11	12	15
Commuter Stress Index						
	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Truck Congestion Cost (\$ millions)						
	--	--	--	--	--	--
Truck Commodity Value (\$ millions)						
	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	1,529	1,378	1,243	1,090	950	800
Rank	6	6	7	8	9	11
Cost per Peak Auto Commuter (\$)	1,013	946	885	795	714	619
Rank	5	5	6	6	6	6

Note: Zeros in the table reflect values less than 0.5.

The Mobility Data for Atlanta GA

Inventory Measures	1992	1991	1990	1989	1988	1987
Urban Area Information						
Population (1000s)	2,970	2,900	2,840	2,795	2,740	2,680
Rank	11	12	12	12	12	12
Peak Travelers (1000s)	1,286	1,235	1,190	1,163	1,132	1,096
Commuters (1000s)	1,157	1,112	1,071	1,046	1,018	987
Freeway						
Daily Vehicle-Miles of Travel (1000s)	27,510	25,970	25,260	24,755	23,105	22,965
Lane-Miles	2,040	1,945	1,880	1,800	1,700	1,645
Arterial Streets						
Daily Vehicle-Miles of Travel (1000s)	26,510	25,000	23,000	21,900	20,600	19,900
Lane-Miles	4,000	3,900	3,840	3,750	3,680	3,560
Public Transportation						
Annual Psgr-Miles of Travel (millions)	595.7	642.0	647.2	632.3	562.7	556.8
Annual Unlinked Psgr Trips (millions)	143.6	145.5	149.6	145.4	148.3	149.9
Cost Components						
Value of Time (\$/hour)	10.47	10.17	9.75	9.25	8.83	8.48
Commercial Cost (\$/hour)	59.01	57.31	55.03	52.81	50.04	48.53
Gasoline (\$/gallon)	0.99	1.00	1.01	1.07	0.99	0.99
Diesel (\$/gallon)	1.11	1.16	1.03	0.96	0.89	0.89
System Performance	1992	1991	1990	1989	1988	1987
Congested Travel (% of peak VMT)	51	48	47	45	44	43
Congested System (% of lane-miles)	45	43	43	42	42	42
Congested Time (number of "Rush Hours")	--	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	21,880	18,624	16,313	15,619	15,309	14,108
Rank	13	13	15	14	13	13
Fuel per Peak Auto Commuter (gallons)	13	11	10	10	10	9
Rank	11	14	13	13	11	10
Annual Delay						
Total Delay (1000s of person-hours)	51,351	44,085	37,518	36,268	36,182	33,036
Rank	11	14	16	14	13	14
Delay per Peak Auto Commuter (pers-hrs)	30	26	23	22	23	21
Rank	12	13	19	19	17	15
Travel Time Index						
Rank	16	21	23	20	20	17
Commuter Stress Index						
Rank	--	--	--	--	--	--
Truck Congestion Cost (\$ millions)						
Rank	--	--	--	--	--	--
Truck Commodity Value (\$ millions)						
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	665	551	451	417	397	348
Rank	11	14	16	14	13	14
Cost per Peak Auto Commuter (\$)	530	451	376	353	343	307
Rank	12	14	19	18	15	14

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

The Mobility Data for Atlanta GA

Inventory Measures	1986	1985	1984	1983	1982
Urban Area Information					
Population (1000s)	2,600	2,510	2,430	2,330	2,200
Rank	12	11	11	12	12
Peak Travelers (1000s)	1,056	1,012	972	925	865
Commuters (1000s)	950	910	875	833	778
Freeway					
Daily Vehicle-Miles of Travel (1000s)	21,650	19,555	18,230	16,995	14,270
Lane-Miles	1,605	1,565	1,535	1,505	1,400
Arterial Streets					
Daily Vehicle-Miles of Travel (1000s)	19,280	18,020	17,500	17,000	16,500
Lane-Miles	3,475	3,400	3,290	3,200	3,100
Public Transportation					
Annual Psgr-Miles of Travel (millions)	550.6	537.7	487.1	487.1	487.1
Annual Unlinked Psgr Trips (millions)	150.8	155.7	141.1	141.1	141.1
Cost Components					
Value of Time (\$/hour)	8.18	8.03	7.75	7.43	7.20
Commercial Cost (\$/hour)	46.57	47.83	46.47	44.23	43.08
Gasoline (\$/gallon)	0.97	1.27	1.28	1.31	1.37
Diesel (\$/gallon)	0.87	1.14	1.15	1.17	1.23
System Performance	1986	1985	1984	1983	1982
Congested Travel (% of peak VMT)	39	34	33	30	29
Congested System (% of lane-miles)	37	35	35	32	33
Congested Time (number of "Rush Hours")	--	--	--	--	--
Annual Excess Fuel Consumed					
Total Fuel (1000 gallons)	11,851	9,990	8,608	7,589	6,674
Rank	13	14	14	13	12
Fuel per Peak Auto Commuter (gallons)	8	7	6	5	5
Rank	12	12	16	16	13
Annual Delay					
Total Delay (1000s of person-hours)	28,678	24,509	20,941	18,250	16,489
Rank	13	12	13	14	13
Delay per Peak Auto Commuter (pers-hrs)	19	17	15	13	13
Rank	15	17	19	19	18
Travel Time Index					
	1.11	1.10	1.09	1.08	1.08
Rank	19	18	20	21	19
Commuter Stress Index					
	--	--	--	--	--
Rank	--	--	--	--	--
Truck Congestion Cost (\$ millions)					
	--	--	--	--	--
Truck Commodity Value (\$ millions)					
	--	--	--	--	--
Congestion Cost					
Total Cost (\$ millions)	289	252	207	175	155
Rank	12	13	13	13	13
Cost per Peak Auto Commuter (\$)	264	238	202	178	166
Rank	15	15	21	18	17

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

**Benefits from Public Transportation Service and Operations Strategies in
Atlanta GA**

Operations Strategies	2010	2009	2008	2007
Freeway Ramp Metering				
Percent of Roadway Miles	3	3	3	3
Annual Delay Reduction (1000 hours)	33	32	29	53
Freeway Incident Management				
Cameras				
Percent of Roadway Miles	61	60	60	60
Service Patrols				
Percent of Roadway Miles	97	95	95	95
Annual Delay Reduction (1000 hours)	3,249	3,145	2,905	5,262
Arterial Signal Coordination				
Percent of Roadway Miles	63	62	62	63
Annual Delay Reduction (1000 hours)	831	805	822	703
Arterial Access Management				
Percent of Roadway Miles	23	23	23	23
Annual Delay Reduction (1000 hours)	998	966	987	844
HOV Lanes				
Daily Passenger-miles of travel (1000s)	814	798	800	760
HOV User Delay Savings	492	477	440	842
Added Congestion if Operations Treatments were Discontinued				
Annual Delay Reduction (1000 hours)	5,603	5,424	5,183	7,704
Annual Delay Saved per Peak Auto Commuter (hrs)	3	3	3	4
Annual Congestion Cost Savings (\$million)	120	130	130	190
Public Transportation Service	2010	2009	2008	2007
Existing Service				
Annual Passenger-miles of travel (million)	934	941	978	911
Unlinked Passenger Trips (million)	156	157	163	158
Added Congestion if Public Transportation Service were Discontinued				
Annual Increase				
Delay (1000 hours)	8,589	8,315	8,805	9,467
Delay per Peak Auto Commuter (hours)	4	4	4	5
Congestion Cost (\$million)	184	202	219	231

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