

Performance Measure Summary - Louisville-Jefferson County KY-IN

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 Louisville-Jefferson County KY-IN

Inventory Measures	2017	2016	2015	2014	2013	2012
Urban Area Information						
Population (1000s)	1,115	1,110	1,110	1,110	1,070	1,030
Rank	42	42	41	41	43	44
Commuters (1000s)	587	585	585	585	565	544
Daily Vehicle-Miles of Travel (1000s)						
Freeway	10,536	10,613	10,550	12,020	11,877	12,310
Arterial Streets	7,760	7,743	7,812	9,178	9,069	9,430
Cost Components						
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)	2.29	2.14	2.20	3.21	3.45	3.48
Diesel (\$/gallon)	2.44	2.24	2.45	3.60	3.88	3.84
System Performance	2017	2016	2015	2014	2013	2012
Congested Travel (% of peak VMT)	18.4	--	--	--	--	--
Congested System (% of lane-miles)	13.2	--	--	--	--	--
Congested Time (number of "Rush Hours")	1.9	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	12,370	12,261	12,023	11,966	11,899	11,646
Rank	49	49	49	49	48	48
Fuel per Peak Auto Commuter (gallons)	18	18	18	18	18	17
Rank	63	60	58	57	54	61
Annual Delay						
Total Delay (1000s of person-hours)	29,392	28,889	28,088	27,237	26,611	25,811
Rank	49	49	49	49	49	49
Delay per Auto Commuter (pers-hrs)	46	44	43	42	41	40
Rank	47	53	55	55	52	55
Travel Time Index						
Rank	1.18	1.18	1.18	1.18	1.18	1.18
Rank	45	45	44	40	41	40
Commuter Stress Index						
Rank	1.19	--	--	--	--	--
Rank	50	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	1.36	--	--	--	--	--
Rank	63	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	595	576	552	545	526	503
Rank	49	49	49	49	49	49
Cost per Auto Commuter (\$)	726	718	694	668	661	649
Rank	74	75	71	73	70	70
Truck Congestion						
Annual Person-Hours of Delay (000)	1,234	1,213	1,180	1,144	1,118	1,084
Rank	49	49	49	49	49	49
Annual Gallons of Wasted Fuel (000)	2,622	2,599	2,549	2,537	2,523	2,469
Rank	49	49	49	49	48	48
Annual Congestion Cost (\$ million)	63	59	55	54	50	47
Rank	49	49	49	49	49	49

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

Mobility Data for Louisville-Jefferson County KY-IN

Inventory Measures	2011	2010	2009	2008	2007	2006
Urban Area Information						
Population (1000s)	1,015	1,000	990	980	970	960
Rank	44	45	44	44	45	45
Commuters (1000s)	535	525	518	511	502	494
Daily Vehicle-Miles of Travel (1000s)						
Freeway	12,250	12,160	12,050	12,000	12,085	11,925
Arterial Streets	9,384	9,315	8,900	8,780	8,730	8,700
Cost Components						
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)	3.29	2.64	2.18	3.43	2.92	2.56
Diesel (\$/gallon)	3.61	2.90	2.48	4.05	3.21	2.73
System Performance	2011	2010	2009	2008	2007	2006
Congested Travel (% of peak VMT)	--	--	--	--	--	--
Congested System (% of lane-miles)	--	--	--	--	--	--
Congested Time (number of "Rush Hours")	--	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	11,540	11,358	10,729	11,412	10,804	10,670
Rank	48	48	50	49	49	49
Fuel per Peak Auto Commuter (gallons)	17	19	17	19	18	18
Rank	60	40	43	37	49	47
Annual Delay						
Total Delay (1000s of person-hours)	25,115	24,266	22,495	22,787	21,572	21,304
Rank	48	49	50	49	51	50
Delay per Auto Commuter (pers-hrs)	39	37	34	33	33	34
Rank	54	58	74	73	73	69
Travel Time Index						
Rank	1.17	1.17	1.17	1.17	1.18	1.18
Rank	45	43	45	53	44	43
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	484	447	404	426	383	365
Rank	48	49	51	49	51	49
Cost per Auto Commuter (\$)	651	649	613	615	605	614
Rank	70	70	73	73	78	76
Truck Congestion						
Annual Person-Hours of Delay (000)	1,055	1,019	945	957	906	895
Rank	48	49	50	49	51	50
Annual Gallons of Wasted Fuel (000)	2,446	2,408	2,275	2,419	2,290	2,262
Rank	48	48	50	49	49	49
Annual Congestion Cost (\$ million)	50	45	40	44	39	36
Rank	49	49	51	49	50	49

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

Mobility Data for Louisville-Jefferson County KY-IN

Inventory Measures	2005	2004	2003	2002	2001	2000
Urban Area Information						
Population (1000s)	950	940	910	875	860	850
Rank	46	46	47	46	46	45
Commuters (1000s)	485	477	460	435	421	410
Daily Vehicle-Miles of Travel (1000s)						
Freeway	11,800	11,730	11,500	11,000	10,400	10,200
Arterial Streets	8,645	8,605	8,495	8,140	8,095	8,445
Cost Components						
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)	2.24	1.83	1.44	1.33	1.40	1.48
Diesel (\$/gallon)	2.38	1.84	1.42	1.29	1.45	1.42
System Performance	2005	2004	2003	2002	2001	2000
Congested Travel (% of peak VMT)	--	--	--	--	--	--
Congested System (% of lane-miles)	--	--	--	--	--	--
Congested Time (number of "Rush Hours")	--	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	10,535	10,261	9,931	9,491	9,037	8,584
Rank	49	48	48	49	51	50
Fuel per Peak Auto Commuter (gallons)	17	18	18	18	17	16
Rank	48	38	30	27	31	32
Annual Delay						
Total Delay (1000s of person-hours)	21,034	20,488	19,829	18,950	18,045	17,140
Rank	49	49	49	49	49	50
Delay per Auto Commuter (pers-hrs)	34	33	33	33	33	32
Rank	67	69	65	59	58	61
Travel Time Index						
Rank	1.18	1.18	1.18	1.17	1.17	1.17
Rank	41	38	38	41	38	37
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	346	322	300	279	262	243
Rank	50	50	50	49	49	50
Cost per Auto Commuter (\$)	626	630	627	613	592	576
Rank	70	68	69	70	69	67
Truck Congestion						
Annual Person-Hours of Delay (000)	883	860	833	796	758	720
Rank	49	49	49	49	49	50
Annual Gallons of Wasted Fuel (000)	2,233	2,175	2,105	2,012	1,916	1,820
Rank	49	48	48	49	51	50
Annual Congestion Cost (\$ million)	34	31	28	25	24	22
Rank	49	49	48	49	49	49

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

Mobility Data for Louisville-Jefferson County KY-IN

Inventory Measures	1999	1998	1997	1996	1995	1994
Urban Area Information						
Population (1000s)	840	830	830	825	825	825
Rank	45	45	44	43	43	42
Commuters (1000s)	398	387	381	372	366	361
Daily Vehicle-Miles of Travel (1000s)						
Freeway	10,035	9,900	9,600	9,210	8,665	8,175
Arterial Streets	8,350	8,210	7,985	7,855	7,690	7,770
Cost Components						
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)	1.09	1.06	1.12	1.25	1.14	1.01
Diesel (\$/gallon)	1.04	1.10	1.19	1.34	1.22	1.08
System Performance	1999	1998	1997	1996	1995	1994
Congested Travel (% of peak VMT)	--	--	--	--	--	--
Congested System (% of lane-miles)	--	--	--	--	--	--
Congested Time (number of "Rush Hours")	--	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	8,131	7,680	7,335	6,970	6,659	6,322
Rank	50	50	48	47	43	43
Fuel per Peak Auto Commuter (gallons)	15	14	14	13	13	12
Rank	32	31	26	29	19	21
Annual Delay						
Total Delay (1000s of person-hours)	16,236	15,334	14,646	13,916	13,295	12,623
Rank	50	50	50	48	47	46
Delay per Auto Commuter (pers-hrs)	32	32	32	32	32	31
Rank	57	52	47	43	34	31
Travel Time Index						
Rank	1.17	1.16	1.16	1.16	1.15	1.15
Rank	36	36	36	35	35	34
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	220	203	192	179	166	153
Rank	50	50	50	48	47	45
Cost per Auto Commuter (\$)	565	546	531	515	506	497
Rank	67	67	63	62	59	56
Truck Congestion						
Annual Person-Hours of Delay (000)	682	644	615	584	558	530
Rank	50	50	50	48	47	46
Annual Gallons of Wasted Fuel (000)	1,724	1,628	1,555	1,478	1,412	1,340
Rank	50	49	48	47	43	43
Annual Congestion Cost (\$ million)	19	18	17	16	15	14
Rank	50	50	50	47	46	44

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Mobility Data for Louisville-Jefferson County KY-IN

Inventory Measures	1993	1992	1991	1990	1989	1988
Urban Area Information						
Population (1000s)	820	815	810	810	805	805
Rank	42	42	41	41	40	39
Commuters (1000s)	353	345	337	332	328	325
Daily Vehicle-Miles of Travel (1000s)						
Freeway	7,850	7,110	6,560	6,265	6,130	5,980
Arterial Streets	7,495	7,215	6,810	6,305	6,000	5,970
Cost Components						
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)	1.05	1.03	1.04	1.06	1.10	1.02
Diesel (\$/gallon)	1.13	1.12	1.15	1.06	0.99	0.92
System Performance	1993	1992	1991	1990	1989	1988
Congested Travel (% of peak VMT)	--	--	--	--	--	--
Congested System (% of lane-miles)	--	--	--	--	--	--
Congested Time (number of "Rush Hours")	--	--	--	--	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	5,974	5,749	5,178	4,575	4,259	3,983
Rank	42	40	43	43	42	41
Fuel per Peak Auto Commuter (gallons)	10	11	10	9	7	7
Rank	38	16	19	23	39	27
Annual Delay						
Total Delay (1000s of person-hours)	11,929	11,479	10,338	9,136	8,504	7,952
Rank	45	42	45	46	44	43
Delay per Auto Commuter (pers-hrs)	31	31	29	26	24	23
Rank	26	22	24	27	29	28
Travel Time Index						
Rank	1.15	1.15	1.13	1.12	1.11	1.11
Rank	30	26	33	34	36	32
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	141	132	116	99	88	79
Rank	46	42	45	44	44	43
Cost per Auto Commuter (\$)	479	478	444	410	402	398
Rank	53	49	50	57	56	53
Truck Congestion						
Annual Person-Hours of Delay (000)	501	482	434	384	357	334
Rank	45	42	45	45	44	43
Annual Gallons of Wasted Fuel (000)	1,267	1,219	1,098	970	903	844
Rank	42	40	43	43	42	41
Annual Congestion Cost (\$ million)	13	13	11	10	9	8
Rank	44	40	44	42	43	42

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Mobility Data for Louisville-Jefferson County KY-IN

Inventory Measures	1987	1986	1985	1984	1983	1982
Urban Area Information						
Population (1000s)	790	785	785	780	780	770
Rank	40	40	38	38	38	39
Commuters (1000s)	316	312	309	305	303	296
Daily Vehicle-Miles of Travel (1000s)						
Freeway	5,530	4,930	4,430	4,330	4,415	4,045
Arterial Streets	6,200	6,105	5,950	5,670	5,610	5,845
Cost Components						
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)	1.02	0.99	1.30	1.31	1.34	1.41
Diesel (\$/gallon)	0.92	0.90	1.17	1.19	1.21	1.27
System Performance	1987	1986	1985	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)	3,850	3,538	3,267	3,034	2,852	2,755
Rank	41	41	41	41	39	39
Fuel per Peak Auto Commuter (gallons)	8	6	6	5	5	4
Rank	18	28	22	27	22	19
Annual Delay						
Total Delay (1000s of person-hours)	7,688	7,064	6,523	6,057	5,695	5,501
Rank	41	42	42	42	39	39
Delay per Auto Commuter (pers-hrs)	23	21	19	18	17	17
Rank	25	26	30	30	30	24
Travel Time Index						
Rank	1.10	1.10	1.09	1.09	1.08	1.08
Rank	36	32	35	29	33	28
Commuter Stress Index						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)						
Rank	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost (\$ millions)	73	65	60	54	49	46
Rank	40	42	41	41	39	40
Cost per Auto Commuter (\$)	401	380	360	344	341	336
Rank	47	47	40	40	39	35
Truck Congestion						
Annual Person-Hours of Delay (000)	323	297	274	254	239	231
Rank	41	42	42	42	39	39
Annual Gallons of Wasted Fuel (000)	816	750	693	643	605	584
Rank	41	41	41	41	39	39
Annual Congestion Cost (\$ million)	8	7	7	6	6	5
Rank	39	40	39	40	38	40

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