Performance Measure Summary - Brownsville TX

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.

Mobility Data for Brownsville TX

Inventory Measures	2020	2019	2018	2017	2016	2015
Urban Area Information						
Population (1000s)	230	230	225	225	220	215
Rank	99	99	99	99	99	99
Commuters (1000s)	123	123	120	120	117	114
Daily Vehicle-Miles of Travel (1000s)						
Freeway	844	1,038	984	932	931	888
Arterial Streets	1,410	1,734	1,643	1,614	1,632	1,574
Cost Components						
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 ($/gallon)	2.05	2.37	2.63	2.17	1.97	2.11
Diesel ($/gallon)	2.51	2.73	2.99	2.31	2.10	2.36
System Performance	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**
Congested Travel (% of peak VMT)	--	--	--	8.5	--	--
Congested System (% of lane-miles)	--	--	--	7.9	--	--
Congested Time (number of "Rush Hours")	--	--	--	0.6	--	--
Annual Excess Fuel Consumed						
Total Fuel (1000 gallons)	1,762	2,764	2,353	1,971	1,821	1,761
Rank	91	95	98	99	100	100
Fuel per Peak Auto Commuter (gallons)	10	16	14	12	12	13
Rank	59	81	93	96	96	92
Annual Delay						
Total Delay (1000s of person-hours)	3,788	5,944	5,564	4,629	4,412	4,135
Rank	92	97	98	100	100	100
Delay per Auto Commuter (pers-hrs)	23	36	35	29	28	28
Rank	68	87	89	96	96	96
Travel Time Index	1.10	1.13	1.13	1.13	1.13	1.13
Rank	29	83	82	83	83	83
Commuter Stress Index	1.13	1.15	1.14	1.13	--	--
Rank	14	81	84	90	--	--
Freeway Planning Time Index (95th Pctile)	--	1.08	1.10	1.12	--	--
Rank	--	100	97	96	--	--
Congestion Cost						
Total Cost ($ millions)	84	128	120	99	92	85
Rank	92	98	98	100	100	100
Cost per Auto Commuter ($)	504	762	733	602	578	536
Rank	62	83	87	95	95	95
Truck Congestion						
Annual Person-Hours of Delay (000)	150	231	210	194	185	174
Rank	95	97	99	100	100	100
Annual Gallons of Wasted Fuel (000)	271	418	401	397	386	373
Rank	94	97	98	98	98	98
Annual Congestion Cost ($ million)	8	11	12	10	9	8
Rank	94	98	97	100	100	100
Annual Greenhouse Gases (CO2) Produced						
Excess Due to Congestion (tons)	17,523	27,499	--	--	--	--
Rank	91	95	--	--	--	--
Due to All Travel (tons)	453,386	711,490	--	--	--	--
Rank	93	100	--	--	--	--
Truck Annual Greenhouse Gases (CO2) Produced						
Excess Due to Truck Congestion (tons)	2,604	4,016	--	--	--	--
Rank	97	99	--	--	--	--
Due to Truck Travel (tons)	67,372	103,916	--	--	--	--
Rank	99	100	--	--	--	--

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

Mobility Data for Brownsville TX

Inventory Measures	2014	2013	2012	2011	2010	2009
Urban Area Information						
Population (1000s)	210	210	205	205	200	200
Rank	99	99	99	99	99	99
Commuters (1000s)	112	111	108	108	105	104
Daily Vehicle-Miles of Travel (1000s)						
Freeway	894	754	750	800	830	810
Arterial Streets	1,374	1,508	1,505	1,517	1,496	1,513
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 ($/gallon)	3.12	3.37	3.33	3.29	2.56	2.13
Diesel ($/gallon)	3.47	3.76	3.75	3.56	2.83	2.43
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)	1,688	1,600	1,591	1,583	1,538	1,477
Rank	100	100	100	100	99	99
Fuel per Peak Auto Commuter (gallons)	12	11	11	11	11	10
Rank	95	96	96	95	95	93
Annual Delay						
Total Delay (1000s of person-hours)	3,836	3,516	3,377	3,300	3,121	2,913
Rank	101	101	101	101	101	101
Delay per Auto Commuter (pers-hrs)	27	26	25	24	24	22
Rank	95	95	95	94	94	94
Travel Time Index	1.14	1.14	1.14	1.14	1.14	1.14
Rank	78	76	77	75	71	72
Commuter Stress Index	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost ($ millions)	81	73	69	67	61	55
Rank	101	101	101	101	101	101
Cost per Auto Commuter ($)	498	459	445	453	436	416
Rank	94	96	96	95	96	96
Truck Congestion						
Annual Person-Hours of Delay (000)	161	148	142	139	131	122
Rank	100	100	100	100	100	100
Annual Gallons of Wasted Fuel (000)	358	339	337	336	326	313
Rank	98	99	97	97	98	98
Annual Congestion Cost ($ million)	8	7	7	7	6	6
Rank	100	100	99	100	100	97
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.

Mobility Data for Brownsville TX

Inventory Measures	2008	2007	2006	2005	2004	2003
Urban Area Information						
Population (1000s)	195	195	190	185	180	175
Rank	99	99	99	99	99	99
Commuters (1000s)	102	101	98	95	92	88
Daily Vehicle-Miles of Travel (1000s)						
Freeway	790	800	770	745	710	675
Arterial Streets	1,505	1,600	1,510	1,430	1,360	1,290
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 ($/gallon)	3.36	2.92	2.55	2.23	1.83	1.45
Diesel ($/gallon)	4.07	3.30	2.73	2.40	1.85	1.43
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)	1,542	1,439	1,331	1,237	1,121	929
Rank	98	99	99	99	99	99
Fuel per Peak Auto Commuter (gallons)	12	11	10	10	10	8
Rank	90	94	93	93	90	92
Annual Delay						
Total Delay (1000s of person-hours)	2,897	2,704	2,500	2,324	2,106	1,744
Rank	100	100	101	100	100	100
Delay per Auto Commuter (pers-hrs)	23	21	20	19	18	15
Rank	93	97	97	97	97	97
Travel Time Index	1.15	1.14	1.13	1.13	1.12	1.10
Rank	69	77	81	81	83	91
Commuter Stress Index	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost ($ millions)	57	51	45	41	35	28
Rank	100	100	101	100	100	100
Cost per Auto Commuter ($)	410	402	373	366	335	293
Rank	97	96	97	97	97	98
Truck Congestion						
Annual Person-Hours of Delay (000)	122	114	105	98	88	73
Rank	99	99	101	100	100	100
Annual Gallons of Wasted Fuel (000)	327	305	282	262	238	197
Rank	97	98	98	98	99	99
Annual Congestion Cost ($ million)	6	5	4	4	3	3
Rank	98	99	100	99	100	99
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.

Mobility Data for Brownsville TX

Inventory Measures	2002	2001	2000	1999	1998	1997
Urban Area Information						
Population (1000s)	175	175	170	165	160	160
Rank	99	99	99	99	99	99
Commuters (1000s)	87	86	82	78	75	74
Daily Vehicle-Miles of Travel (1000s)						
Freeway	630	600	560	515	470	430
Arterial Streets	1,215	1,160	1,100	1,020	950	900
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 ($/gallon)	1.32	1.46	1.47	1.07	1.01	1.12
Diesel ($/gallon)	1.29	1.48	1.42	1.07	1.10	1.19
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)	809	739	678	468	441	373
Rank	99	99	99	101	101	101
Fuel per Peak Auto Commuter (gallons)	7	5	7	3	4	3
Rank	95	96	91	98	96	98
Annual Delay						
Total Delay (1000s of person-hours)	1,520	1,389	1,273	880	829	701
Rank	100	100	100	101	101	101
Delay per Auto Commuter (pers-hrs)	13	12	12	9	8	7
Rank	97	97	97	99	99	99
Travel Time Index	1.09	1.08	1.08	1.06	1.05	1.05
Rank	96	98	97	98	99	99
Commuter Stress Index	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost ($ millions)	24	21	19	13	12	10
Rank	100	100	100	101	101	101
Cost per Auto Commuter ($)	252	234	219	160	157	140
Rank	98	99	99	99	99	100
Truck Congestion						
Annual Person-Hours of Delay (000)	64	58	53	37	35	29
Rank	100	100	100	101	101	101
Annual Gallons of Wasted Fuel (000)	172	157	144	99	94	79
Rank	99	99	99	100	101	101
Annual Congestion Cost ($ million)	2	2	2	1	1	1
Rank	100	100	98	101	100	100
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.

Mobility Data for Brownsville TX

Inventory Measures	1996	1995	1994	1993	1992	1991
Urban Area Information						
Population (1000s)	150	145	135	130	125	120
Rank	98	98	99	98	98	99
Commuters (1000s)	68	65	60	56	53	51
Daily Vehicle-Miles of Travel (1000s)						
Freeway	370	330	290	270	245	230
Arterial Streets	875	840	775	705	680	660
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 ($/gallon)	1.21	1.14	1.03	1.10	1.09	1.12
Diesel ($/gallon)	1.29	1.21	1.09	1.17	1.17	1.20
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)	324	277	229	185	170	166
Rank	101	101	101	101	101	101
Fuel per Peak Auto Commuter (gallons)	2	2	2	1	1	1
Rank	98	98	96	99	98	98
Annual Delay						
Total Delay (1000s of person-hours)	609	520	430	348	319	312
Rank	101	101	101	101	101	101
Delay per Auto Commuter (pers-hrs)	7	6	5	5	4	4
Rank	99	99	99	99	99	99
Travel Time Index	1.04	1.04	1.03	1.03	1.03	1.03
Rank	99	99	100	100	100	99
Commuter Stress Index	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost ($ millions)	8	7	6	4	4	4
Rank	101	101	101	101	101	101
Cost per Auto Commuter ($)	122	104	85	70	78	76
Rank	101	101	101	101	101	100
Truck Congestion						
Annual Person-Hours of Delay (000)	26	22	18	15	13	13
Rank	101	101	101	101	101	101
Annual Gallons of Wasted Fuel (000)	69	59	49	39	36	35
Rank	101	101	101	101	101	101
Annual Congestion Cost ($ million)	1	1	1	0	0	0
Rank	100	100	98	101	101	101
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.

Mobility Data for Brownsville TX

Inventory Measures	1990	1989	1988	1987	1986	1985
Urban Area Information						
Population (1000s)	115	115	110	110	105	105
Rank	99	99	99	98	98	98
Commuters (1000s)	48	47	45	45	42	42
Daily Vehicle-Miles of Travel (1000s)						
Freeway	235	225	210	195	175	140
Arterial Streets	640	620	590	570	550	550
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 ($/gallon)	1.04	1.07	0.99	0.99	0.97	1.27
Diesel ($/gallon)	1.07	1.05	0.97	0.97	0.95	1.24
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)	162	161	142	114	105	80
Rank	100	100	100	101	101	101
Fuel per Peak Auto Commuter (gallons)	1	1	1	1	1	1
Rank	98	97	94	93	91	90
Annual Delay						
Total Delay (1000s of person-hours)	304	302	267	213	197	151
Rank	100	100	100	101	101	101
Delay per Auto Commuter (pers-hrs)	5	5	4	3	3	3
Rank	99	99	99	99	99	99
Travel Time Index	1.03	1.03	1.03	1.02	1.02	1.02
Rank	96	95	94	96	96	96
Commuter Stress Index	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Freeway Planning Time Index (95th Pctile)	--	--	--	--	--	--
Rank	--	--	--	--	--	--
Congestion Cost						
Total Cost ($ millions)	3	3	3	2	2	1
Rank	100	100	100	100	100	101
Cost per Auto Commuter ($)	72	72	83	54	45	55
Rank	100	100	99	99	99	100
Truck Congestion						
Annual Person-Hours of Delay (000)	13	13	11	9	8	6
Rank	101	101	101	101	101	101
Annual Gallons of Wasted Fuel (000)	34	34	30	24	22	17
Rank	101	101	101	101	101	101
Annual Congestion Cost ($ million)	0	0	0	0	0	0
Rank	101	100	100	99	99	99
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.

Mobility Data for Brownsville TX

Inventory Measures	1984	1983	1982
Urban Area Information			
Population (1000s)	105	100	100
Rank	98	99	99
Commuters (1000s)	42	39	39
Daily Vehicle-Miles of Travel (1000s)			
Freeway	135	125	110
Arterial Streets	540	525	480
Cost Components			
Value of Time ($/hour)	7.75	7.43	7.20
Commercial Cost ($/hour)	23.94	23.63	23.31
Gasoline ($/gallon)	1.28	1.31	1.37
Diesel ($/gallon)	1.25	1.28	1.34
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)	71	65	64
Rank	101	101	101
Fuel per Peak Auto Commuter (gallons)	1	1	1
Rank	87	86	82
Annual Delay			
Total Delay (1000s of person-hours)	134	121	120
Rank	101	101	101
Delay per Auto Commuter (pers-hrs)	2	2	2
Rank	99	99	99
Travel Time Index	1.01	1.01	1.01
Rank	99	99	97
Commuter Stress Index	--	--	--
Rank	--	--	--
Freeway Planning Time Index (95th Pctile)	--	--	--
Rank	--	--	--
Congestion Cost			
Total Cost ($ millions)	1	1	1
Rank	101	101	100
Cost per Auto Commuter ($)	43	36	36
Rank	100	100	99
Truck Congestion			
Annual Person-Hours of Delay (000)	6	5	5
Rank	101	101	101
Annual Gallons of Wasted Fuel (000)	15	14	13
Rank	101	101	100
Annual Congestion Cost ($ million)	0	0	0
Rank	97	97	95
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.